Global Assessment of National Health Sector Emergency Preparedness and Response

World Health Organization

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TABLE OF CONTENTS

Acknowledgements **2**
Contributors **2**
Preface **3**
Summary **5**
1. Introduction **11**
1.1 Background 11
1.2 Rationale 11
1.3 Purpose of the global assessment 12
2. Methodology **12**
2.1 Study design 13
2.2 Sample selection 13
2.3 Study process 13
2.4 Study tool description 17
2.5 Data management 17
3. Results **18**
3.1 Emergency background of respondents 19
3.2 Emergency preparedness and response 20
4. Strengths and limitations of the assessment **31**
4.1 Strengths of the assessment 31
4.2 Limitations of the assessment 32
5. Discussion and conclusions **33**
5.1 The need for national health emergency preparedness and response programmes 33
5.2 Exposure to hazards 33
5.3 National health emergency preparedness and response policy and programmes 34
6. Recommendations for action **37**
6.1 Recommendations for government decision-makers 38
6.2 Recommendations for funding agencies and partners 39
6.3 Recommendations for WHO 39
Annexes **41**
Annex 1 – WHA 58.1 41
Annex 2 – WHA 59.22 46
Annex 3 – Selected countries (Phase 1) 48
Annex 4 – Respondents 49
Annex 5 – Time-line (Phase 1) 51
Annex 6 – Questionnaire 52
Annex 7 – Instruction manual 59
Annex 8 – Bibliography 64
Annex 9 – Abbreviations 68
Appendix – A proposed strategic publichealth emergency management framework 69

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PREFACE

The number of disasters around the world over the past 30 years has doubled. In October 2007, over 40 countries incorporating more than 1.3 billion people were subjected to emergencies and humanitarian crises. This has prompted increasing demands from Member States to strengthen WHO's emergency response operations.

Their expectations are articulated in recent World Health Assembly resolutions WHA58.1 and WHA 59.22.

One of the key planks of resolution WHA58.1 is the need to help member states to develop and strengthen their national strategies for emergency preparedness and response.

This survey, arising particularly from resolution WHA59.22, asks member states to assess the status of their health-sector emergency preparedness. It is designed to help inform initiatives to support the development and strengthening of those national strategies.

The survey was designed to yield information on the status of health sector emergency preparedness in Member States; to identify preparedness gaps; and to assess the need for technical support to establish or strengthen national emergency preparedness strategies and plans.

I am pleased that the Survey was based on contributions from each of the 62 countries that participated, specifically from the Ministry of Health and health sector partners. All WHO regions, focal points and several emergency preparedness and response experts were involved in designing the survey.

This survey has yielded significant recommendations for action at the country, regional and global levels. It provides Member States and, consequently, the international community and WHO, with valuable information that allows for situation analysis at country, regional and global level and for helping the decision-making process for programme development and budgeting. Its findings will also help in monitoring trends and progress in fostering intersectoral and inter-disciplinary collaboration and in advocating for funding allocations.

For the first time, Member States, humanitarian organizations, NGOs and all stakeholders in the health sector can overcome the lack of adequate data on the state of emergency health preparedness and develop strategies and plans based on an accurate situation analysis.

WHO will assist Member States in ensuring that these recommendations, where reasonable and practicable, are acted upon. All elements of WHO, and the health sectors of Member States, take seriously their responsibility to ensure that all reasonable steps are taken to protect the health and well-being of people and communities. This survey will provide essential information to help achieve that aim.

Dr Ala Alwan
Assistant Director General
Health Action in Crises

SUMMARY

GLOBAL ASSESSMENT OF NATIONAL HEALTH SECTOR EMERGENCY PREPAREDNESS AND RESPONSE

Context

The Fifty-Eight World Health Assembly urged WHO to increase its role in risk reduction and emergency preparedness in the health sector. This prompted an Expert Consultation on Emergency Preparedness in February 2006 which proposed a global survey to assess and monitor the status of emergency health preparedness and response in Member States.

The resulting Global Assessment of National Health Sector Emergency Preparedness and Response is intended to inform strategies for assisting Member States in developing and strengthening national approaches to health emergency preparedness and response.

The detailed report of the Assessment follows this summary.

The survey

The survey included an assessment and analysis of the current national health sector capacities for emergency preparedness and response in selected countries. It was an observational, cross-sectional survey.

Following a pilot study, ten Member States from each WHO region were selected to participate. Selection criteria included one or more of the following:

- prior or current experience with hazards (natural, biological, technological, social) resulting in emergencies (e.g. famines, earthquakes, tsunamis, political conflicts associated with internal displacement);
- risk of potential hazards resulting in emergencies;
- presence of a national health focal point/unit for emergency preparedness and response;
- currently receiving funds for emergency preparedness and response from UN or other international agencies.

The data collection tool was a self-administered questionnaire. Ministry of health officials with emergency management responsibilities made up 85% of the respondents from the 60 surveyed countries.

The response rate to the survey was high: more than 90%.

Figure A –
Countries reporting emergency/disaster experience in the past five years, by WHO region

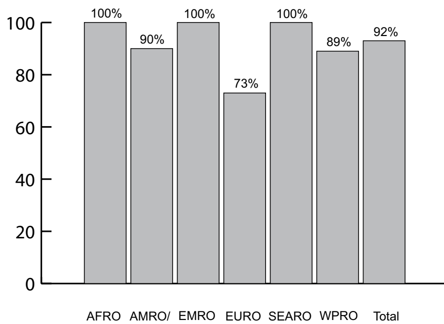


Figure B –
Reported presence of national emergency preparedness and response policy, by WHO region

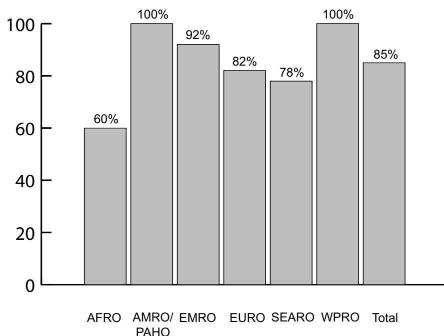
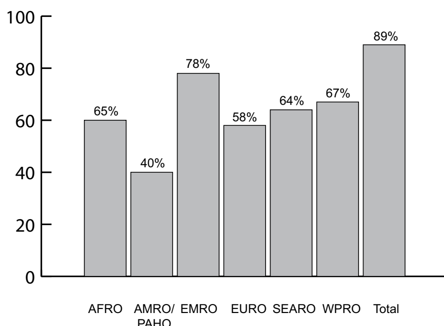


Figure C –
Reported health emergency preparedness and response plan development, by WHO region



Results

The majority of respondents reported having direct personal experience with emergencies or disasters.

The majority of countries in each region (ranging from 73% in EUR to 100% in AFR, EMR and SEAR) have experienced an emergency or disaster in the last five years (Fig. A). This demonstrates the vital importance of effective national health emergency preparedness and response programmes in all countries.

The most common types of emergencies in surveyed countries were caused by floods, earthquakes, and severe storms, including snowstorms. Yet more than half of the respondents did not recognize the near-universal exposure of human populations to technological hazards in the 21st century. This suggests a need to adopt an 'all hazards' approach to national health emergency preparedness and response policies and programmes, utilizing generic arrangements that are suitable to any type of emergency or disaster.

Most countries (85%) reported the existence of a national emergency preparedness and response policy (Fig. B). However, only two-thirds of countries reported a policy on health sector emergency preparedness and response programmes at the national and provincial levels, and policy on health sector emergency preparedness and response plans.

A number of ministries of health lack any form of institutional arrangement to ensure the development and maintenance of health emergency preparedness and response programmes.

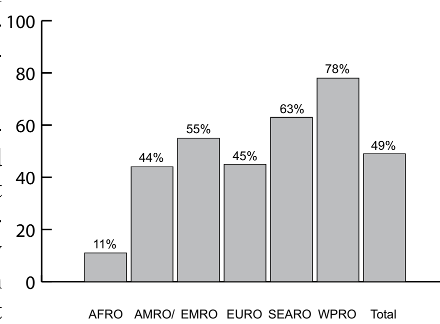
Although two-thirds of countries reported the presence of national, multi-disciplinary health emergency preparedness and response plans (Fig. C), only half of those countries reported that such plans were developed by a formal committee, were based on vulnerability assessment, or were linked to the multi-sectoral plan. Up to 50% of countries have no budget allocation to sustain the health emergency preparedness and response planning function.

Among countries reporting the existence of health emergency preparedness and response pro-

grammes and projects, only two-thirds included hazard analysis and vulnerability assessment, public awareness, early warning and alerting systems, and communication systems. Only half of the respondents reported having simulation exercises, logistic platforms and emergency information systems.

Despite education and training initiatives implemented by international, inter-governmental and non-governmental organizations over the last decade, human resources development in emergency preparedness and response remains patchy and largely inadequate. There is a dearth of health human resources trained for emergencies in most regions.

Figure D – Conducted training needs analysis, by WHO region



Emergency preparedness and response programmes do not include a training and capacity building component in more than one-third of countries. In countries with existing emergency preparedness and response training courses, only half reported that such training is based on training needs analyses (Fig. D) and competency standards. Just under two-thirds (63%) reported the presence of guidelines in health emergency preparedness and response. Less than half (44%) reported using audits to assess the effectiveness of emergency preparedness and response programmes, while 56% reported using methods for capturing lessons learned.

Figure E – International or bilateral cooperation, by WHO region

More than three-quarters of countries benefit from international or bilateral cooperation programmes in the area of emergency preparedness and response (Fig. E). WHO is involved in about two-thirds of countries reporting the existence of such collaboration.

Countries from the African region have a lower level of international collaboration than most other regions.

Activities characterized by high levels of non-governmental organization involvement at the country level include emergency response, training and education and raising public awareness. Red Cross and Red Crescent societies and Médecins Sans Frontières provide most of such cooperation.

Nevertheless, there is a low level of non-governmental representation on national committees in some regions.

Many other data were collected in the survey and further analysis was provided. For more details, consult the full report.

Conclusion

The assessment provides a number of clear signposts for health emergency preparedness and response for all Member States and for all levels of WHO.

From its findings, the report proposes significant recommendations for action at the country, regional and global level. WHO will assist Member States in implementing these recommendations.

Recommendations

Based on the findings of the Assessment, **it is recommended that government decision-makers**:

a. **Use** an 'all hazards' approach to develop emergency preparedness and response programmes;
b. **Include** the health sector in the country multi-sectoral emergency preparedness and response policy development (e.g. ministry of health officials to participate in national emergency preparedness and response policy discussions);
c. **Ensure** that the health sector is represented on multi-sectoral emergency preparedness and response committees (e.g. ministry of health as a permanent member of national emergency preparedness and response committee);
d. **Support** ministries of health in recruiting and preparing emergency preparedness and response specialists (e.g. in some countries, non-health emergency preparedness and response staff are seconded into the ministry of health to advise and inform);
e. **Develop** hazard analysis, vulnerability and risk assessments in cooperation with the health sector or **provide** existing assessments to the health sector (e.g. adapt existing IT tools to particular countries' circumstances – see recommendations for WHO on the following page);
f. **Extend** existing public awareness programmes, communication and early warning and alerting systems to the health sector (e.g. access best practice examples of early warning and alert systems and emergency communication plans);
g. **Assist** the ministries of health to develop and finance national, multi-disciplinary health emergency preparedness and response plans, and to link these to national and sub-national multi-sectoral plans;
h. **Provide** funding for the health care sector in the conduct of emergency preparedness and response training needs analyses, the development and use of competency standards and the conduct of training courses;
i. **Provide** funding for and assist the health care sector in the conduct of simulation exercises, audits and methods for capturing lessons learned at local, sub-national and national

levels from previous emergencies within the country and those that have happened elsewhere.

It is recommended that national health authorities:

a. **Use** an 'all hazards' approach to develop health emergency preparedness and response programmes and hazard-specific programmes as required under the 'all hazards' umbrella;
b. **Develop** national health emergency preparedness and response policies to guide national programmes and support their development at sub-national level;
c. **Provide** and support active representation on multi-sectoral emergency preparedness and response committees and **form** and **maintain** multi-disciplinary health sector emergency preparedness and response committees;
d. **Develop** hazard analysis and vulnerability/risk assessments at national and sub-national levels in cooperation with multi-sectoral and multi-disciplinary committees, or adapt existing national assessments;
e. **Adapt** existing public awareness programmes, communication and early warning and alerting systems to the health sector, or plan their development at national and sub-national levels;
f. **Develop** national, multi-disciplinary health emergency preparedness and response plans and link them to the equivalent national and sub-national multi-sectoral plans;
g. **Work** with other sectors at national and sub-national levels to conduct training needs analyses, develop competency standards, conduct national training courses, and investigate the participation in international capacity-building events (e.g. access best practice examples of training analysis and design materials);
h. **Conduct** at national and sub-national levels simulation exercises, audits and methods for capturing lessons learned from emergencies;
i. **Develop** or translate and adapt existing best practice guidelines and case studies.

It is recommended that funding agencies and partners provide a higher priority and more financial support for risk reduction and emergency preparedness activities.

In order to make the most effective use of the information provided by this survey, WHO recognizes that there are three sub-groups of countries which can be considered:

- Developed countries with strong existing emergency preparedness and repsonse arrangements;
- Countries which are currently in crisis, requiring (and receiving) crisis assistance from WHO and other agencies;

- Countries which are not in crisis but which the survey identified as having significant gaps in their preparedness and response capabilities.

It is to this third group that WHO will endeavour address most additional efforts to increase preparedness and response capabilities.

It is recommended that WHO:

a. Further **elaborates** the nature of risk reduction and health emergency preparedness policy in WHO guidance documents (including national institutional arrangements) and provides tool for hazard analysis and vulnerability/risk assessment, health emergency preparedness and response planning, training courses and other training requirements;
b. **Advocates** and **provides** technical support to countries in the development of national health emergency preparedness and response policies and plans (possibly by instituting a training programme to equip country representatives with the tools, skills and exemplars to produce effective policies and plans and enables them to build that capability);
c. **Produces** a collection of Good Practice Exemplars* for national health policies, national health plans, training analyses and policies, and exercise programmes and scenarios.
d. **Produces** a document (see Appendix at the end of the Report) which constitutes a checklist or framework illustrating the properties of a sound health risk management and emergency management framework (this tool could form part of a training package for country representatives);
e. **Encourages** countries to seek health sector representation on multi-sectoral emergency preparedness and response committees and form and maintain multi-disciplinary health sector committees on the subject;
f. **Seeks** the creation of a health thematic platform as an integral part of the ISDR Global Risk Reduction Platform and an equivalent national health thematic platform wherever there is a national disaster risk reduction one;
g. **Assists** the conduct of training needs analysis, development of competency standards and the conduct of training courses (possibly the provision of self-paced/taught package on disc or web-based adapted from existing products);
h. **Facilitates** participation in existing pre-deployment training activities and similar courses;
i. **Promotes** the conduct of simulation exercises, audits and methods for capturing lessons learned from emergencies (could also be a part of a training package delivered to country representatives) and,
j. **Develops** the means for the global sharing of best practice guidelines and case studies (which should be incoporated in the knowledge gateway).

* *These exemplars would be part of a proposed wider emergency preparedness knowledge gateway accessible to all professionals from around the world.*

1. INTRODUCTION

1.1 Background

An emergency is defined as a crisis that has the potential to grow beyond the coping capacity of the affected community, single organization or group of a community at risk (*Living with risk: A global review of disaster reduction initiatives*. vol. 1, Geneva, United Nations ISDR, 2004.). An emergency therefore calls for exceptional measures and community-wide arrangements to control its impact on people's health, property and well-being.*

Emergency preparedness and response encompasses a range of activities to protect communities, property and the environment**. Thus, it should be part of the normal development plan of communities and countries. Emergencies should not merely be responded to when necessary: rather their causes should be analysed, and preventive, mitigation and preparedness programmes, together with response and recovery strategies, should be developed and implemented accordingly.

WHO is mandated to assist Member States reduce the unacceptable losses in lives and assets resulting from emergencies, disasters and other crises. The World Health Assembly adopted several resolutions (Annexes 1 and 2) urging countries to enhance the level of their national emergency preparedness programmes, and requesting WHO to provide the necessary support.

To respond to these resolutions, WHO has established a new department for emergency preparedness. The department is responsible for developing, updating and disseminating technical guidelines, tools and standards for emergency preparedness and disaster risk reduction, and assisting Member States with the design of emergency preparedness plans and programmes.

1.2 Rationale

WHO convened a global consultation on emergency preparedness in February 2006. One of the main objectives of the consultation was to agree the development of a strategy for assisting Member States in developing and strengthening national strategies for emergency preparedness and response. Meeting participants highlighted the lack of adequate data on the state of emergency preparedness in countries. The present survey, asking Member States to assess the state of health sector emergency preparedness in their countries, is intended to address this gap.

The self-assessment is based on the contribution from each country (specifically the ministry of health and health sector partners).

* *An emergency may be also defined as a sudden occurrence demanding immediate action that may be due to epidemics, to natural, to technological catastrophes, to strife or to other man-made causes (Risk reduction and emergency preparedness: WHO six-year strategy for the health sector and community capacity development. Geneva, World Health Organization, 2007).*

** *Emergency preparedness may be also defined as all those activities that aim at preventing, mitigating and preparing for emergencies, disasters and other crises (Risk reduction and emergency preparedness: WHO six-year strategy for the health sector and community capacity development. Geneva, World Health Organization, 2007).*

WHO conducts similar global assessments regularly in various areas including noncommunicable diseases, road traffic injuries, knowledge and health and other areas. These assessments are used to define priorities, guide the planning of WHO programmes, and help identify the areas in which WHO needs to strengthen its technical support to Member States.

1.3 Purpose of the global assessment

1.3.1 Objectives

The global assessment is intended to provide Member States and, consequently, the international community and WHO, with valuable information that allows for:

- Situation analysis – Providing adequate information to guide the development of emergency preparedness and response strategies and establish a baseline against which future progress regarding the impact of emergency preparedness interventions and projects can be measured. It is a tool to diagnose the current situation, identify strengths and weaknesses, and establish goals to improve the status of emergency preparedness in Member States.
- Helping the decision-making process – Helping to inform decision makers, through the provision of quantitative data, as they undertake strategic planning and budgeting of staff and resources and capacity building interventions dedicated to emergency management capabilities and assets.
- Monitoring trends – Providing a standardized tool to monitor regional and inter-regional trends and allow for inter-country comparisons.
- Inter-sectoral collaboration – Assessing how national health sector programmes and will work with each other and with other sectors and partners at national, provincial and local levels before, during and after an emergency.
- Fund raising and fiscal support – Providing convincing evidence for directing additional resources from national, international and bilateral sources to overcome current weaknesses and contribute to the improvement and enhanced responsiveness of emergency preparedness programmes at national and sub-national levels.

2. METHODOLOGY

This section describes the study design, sample selection, study process, study tool description and data management process.

2.1 Study design

This study assesses and analyses national health sector emergency preparedness and response capacities in selected countries. Hence, it is an observational cross-sectional survey.

2.2 Sample selection

2.2.1 Choice of phase 1 countries

Following the pilot study described in paragraph 2.3.9 below, ten Member States from each WHO region were selected to participate in phase 1 of the survey. Selection criteria included one or more of the following:

- prior or current experience with hazards (natural, biological, technological, social) resulting in emergencies (e.g. famines, earthquakes, tsunamis, political conflicts associated with internal displacement);
- presence of potential hazards resulting in emergencies;
- presence of a national health focal point for emergency preparedness & response;
- currently receiving funds for emergency preparedness & response from the UN or other international agencies.

Annex 3 includes the names of phase 1 participating countries, organized by the WHO region.

2.2.2 Choice of respondents

It was requested that respondents be either:

- ministry of health focal point for emergency preparedness and response (best choice);
- senior ministry of health official responsible for planning and executing emergency preparedness plans;
- senior ministry of health official trained in emergency preparedness and response.

Annex 4 includes the names of respondents, listed by WHO region and country.

2.3 Study process

The section describes the following steps:

- constructing a time-line;
- designing the data collection tool;
- designing the instruction manual;
- selecting the study sample;
- compiling a database of focal points;
- determining criteria for respondents;

- marketing the survey;
- ensuring translation activities;
- field testing (pilot study);
- conducting phase 1 field operations.

2.3.1 Constructing a time-line

The time-line (Annex 5) and deadlines were discussed with the six WHO regional offices and subsequently revised as the survey progressed.

2.3.2 Designing the data collection tool

The data collection tool includes a self-administered questionnaire (Annex 6) using terms and concepts in congruence with the WHO Strategy* and the ISDR terminology.** The questionnaire is simple, concise and easy to complete. In-house feedback, comments and suggestions from regional offices, and the pilot survey results all contributed to the updating and finalization of the tool. The different elements of the tool are described in section 2.4 below.

* *Risk reduction and emergency preparedness: WHO six-year strategy for the health sector and community capacity development. Geneva, World Health Organization, 2007.*

** *Living with risk: A global review of disaster reduction initiatives. vol. 1, Geneva, United Nations ISDR, 2004.*

2.3.3 Designing the instruction manual

An instruction manual (Annex 7) was designed to facilitate completion of the data collection tool and answer frequently asked questions by providing information on:

- the rationale and specific objectives of the survey;
- criteria for selection of participating countries;
- criteria for potential respondents;
- definitions and explanations of terms used in the tool;
- references that could be used as background material.

2.3.4 Selecting the study sample

Five Member States were selected for the pilot study, while 60 countries (ten per region) were selected for phase 1 of the survey. The criteria mentioned in 2.2.1. were used for phase 1 selection.

The initial selection of countries was discussed with the regional offices. Some regional offices proposed a better sub-regional representation, which was taken into consideration in the final selection. Annex 3 shows the final list of selected countries for both the pilot study and phase 1 of the survey.

2.3.5 Compiling a database of focal points

HAC in Geneva compiled the initial databases on Emergency and Humanitarian Action focal points in the selected countries, using information available in headquarters. This information was subsequently updated by the regional offices. With the help of the Regional Advisers, focal points were asked to liaise with the par-

ticipating ministries of health. They were specifically asked not to complete the questionnaire themselves, as described below.

2.3.6 Determining criteria for respondents

The criteria used to select respondents are listed under 2.2.2 above.

As shown below, most respondents (85 %) were in fact ministry of health officials involved in emergency preparedness and response. A complete list of respondents is provided in Annex 4.

2.3.7 Marketing the survey

The survey objectives, phases, tools and timeframe were discussed between headquarters and the regional offices via teleconference on 4 July 2006. The tools and instruction manual were then sent by headquarters to the WHO's Regional Directors.

2.3.8 Translation activities

The translation of the updated versions of the tool and its manual took place at headquarters. The translations together with their English equivalents were sent to the regional offices for verification of equivalence and standardization. Translations were made in Arabic, French, Russian and Spanish. Arabic, English and French versions were sent to EMR. Russian, French and English versions were shared with EUR. French and English versions were sent to AFR, and Spanish and English versions to AMR. The tool and manual were modified following the pilot survey and each language version was updated accordingly.

2.3.9 Field testing (pilot study)

The field testing of the study tool and instruction manual passed through the following steps:

1. The pilot study objectives were defined:
    a. test the dynamics of carrying out the study, including the field operations;
    b. test the tool for data collection (questionnaire) and the utility of its instruction manual (answering relevant queries therewith);
    c. assess the time-frame estimated for completion of the tool per Member State/WHO region;
    d. update all language versions of the tool and manual.
2. Headquarters sought feedback from the regional offices concerning the countries to be included in the pilot study. While most regions agreed on the selection criteria, some asked for changes to the geographical distribution (i.e. AMR, AFR and EMR) to make sure that sub-regions were represented in the survey.

3. Five regions sent their completed questionnaires within one week of the deadline. Countries participating in the pilot study were: the Central African Republic (AFR); Ecuador (AMR); Tajikistan (EUR); Jordan (EMR); and the Solomon Islands (WPR). The Central African Republic and the Solomon Islands used the English version to respond. Tajikistan used the Russian version (translated back into English). Jordan used the Arabic version and Ecuador used the Spanish version.
4. A meticulous review of the completed questionnaires was undertaken. A summary of problem questions and equivalent recommendations was prepared and sent to the Regional Advisers.
5. Updated versions of the tool and its manual were then prepared and sent again for translation.
6. Meanwhile, a web-based questionnaire was prepared as well as an off-line equivalent. The former was sent to the Regional Advisers for feedback, with specific instructions on how to use it. Although one region enquired about how to use this version, little if any comments were obtained from the regions. It appears the traditional e-version was perceived as easier for countries to use, especially for ministry of health officials with no access to WHO data collection instruments. Hence the final choice was that of the e-version for the global survey purposes.
7. The data obtained during the pilot study were used for the above-mentioned purposes only, and excluded from all subsequent analyses and interpretations related to phase 1 of the survey.

2.3.10 Conducting Phase 1 field operations

The updated tool, instruction manual, time line, list of selected phase 1 countries and feedback from the pilot study were sent to RAs on 26 June 2006, in the relevant languages.

The deadline for sending responses to headquarters (HACsurvey@who.int) was set at 18 August 2006. The deadline was subsequently extended to 12 September 2006. The database was almost complete by the end of September.

The following were reasons given for the delay:

- "survey fatigue";
- difficulty deciphering some questions (further explanation was mainly provided by headquarters);
- the need for high-level approval in the ministry of health to release the data enquired for by the survey;
- political conflicts and unrest, including formulation of new governments.

2.4 Study tool description

The study questionnaire comprises three sections (Annex 6 for a full copy of the questionnaire).

2.4.1 Section A

This section solicited personal information concerning the focal point responsible for completing the questionnaire.

2.4.2 Section B

The intent of this section was to:

- gauge respondents' personal awareness of the issues related to emergencies and disasters;
- determine the prevalence (over the last five years) of emergencies and disasters in the countries on which the respondents were reporting;
- assess respondents' perceptions in relation to the hazard exposure (natural, social and technological hazards) of the country on which they were reporting.

This section also solicited information on the experience of both the respondent and the country in regard to situations resulting in emergencies such as famines, earthquakes, tsunamis, and political conflicts associated with internal displacement.

2.4.3 Section C

Section C comprises the major part of the questionnaire and was intended to elicit information regarding the country's health sector emergency preparedness. Section C was divided into the following ten sections:

- policy and legislation;
- institutional arrangements;
- vulnerability assessment;
- health sector plan;
- training and education;
- monitoring and evaluation;
- international cooperation and partnerships;
- nongovernmental;
- human resources;
- further comments.

2.5 Data management

Data management was handled by WHO headquarters. Regions were informed they could use their region-specific data for their own purposes (WPR and SEAR subsequently used the data for an inter-regional meeting in October 2006).

- A thorough review of the completed questionnaires took place to ensure completeness and accuracy. Decisions were made with respect to the method of entry of qualitative data provided for open-ended questions.
- The types of figures to be constructed were identified before data entry to facilitate compilation of the results of data analysis, making sure that they met the study objectives.
- A modified version of the web-based WHO DataCol form, originally designed for data collection, was used for data entry.
- A random 10% check followed to ensure the accuracy of the data entry, and necessary cleaning.
- Data analysis was conducted using MS Excel 2003. Analyses were performed on global as well as regional scales for the different quantitative information in the data set. For the sake of standardizing the presentation of results across different questions in the tool, it was decided to treat non-responses as "No", especially for questions where the answer to the lead question of a series of questions was indeed "No" (it automatically follows that the answers to the rest of the questions in the same set would also be "No").
- Compilation of the important data for some open-ended questions was also performed, allowing for comparisons between regions and across Member States that have participated in the study.
- Interpretation of the results followed, with implications for national, regional and global strategies for the health sector emergency preparedness and response suggested.

3. RESULTS

The survey response rate was very high: more than 90% for all WHO regions (Fig. 1). In some regions such as EMRO and EURO the number of participating countries exceeded what was originally planned (i.e. ten countries per region for Phase I).

The majority of respondents were from ministries of health (85%) as originally planned. However 8% responded from WHO offices while 7% responded from other (Fig. 2).

This suggests that the majority of respondents have first-hand knowledge and experience in the ministry of health of the country on which they were reporting.

3.1 Emergency background of respondents

3.1.1 Experience of emergencies and disasters

Survey questions

B.1 Have you had direct personal or professional experience of an emergency or disaster?
If yes, please describe when and where this happened, your capacity then
If no, please go to question B.2

B.2 Has your country recently experienced an emergency or disaster (last five years)?
If yes, please describe when and where
If no, please go to question B.3.

B.3 To what major hazards (natural, technological, social) or conflicts that may cause emergencies is your country exposed? Please list.

The majority (89-100%, by WHO region) of respondents reported direct personal or professional experience with emergencies or disasters (Fig. 3).

The capacity, or position, of respondents during their emergency or disaster experience varied widely and included:

- National coordinator or focal point for health emergencies (including chair, emergency and field medical committee, risk management unit, etc.) – 35 responses (56%);
- Director, prevention and control (including other posts as officers for public health inspection, community health, epidemiology, environmental health, etc.) – ten responses (16%);
- General health posts (including minister or vice-minister of health, adviser to minister, director of health services, medical director, medical officer, research and development) – 12 responses (19%);
- Others (civil defence, WHO, etc.) – five responses (8%)

The majority of countries in each region (ranging from 73% in EUR to 100% in AFR, EMR

Figure 1 – Response rate to the survey, by WHO region

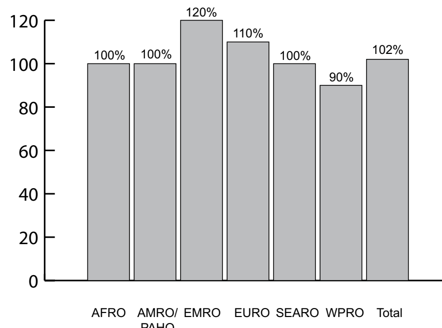


Figure 2 – Affiliation of respondents

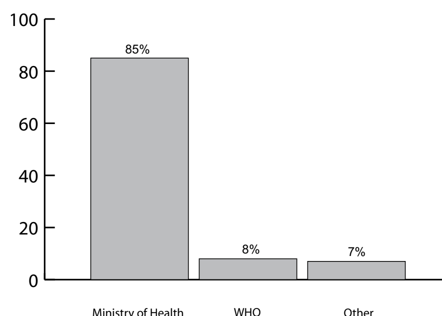


Figure 3 – Direct personal or professional emergency/disaster experience of respondents, by WHO region

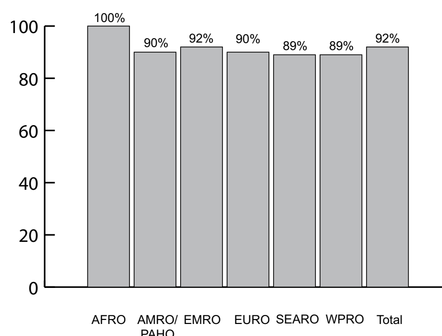


Figure 4 – Countries reporting emergency/disaster experience in past five years, by WHO region

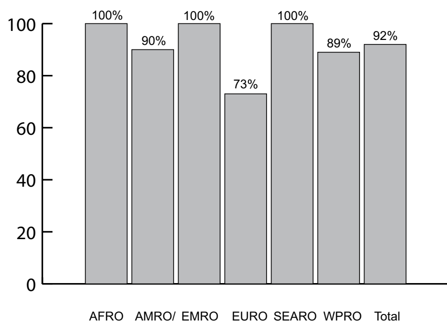


Figure 5 – Reported hazard exposures

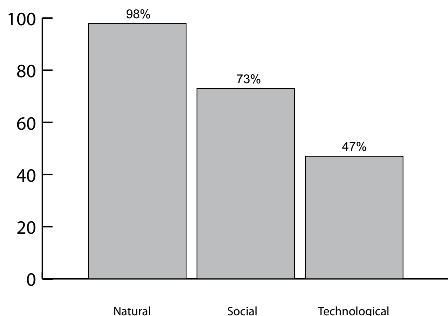
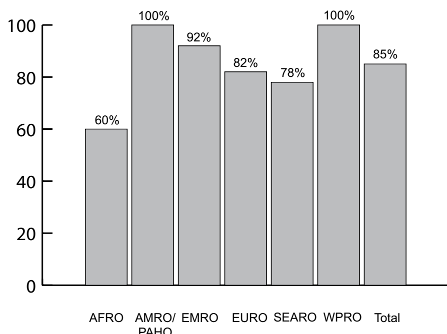


Figure 6 – Reported presence of national emergency preparedness and response policy, by WHO region



and SEAR) have experienced an emergency or disaster in the last five years (Fig. 4). The reported natural hazards experienced in the last 5 years in the participating countries include: floods (46%), earthquakes (43%); avalanche / snowstorms (31%); severe storms (hurricane, cyclone, typhoon or tornado) (26%); droughts (15%); forest fires (8%); tsunami (6.5%) and volcanic eruptions (6.5%).

3.1.2 Types of hazards by Region

Globally, almost all respondents (98%) stated their countries were exposed to the risk of natural hazards. Almost three-quarters (73%) stated their countries were also exposed to the risk of social hazards while less than half (47%) stated they were exposed to technological hazards (Fig. 5).

The global perception of social hazards as a potential cause of emergencies and crises (73%) suggests these must be factored into national emergency preparedness programmes.

3.2 Emergency preparedness and response

3.2.1 Policy and legislation

As mentioned in the instruction manual (Annex 7) national policies are formal statements of a course of action. Policies may establish long-term goals, assign responsibilities for achieving them, establish recommended work practices, and determine criteria for decision making.

Most respondents (85%) reported the existence of a policy on emergency preparedness and response (Fig. 6), with a large variation between regions ranging from 60% (AFR) to 100% (AMR and WPR). This shows that most countries recognize the need for a national policy to guide emergency preparedness and response activities. However, it was not possible from this survey to assess the quality and comprehensiveness of such policies, nor was it possible to obtain accurate information on the process followed in developing them. The WHO document on community emergency

preparedness, which is a manual for managers and policy-makers in emergency preparedness, could be quite useful in this regard (WHO, 1999). Moreover, the WHO recent publication on emergency preparedness and risk management is a valuable reference for developing national policies (WHO, 2007).

Nearly 70% of surveyed countries recommend having a formal, multi-disciplinary emergency preparedness and response programme for the health sector at the national and provincial levels. More than two-thirds (69%) reported that such policy includes the development of a national, multi-disciplinary health emergency preparedness and response plan, while half of the respondents mentioned that the policy mandated the conduct of regular simulation exercises at all relevant levels (Fig. 7).

Figure 7 –
Mandates of national policies

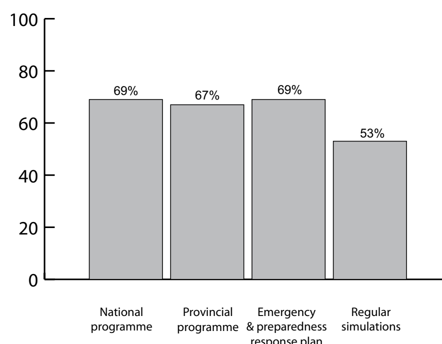
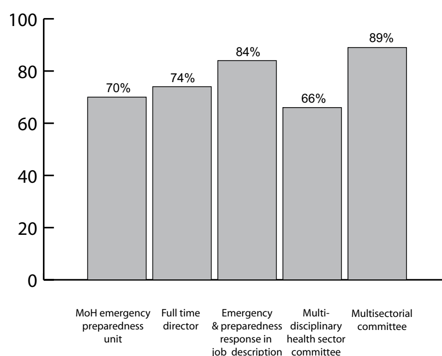


Figure 8 –
Reported ministry of health arrangements for emergency preparedness and response



3.2.2 Institutional arrangements

As the survey manual states, the main actor is the organization with primary responsibility for emergency preparedness and response in the country. A dedicated unit for emergency preparedness and response within the ministry of health may have its own chief and job description. Emergency preparedness is defined as activities and measures taken in advance to ensure effective response to the impact of hazards (natural, biological, technological, social), including the issuance of timely and effective warnings and the temporary evacuation of people and property from threatened locations (ISDR, 2004).

Most respondents reported emergency preparedness and response arrangements within the ministries of health, with the existence of multi-sectoral committees (89%) and emergency preparedness and response as an integral part of the job description (84%) of key ministry of health personnel being common (Fig. 8).

The main national actor in emergency preparedness and response was reported to be a national establishment of emergencies in 39% of cases. This establishment varied from a ministry of emergencies or an agency, board or committee of emergencies. The Ministry of Interior is the main actor in 18% of reporting countries, the Ministry of Health in 16%, and the Civil Protection/Defence in 10% as shown in Figure 9 (next page).

Most respondents (70%) reported a full-time emergency preparedness and response unit in the ministry of health (Fig. 10). There

*Figure 9 –
Reported main actor in emergency preparedness and response*

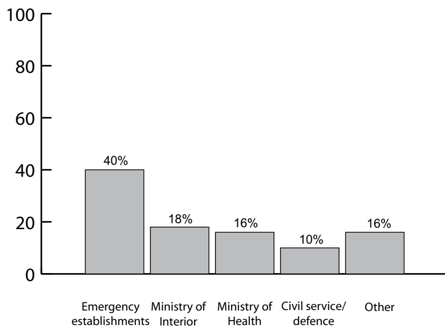


*Figure 12 –
Reported presence of a multi-disciplinary committee, by WHO region*

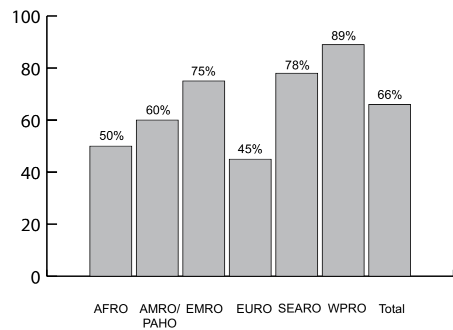


*Figure 10 –
Reported presence of an emergency preparedness and response unit in the Ministry of Health, by WHO region*

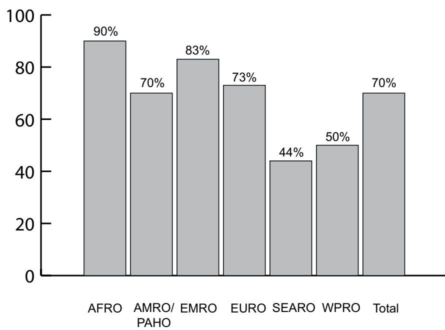


*Figure 13 –
Reported hazard analysis and vulnerability assessment, by WHO region*

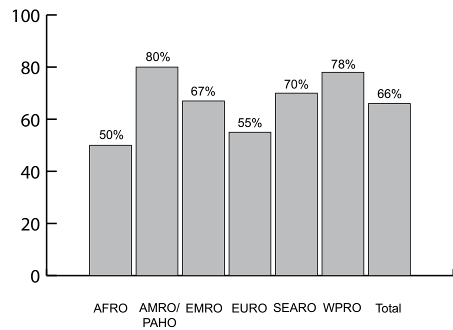


*Figure 11 –
Reported presence of multi-sectoral committee, by WHO region*

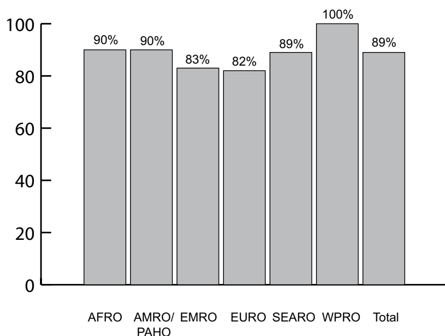
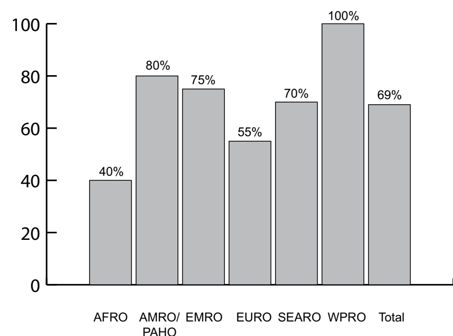


*Figure 14 –
Public awareness programmes on risks and emergencies, by WHO region*



was a wide variation across WHO regions, with AFR and EMR reporting 90% and 83% respectively, while SEAR and WPR reported the existence of emergency preparedness and response units in 44% and 50% of countries respectively. This may reflect a concentration of national and donor efforts in AFR and EMR in this area based on perceived need.

Multi-disciplinary (across the health sector) committees and multi-sectoral committees (the health sector and other public sectors) are key to developing emergency preparedness and response arrangements and plans, for steering national and provincial programmes, and for coordinating emergency response and recovery. Multi-sectoral committees have been key features of emergency preparedness and response guidance globally for many years, and 89 % of respondents reported the presence of such committees (Fig. 11).

Of concern, however, is the relatively low reporting 66% of multi-disciplinary health sector emergency preparedness and response committees (Fig. 12). Such committees, combining the skills and experience of hospitals, public health sectors and other clinical disciplines, are essential to shaping and driving national and provincial health emergency preparedness and response programmes.

Two-thirds of countries have hazard analysis and vulnerability assessment programmes and projects, with AMR having the highest level at 80%, and AFR the lowest level at 50% (Fig. 13).

More than two-thirds (69%) of respondents reported public awareness programmes on risks and emergencies (Fig. 14). Among the highest reporting were WPR, AMR and EMR, with 100%, 80% and 75% respectively.

More than half of respondents reported their countries possessed an early warning and alert system. SEAR and WPR reported 78% and 67%, which may be a reflection of the development of tsunami warning systems (Fig. 15). EUR reported a low number of countries with such systems (27%) and AFR a rather high number (60%) given the responses to other questions.

With such a high report rate on both public awareness programmes (Fig. 14) and communication systems (Fig. 16), WPR countries are in an excellent position to further develop the number of warning and alerting systems (Fig. 15).

Half of the respondents reported emergency preparedness and response programmes and projects for the conduct of simulation exercises, with AMR, WPR and SEAR countries reporting 80%, 89% and 60% respectively (Fig. 17). It is likely that the relatively high proportion of WPR and SEAR countries conducting exercises is due to the outbreak and spread of avian influenza, and the perceived threat of a human influenza pandemic at some stage in the future.

Figure 15 - Reported early warning/alerting systems, by WHO Region

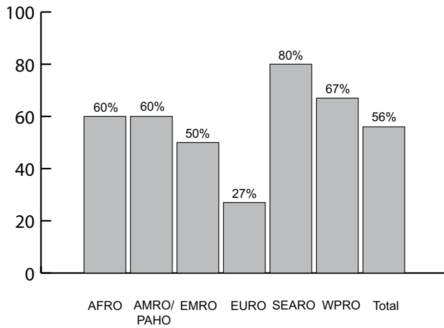


Figure 16 – Reported emergency and preparedness response communication systems, by WHO region

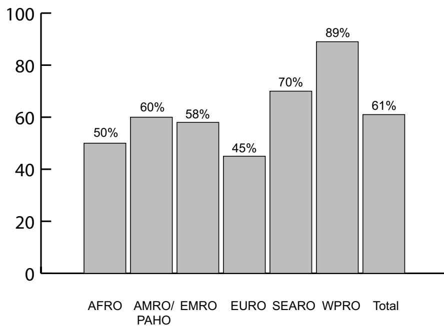
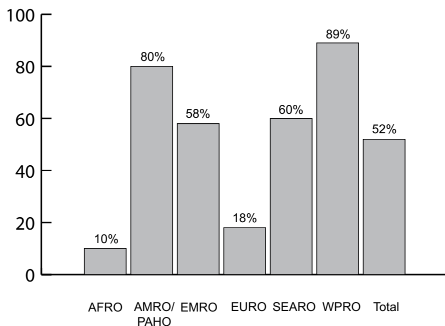


Figure 17 – Reported simulation exercises programmes and projects, by WHO region



3.2.3 Vulnerability assessment

Survey questions

3.1 Does a national emergency profile exist for this (the) country? If yes, please describe how this profile is developed and its contents.

3.2 What processes are used in this (the) country for assessing the possible impact of major hazards, conflicts or crises on people's health and on health infrastructure? If yes, please describe this process.

3.3 Are all relevant health sector involved in the process?

3.4 Are hazard maps developed at the national level?

3.5 Are hazard maps developed at the provincial levels?

3.6 Do you have any further comments on the country's vulnerability assessment? If yes, please add below.

Vulnerability assessment is defined in the instruction manual (Annex 7) as a method for identifying hazards and determining their possible effects on a community, activity or organization. It provides information essential for sustaining and protecting development achievements as well as for emergency prevention, mitigation, preparedness, response and recovery.

There was a relatively low reporting of vulnerability assessment, with a third of all countries reporting none in relation to the existence of a national emergency profile and national and provincial hazard maps (Fig. 18).

Two-thirds (66%) of respondents reported the presence of a national emergency profile (Fig. 19), with SEAR and AMR reporting 100% and 80% respectively, and AFR reporting only 40%. National emergency profiles can provide a broad description of the types of risks and emergencies to which a country is subject, and the resources available to manage them.

Hazard maps at the national level may be part of the national emergency profile or may be stand-alone products. In all regions except for EUR, reporting on the presence of nation-

al hazard maps was lower than reporting on the presence of national emergency profiles. SEAR, EUR, AMR and EMR reported the presence of national hazard maps in the majority of countries surveyed (80%, 73%, 70% and 58 % respectively), while AFR and WPR reported that one-third of countries surveyed possessed such maps (Fig. 20).

3.2.4 Health sector plan

Survey questions

4.1 *Has this country developed a national, multi-disciplinary health emergency preparedness and response plan?*

4.2 *Is the plan:*

- 4.2.1 *developed and maintained by a formal health sector planning committee?*
  If yes, to whom does this committee report?
- 4.2.2 *based on the results of hazard/vulnerability assessment?*
- 4.2.3 *linked to the national, multi-sectoral emergency preparedness and response plan?*

4.3 *Does the plan describe:*

- 4.3.1 *health sector command, control and coordination arrangements?*
- 4.3.2 *roles and responsibilities of all health sector ?*
- 4.3.3 *logistic platforms and emergency information systems?*
- 4.3.4 *measures to protect and prepare health care facilities?*

4.4 *Do you have any further comments on the country's health sector emergency preparedness and response plan?*
If yes, please add below.

As stated in the instruction manual (Annex 7), the health sector emergency preparedness and response plan is an agreed-upon set of arrangements for responding to and recovering from emergencies, including the description of responsibilities, management structures and resources as well as information management strategies.

Two-thirds of countries reported the presence of national, multi-disciplinary health emergency preparedness and response plans (Fig. 21), with a wide range across regions from 40% in AFR to 89% in WPR.

Figure 18 –
Existence of vulnerability assessment in Member States

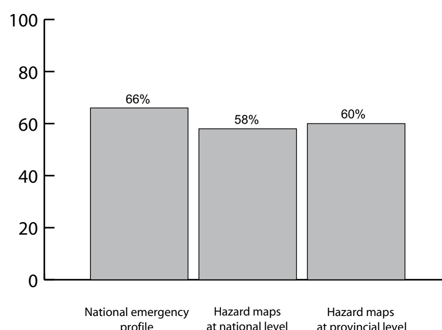


Figure 19 –
Reported presence of national emergency profile, by WHO region

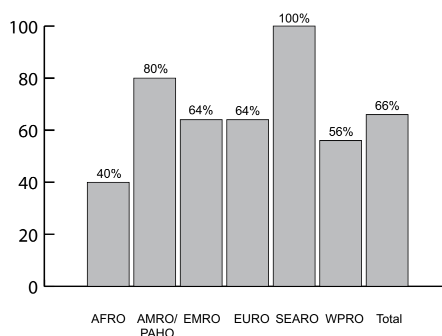


Figure 20 –
Reported presence of hazard maps at national level, by WHO region.

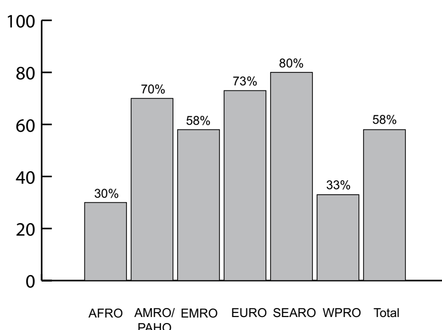


Figure 21 –
Reported emergency preparedness and response plan development, by WHO region

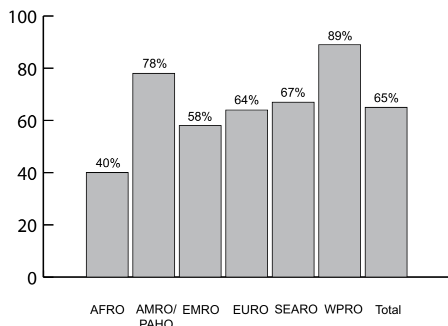


Figure 22 –
Characteristics of developed emergency preparedness and response plan

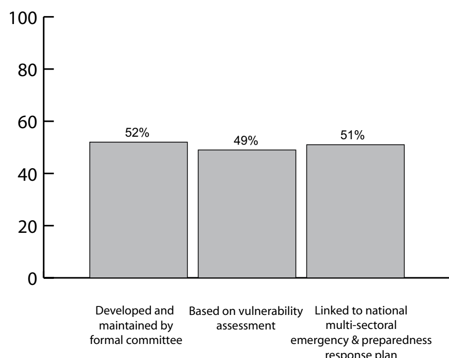
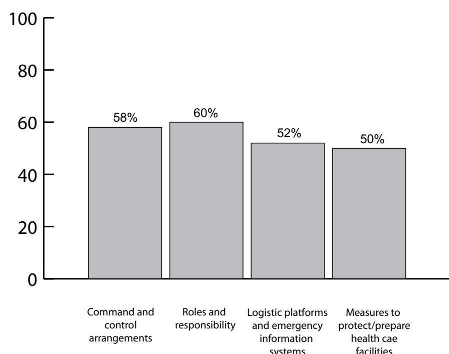


Figure 23 –
Contents of developed emergency preparedness and response plan



This statistic and the distribution across regions are similar to that for the reported presence of multi-disciplinary committees (Fig. 12). This would suggest that the existence of such a committee is a pre-requisite to the development of the plan.

Although two-thirds of countries reported the presence of national, multi-disciplinary health emergency preparedness and response plans (Fig. 21), only half (49-51%) have such plans based on three important prerequisites: hazard/vulnerability assessment, linkages and coordination with the national multi-sectoral emergency preparedness and response plan, and development and evaluation by a formal committee (Fig. 22).

In developing and maintaining emergency plans, health authorities must realize there is an essential role for other sectors in assisting in emergency preparedness and response, and that the health sector provides a key contribution to other sectors in return. An important part of national preparedness is this 'joined-up' or 'whole-of-government' approach, where different cooperate in protecting their communities from risks and emergencies. Countries should be encouraged to link health emergency preparedness and response plans to national multi-sectoral plans.

Just over half of the responding countries (50-60%) reported the emergency preparedness and response plan included: logistic platforms and emergency information systems, measures to protect health facilities, command and control arrangements, or roles and responsibilities (Fig. 23).

3.2.5 Training and education

Survey questions

5.1 Has a country training needs analysis in health emergency preparedness and response been conducted?

5.2 Are there competency or performance standards to assist in the development of emergency-related training and education?

5.3 Are there formally accredited emergency training courses or institutions for health sector personnel?

If yes, please provide titles

5.4 *Are there country health emergency preparedness and response guidelines and other publications?*
If yes, please describe

5.5 *Is your country interested in participation in international public health pre-deployment training courses, to prepare national health staff for field deployment in case of an emergency in another country?*

5.6 *Do you have any further comments on the country's health sector emergency training and education?*
If yes, please add below.

This section enquires about training on emergency preparedness and response capabilities and arrangements (workshops, exercises, pamphlets and public displays). As stated in the instruction manual (Annex 7), training needs analysis aims at describing allocated tasks, determining tasks personnel are capable of undertaking, and determining which personnel require further training. A public health pre-deployment course seeks to provide a pool of qualified, experienced, and well-prepared international health personnel for crises and disasters. WHO was asked to develop such a training course as a global undertaking.

Figure 24 shows that 47 to 63% of respondents use performance standards (47%), perform training needs assessment (49%), have emergency preparedness and response training courses (59%) or related guidelines or publications (63%).

Figure 24 – Reported types of training and education programmes

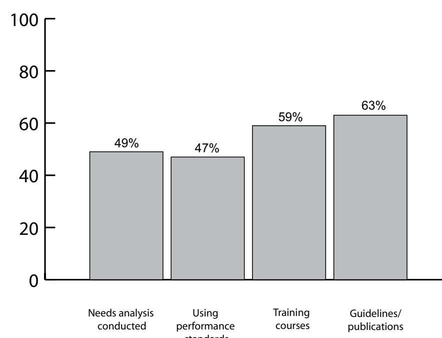
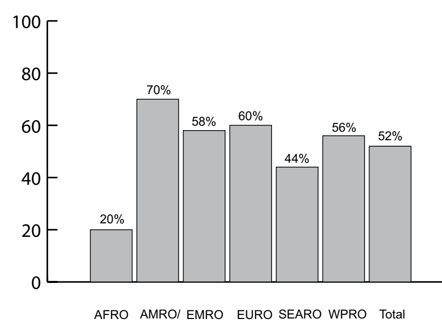


Figure 25 – Conducted simulation exercises during past 12 months, by WHO region



3.2.6 Monitoring and evaluation

As stated in the instruction manual (Annex 7), monitoring and evaluation during implementation include measuring progress towards project objectives, performing an analysis to find out causes of deviation, and determining corrective actions. Simulation exercises are tools for monitoring and evaluating parts of emergency response plans and are designed to give a good indication of the level of preparedness of health sector institutions and personnel.

Just over half (52%) of countries reported they had conducted simulation exercises over the last 12 months, ranging from 20% (AFR) to 70% (AMR) (Fig. 25), while 72% of countries reported the intention to conduct simulation exercises during the next 12 months, ranging from 50-56% (EMR, SEAR, respectively) to

Figure 26 –
Planned simulation exercises for next 12 months, by WHO region

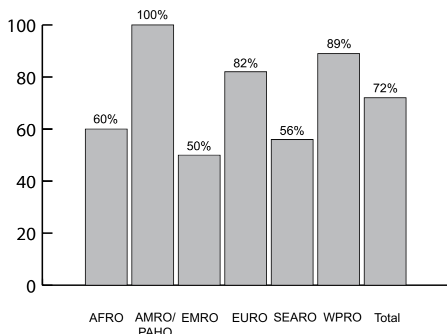


Figure 27 –
Reported use of audits to assess effectiveness of emergency preparedness and response, by WHO region

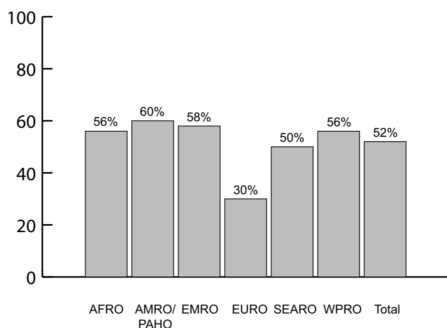
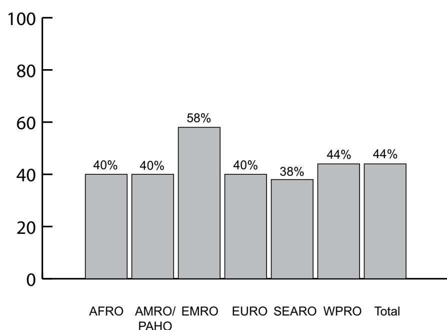


Figure 28 –
Reported use of methods to capture lessons learnt, by WHO region



100% (AMR) (Fig. 26). This shows, with the exception of one region (AFR), that there is a greater awareness of the need to conduct simulation exercises, and perhaps a greater level of assistance is required in the conduct of these exercises.

Less than one-half (44%) of countries reported using technical audits to assess the effectiveness of emergency preparedness and response programmes, ranging from 38% in SEAR to 58% in EMR (Fig. 27), but more than half (52%) reported using methods for capturing lessons learnt, ranging from 30% in EMR, to 60% in AMR (Fig. 28). Both these techniques are recent introductions into general emergency management practice, and are essential tools in monitoring programmes.

3.2.7 International cooperation and partnerships

As stated in the instruction manual (Annex 7), international cooperation and partnerships include collaboration with and support received from outside the country, whether financial, technical, material (mobile or fixed) or otherwise.

Most countries (81%) reported international or bilateral cooperation in health sector emergency preparedness and response (Fig. 29). While all SEAR and WPR countries reported having such cooperation, it is interesting that only 67% of AFR countries and 64% of EUR countries enjoy bilateral or international cooperation in this field.

Of the international or bilateral cooperation in health sector emergency preparedness and response, approximately two-thirds of countries reported WHO involvement. Cooperation with others was also reported, including the International Red Cross and Red Crescent Movement and *Médecins Sans Frontières*, as well as other UN agencies such as WFP, UNICEF and UNDP.

The reported budget allocation for emergency preparedness and response in the WHO country budget varies between WHO regions. It is reported by 88% of participating countries

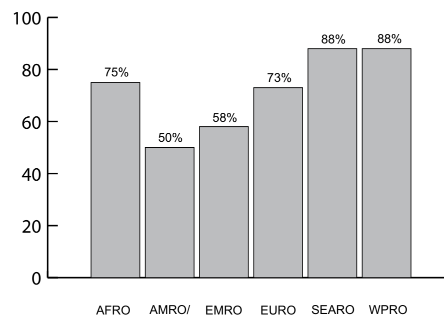
from SEAR and WPR, compared to only 50% of participating AMR countries (Fig. 30).

Countries reported the following priority areas for strengthening in health sector emergency preparedness and response if more "**national support**" was made available: training (34%), human resource/capacity building (22%), logistics support (19%) and preparedness (13 %).

Countries reported the following priority areas for strengthening in health sector emergency preparedness and response if more "**international support**" was made available: training (39%), early warning and response (18%), human resource and capacity building (16%), logistic support (16%), risk and vulnerability assessment (15%) and equipment (13 %).

Figure 29 – Reported benefit from international or bilateral cooperation, by WHO region

Figure 30 – Reported budget allocation in WHO country budget, by WHO region



3.2.8 Non-governmental organizations

Survey questions

8.1 Are non-governmental organizations involved in emergency preparedness and response?
If yes, in what capacity?

8.2 Are non-governmental organization members represented on national committees for emergency preparedness and response?

8.3 Is there a legal document governing non-governmental organizations' role in emergency preparedness and response?
If yes, please attach relevant documentation

8.4 Which activities are non-governmental organizations involved in?
- *8.4.1 Hazard analysis and vulnerability assessment*
- *8.4.2 Public awareness programmes on hazards and emergencies*
- *8.4.3 Response to emergencies and crises*
- *8.4.4 Training and education*
- *8.4.5 Early warning and alerting systems*
- *8.4.6 Communication systems*
- *8.4.7 Logistic platforms & emergency information systems*
- *8.4.8 Simulation exercises*

8.5 Could you provide names of NGOs (national or international) or other (e.g. Red Cross, Red Crescent) or academic institutions involved in emergency preparedness and response?

As stated in the instruction manual (Annex 7), non-governmental organizations include voluntary, charitable groups, and professional associations that are involved in various emergency preparedness and response activities, whether jointly (with the ministry of health) or independently. In addition to non-governmental organi-

Figure 31 –
Reported representation of non-governmental organizations on national committees, by WHO region

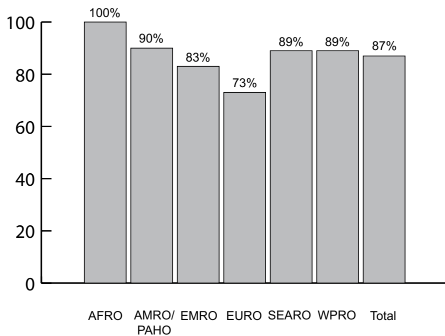


Figure 32 –
Reported non-governmental organizations involvement in emergency preparedness and response, by WHO region

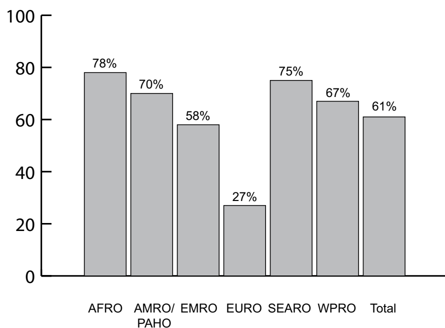
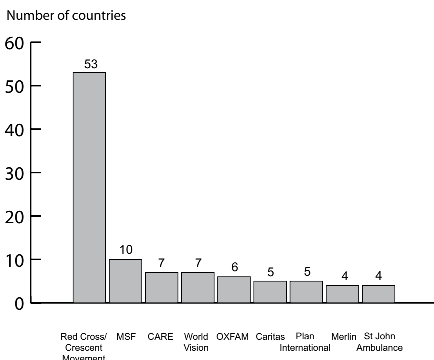


Figure 33 –
Most commonly reported agencies involved in emergency preparedness and response



zations, other agencies such as the International Red Cross and Red Crescent Movement, as well as some academic institutions play significant roles in emergency preparedness and response.

Most participating countries (87%) reported non-governmental organizations' involvement in emergency preparedness and response activities. This varies between regions, from 73% of participating EUR countries to 100% of participating AFR countries (Fig. 31). Nevertheless, representation of non-governmental organizations on national emergency preparedness and response committees was only 61%, which widely varied per region, with 27%-58% of participating countries from EUR and EMR respectively, and 78% of AFR countries (Fig. 32). Three activities topped the list of reported emergency preparedness and response activities with non-govermental involvement: response (74%); training and education (71%); and raising public awareness (61%). Non-governmental organizations are reported to be least involved in emergency preparedness and response activities related to early warning systems, communication systems, logistic platforms and simulation exercises.

Figure 33 indicates that the International Red Cross and Red Crescent Movement (including the International Committee of the Red Cross, the International Federation of the Red Cross and Red Crescent and national Red Cross/Crescent societies) is the leading agency involved in emergency preparedness and response in reporting countries, followed by Médecins Sans Frontières, CARE, World Vision and Oxfam.

3.2.9 Human resources

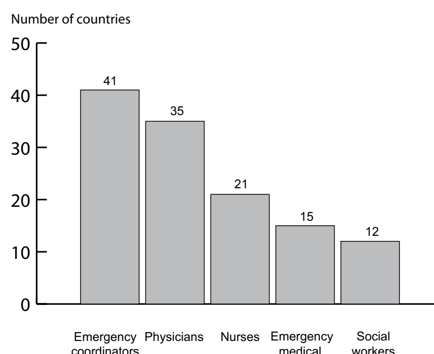
As stated in the instruction manual (Annex 7), emergency preparedness and response human resources include personnel responsible for back-up who have specific technical and human skills (reception/recovery skills, technical knowledge of logistic support, safety consciousness, local language, first-aid). These include specially trained: emergency

coordinators, emergency medical technicians, and physicians/nurses/social workers.

It is unfortunate that many respondents did not attempt to answer this section in the questionnaire, and hence the graphs include numbers rather than percentages (in contrast to other sections of the questionnaire).

About two-thirds (66%) reported having emergency coordinators. Fewer respondents reported having emergency physicians (56 %) and emergency nurses (34 %). Surprisingly, only 25% reported having emergency medical technicians, as shown by graph (Fig. 34).

Figure 34 – Reported human resources in emergencies



These results suggest a scarcity of trained human resources emergency and preparedness response. This represents a strong warning that capacity-building activities are warranted in most regions, especially for emergency medical technicians and trained physicians and nurses in this field.

4. STRENGTHS AND LIMITATIONS OF THE ASSESSMENT

4.1 Strengths of the assessment

- First global assessment of its kind to be conducted by WHO or any other UN agency;
- High response rate to the questionnaire reflects increasing interest and high priority given by countries to this area of work;
- High level of internal coordination between the different levels of WHO (headquarters, regional and country offices) and very good collaboration with ministries of health during the planning and implementation phases;
- A comprehensive set of easy-to-understand questions covering relevant areas to worldwide, accompanied by an instruction manual to facilitate understanding and a common set of definitions for the terms used in the questionnaire;
- Most respondents (90%) represented the actual group targeted in the questionnaire (i.e. emergency preparedness and response focal points in ministries of health);
- Combination of quantitative and qualitative methods used for data collection;

- Provision of very useful information for developing and strengthening national strategies for health sector emergency preparedness, as well as proper planning and decision making. Useful baseline data will allow for future comparisons;
- Some gaps have been identified in the different aspects of health sector emergency preparedness and response;
- Some country, regional and global strengths have also been proven. Continuous improvement can only reinforce these strengths.

4.2 Limitations of the assessment

- Most communication during data collection was through email, with no face-to-face interaction;
- Use of different translations from and to English may have affected the degree of standardization of data collection, due to the possibility of different interpretations of the same questions or concepts;
- The sample of countries in this assessment may not be truly representative of all countries in the regions (a problem which is expected to be addressed in Phase 2);
- Reasons identified for delayed response to the assessment include: survey fatigue (some regions had just concluded similar activities on a regional level); difficulties in comprehending some questions (which may have resulted in some inaccurate responses); need for approvals (supervisors or research committees, nationally or regionally); and political conflicts and unrest, including change of government;
- The nature, experience and background of respondents may affect the validity and reliability of the collected information;
- Because of the short time-frame and limited resources, no mechanism was used to verify collected information;
- Regional analyses do not provide the same degree of sensitivity as country-specific analyses within regions, as considerable differences between countries within regions are expected, a fact which is concealed by regional analyses. This calls for caution when interpreting and using the results, avoiding extrapolation and generalization within regions;
- When submitting their completed questionnaires, many countries did not include the requested relevant documentation to substantiate their responses to questions on plans, policies and non-governmental organizations' involvement in emergency preparedness and response activities;

- Many participants did not complete the section on human resources;
- The assessment did not specifically address emergency recovery programmes and projects. This may be included in further assessments.

5. DISCUSSION AND CONCLUSIONS

5.1 The need for national health emergency preparedness and response programmes

Most (92%) of the participating countries have experienced an emergency or disaster in the last five years. The greatest vulnerability of any country in an emergency is the health and well-being of its people and communities. The continuity and sustainability of health sector services are also at risk, and many years of health sector development can be destroyed by the initial impact of an emergency. It is a sad irony that health services may be reduced to their lowest level of functioning just when they are needed the most.

That so many countries reported experiences in emergencies or disasters in recent years demonstrates the vital importance of effective national health emergency preparedness and response programmes in all countries and globally, not only to respond to the often extraordinary demands imposed on them by emergencies and disasters, but to ensure that the health sector itself is resilient to the effects of these emergencies and disasters.

5.2 Exposure to hazards

The global nature of human society that has evolved over the last century has provided all countries with not only new opportunities, but also increased and shared risks.

Population growth, expansion into previously uninhabited areas, and environmental degradation have all increased the exposure of most countries to natural hazards including cyclonic storms, floods and famine, while exposure to hazards such as earthquakes and tsunamis is ever-present in many regions of the world. This was almost universally recognized by respondents to the questionnaire when they reported on perceived exposure to natural hazards.

The spread of advanced technology has brought benefits to many, but has led to increased risks to the health and well-being of people and communities through explosions, accidents, and acute and chronic hazardous materials releases. The majority of countries re-

ported exposure to social hazards. Although not specifically asked in the questionnaire, all countries are exposed to varying degrees to biological hazards, particularly given the apparent increase in the risk of a human influenza pandemic.

These results suggest a need to adopt an 'all hazards' approach to national health emergency preparedness and response policies and programmes. Such an approach aims to develop generic arrangements that are suitable to any type of emergency or disaster and that describe generic roles and responsibilities, coordination, information and resource management. Beneath these generic arrangements is a need for hazard-specific arrangements for the control of communicable disease outbreaks, food safety emergencies, mass casualty emergencies, and other specific health-related emergencies or functions.

These results also demonstrate a need for global programmes to educate health sector personnel on the range of hazards, including technological, that may affect the health and well-being of their people and communities.

5.3 National health emergency preparedness and response policy and programmes

5.3.1 Policy

Overall, countries responding to the questionnaire demonstrate a comprehensive approach to health emergency preparedness and response. The majority of countries (85%) reported the existence of a national emergency preparedness and response policy, two-thirds of countries reported policy on health sector emergency preparedness and response programmes at the national and provincial levels, and two-thirds reported policy on health sector emergency preparedness and response plans.

It is evident many of the countries surveyed need to develop new health policies or enhance existing policies. Without such policies and their associated long-term goals, it is difficult to ensure nationally consistent, coordinated and effective programmes.

In conclusion, further work is required at all levels to develop national health emergency preparedness and response policies.

5.3.2 Institutional arrangements

Ministries of health should have some form of institutional arrangement to ensure the development and maintenance of health emergency preparedness and response programmes. Such arrangements could include dedicated units, a full-time director, coordinator or focal point, and emergency preparedness and response as a part of the job description for key Ministry of Health personnel. Most respondents reported the presence of such institutional ar-

rangements, but a surprising number of countries demonstrated the relative absence of dedicated response personnel.

More effort must be applied to developing and employing emergency preparedness and response specialists in ministries of health to work on national and provincial programmes.

5.3.3 Emergency preparedness and response committees

Multi-disciplinary (across the health sector) committees and multi-sectoral committees (health and other public sectors) are key to developing emergency preparedness and response arrangements and plans, steering national and provincial programmes, and coordinating emergency response and recovery. Most (89%) of all respondents reported the presence of a multi-sectoral committee and 66% reported multi-disciplinary health sector emergency preparedness and response committees. Such committees, combining the skills and experience of hospitals, public health, communicable disease and other disciplines, are essential to shaping and driving national and provincial health emergency preparedness and response programmes. Clearly, more effort is required to form and maintain these committees.

5.3.4 National health emergency preparedness and response programmes

National health emergency preparedness and response programmes should include a number of key components for emergency preparedness.

Allocation of financial resources is crucial to the establishment and functioning of national programmes. Experience clearly shows that without such funding, emergency preparedness and response programmes will not be able to implement effective interventions nor maintain their sustainability. The finding that up to 50% of countries have no budget allocation to sustain their function is of major concern and should be addressed by policy makers and health authorities.

Hazard analysis and vulnerability assessment are key elements in emergency preparedness and response programmes, as they provide information required to target specific populations and problems, and can also be used to justify the expenditure of time and money. More effort should be spent developing hazard analyses and vulnerability assessments including emergency profiles and national and provincial hazard maps, or adapting assessments from other sectors.

About two-thirds (64%) of countries reported the presence of national, multi-disciplinary health emergency preparedness and response plans. Approximately half of countries reported that plans developed by a formal committee were based on vulnerability as-

sessment, and were linked to a multi-sectoral plan. It is imperative that countries put more effort into the development of national, multi-disciplinary health emergency preparedness and response plans, as these guide the actions of all players in the health sector. Countries should be encouraged to link their health emergency preparedness and response and national multi-sectoral emergency preparedness and response plans.

Overall, much more work needs to done to promote and deliver emergency preparedness and response training in the health care sector. The importance of undertaking a regular analysis of training needs should be emphasized, as this will yield essential information to underpin the design of training courses. The development and use of competency standards in health sector emergency preparedness and response should also be promoted.

5.3.5 International cooperation and partnerships

More than three quarters of countries benefit from international or bilateral cooperation emergency preparedness and response programmes. WHO is involved in about two-thirds of these cases. The AFR reported the lowest level of cooperation. The survey suggests that there is room for more bilateral/international support to be provided, particularly to AFR countries which would probably benefit most from such cooperation.

As suggested by respondents, training and capacity building, strengthening of human resources, technical assistance in risk and vulnerability assessment, early warning and response, and logistics support are areas that will benefit greatly from international collaboration. WHO can play a major role in strengthening technical collaboration between countries.

5.3.6 Non-governmental organizations

Non-governmental organizations are involved in emergency preparedness and response activities in most (89%) countries surveyed, but their role and involvement varies by region. All regions will benefit from their greater representation and involvement. The low level of representation and/or legal documentation of non-governmental organizations on national committees needs to be addressed in some regions.

Non-governmental organizations should be encouraged to provide more support to emergency preparedness and response activities in the fields of vulnerability assessment, early warning and alert systems, communication systems, emergency information systems and simulation exercises, as these are the areas most in need of their support.

5.3.7 Human resources

One of the major gaps impeding the development and strengthening of national emergency preparedness and response programmes is the dearth of trained human resources. The survey confirms this gap. Staff shortages are seen in all areas related to emergency preparedness and response. This finding once again reflects the pressing need for a critical analysis of the current situation and calls for a serious review of existing policies and interventions on human resources development at the global, regional and national levels. Despite many education and training initiatives implemented by international, intergovernmental and nongovernmental over the last decade, human resources development in emergency preparedness and response remains patchy and inadequate. It should be a top priority for action for governments and the international community alike.

6. RECOMMENDATIONS FOR ACTION

- Many participating countries need to establish health emergency preparedness and response policies or enhance existing policies and programmes. Without such policies and their associated goals and achievement targets, it is difficult to ensure nationally consistent, coordinated and effective emergency preparedness and response programmes. Much work is required at all levels to develop national health emergency preparedness and response policies.
- MoHs should make institutional arrangements to ensure the development and maintenance of health emergency preparedness and response programmes. Such arrangements include dedicated units, a full-time director, coordinator or focal point, and emergency preparedness and response as a part of the job description for key ministry of health personnel.
- Allocation of financial resources is crucial to the establishment and functioning of national programmes. Experience clearly shows that without such funding, emergency preparedness and response programmes will not be able to be implemented.
- Countries must put more effort into the development of national, multi-disciplinary health emergency preparedness and response plans, as these guide the actions of all players in the health sector. Countries should be encouraged to link their health emergency preparedness and response with the equivalent national multi-sectoral plans.

- Governments and the international community should work together to strengthen the development of hazard analyses and vulnerability assessments, including emergency profiles and national and provincial hazard maps, in addition to public awareness interventions, communication and early warning and alerting systems. Existing logistics systems should be promoted and adapted, if necessary, for use.
- Training and capacity building should be a priority for all stakeholders at national, regional and global levels. Stakeholders should work in a concerted manner to identify urgent needs and develop concrete and coordinated plans to address them.
- International collaboration should be strengthened. Non-governmental organizations should be encouraged to provide more support to emergency preparedness and response activities in the fields of vulnerability assessment, early warning and alert systems, communication systems, emergency information systems and simulation exercises.

6.1 Recommendations for government decision-makers

Based on the findings of this survey, **it is recommended that government decision-makers**:

a. Use an 'all hazards' approach to emergency preparedness and response;
b. Include the health sector in emergency preparedness and response policy development;
c. Support ministries of health in recruiting and training emergency preparedness and response specialists;
d. Ensure the health sector is represented on multi-sectoral emergency preparedness and response committees;
e. Develop hazard analysis and vulnerability assessments in cooperation with the health sector, or provide existing assessments to the health sector;
f. Extend existing public awareness programmes, communication and early warning and alerting systems to the health sector;
g. Assist ministries of health to develop and finance national, multi-disciplinary health emergency preparedness and response plans, and link these to national multi-sectoral emergency preparedness and response plans;
h. Encourage the health care sector in the conduct of training needs analyses, the development and use of competency standards and the conduct of training courses;

i. Encourage and assist the health care sector in the conduct of simulation exercises, audits and methods for capturing lessons learned from previous emergencies within the country and those that have happened elsewhere.

6.2 Recommendations for national health authorities

It is recommended that national health authorities:

a. Use an 'all hazards' approach to health emergency preparedness and response programmes, and develop hazard-specific programmes as required under the 'all hazards' umbrella;
b. Develop national health emergency preparedness and response policies to guide related programmes;
c. Seek active representation on multi-sectoral emergency preparedness and response committees and form and maintain multi-disciplinary health sector emergency preparedness and response committees;
d. Develop hazard analysis and vulnerability assessments in cooperation with existing multi-sectoral and multi-disciplinary committees, or adapt existing national assessments;
e. Adapt existing public awareness programmes, communication and early warning and alerting systems to the health sector, or plan the development of them;
f. Develop national, multi-disciplinary health emergency preparedness and response plans and link these to the corresponding national multi-sectoral plans;
g. Work with other sectors to conduct training needs analyses, develop competency standards, conduct national training courses, and investigate their participation in public health pre-deployment courses;
h. Conduct simulation exercises, audits and methods for capturing lessons learned from emergencies;
i. Develop, or translate and adapt, existing best practice guidelines and case studies.

6.3 Recommendations for funding agencies and partners

It is recommended that funding agencies and partners give higher priority to and provide more financial support for emergency preparedness and risk reduction activities.

6.4 Recommendations for WHO

It is recommended that WHO:

a. Further elaborate the nature of health emergency preparedness policy in its guidance documents, including national institutional arrangements, hazard analysis and vulnerability assessment, health emergency preparedness and response planning, training courses and other training requirements;

b. Advocate and provide technical support to countries in the development of national health emergency preparedness and response policies and plans;

c. Encourage countries to seek health sector representation on multi-sectoral emergency preparedness and response committees and form and maintain such multi-disciplinary health sector committees;

d Assist with training needs analysis, the development of competency standards and the conduct of training courses;

e. Facilitate participation in pre-deployment training activities and courses;

f. Promote the conduct of simulation exercises, audits and methods for capturing lessons learnt from emergencies;

g. Develop the means for the global sharing of best practice guidelines and case studies.

ANNEXES

ANNEX 1 – WHA 58.1 HEALTH ACTION IN RELATION TO CRISES AND DISASTERS, WITH PARTICULAR EMPHASIS ON THE EARTHQUAKES AND TSUNAMIS OF 26 DECEMBER 2004

The Fifty-eighth World Health Assembly,

Having considered the reports on health action in relation to crises and disasters;[1]

Regretting the profound human consequences of the earthquakes and tsunamis that on 26 December 2004 struck many countries, from south-east Asia to east Africa, causing an estimated 280 000 deaths, with thousands more still missing, injuring as many as half a million people, and making at least five million people homeless and/or deprived of adequate access to safe drinking water, sanitation, food or health services; Noting that citizens of more than 30 countries were affected by the disaster, and that those who died included many health professionals;

Acknowledging that most relief assistance has initially been, and will continue to be, provided from within affected communities and through local authorities, supported through intense international cooperation, and expecting that these communities will continue to experience serious difficulties as a result of the loss of their means of livelihood, overloading of health and social services, and both immediate and long-term psychological trauma;

Recognizing that action to address the public health aspects of crises should at all times strengthen the ingenuity and resilience of communities, the capacities of local authorities, the preparedness of health systems, and the ability of national authorities and civil society to provide prompt and coordinated back-up geared to the survival of those immediately affected;

Appreciating the generous assistance provided to the affected nations by governments, nongovernmental groups, individuals, and national public-health institutions, including through the Global Outbreak Alert and Response Network;

Acknowledging the difficulties faced by under-resourced local health systems in locating missing persons, identifying those who have died, and managing the bodies of the deceased;

Recognizing the challenges faced by overwhelmed local authorities as they coordinate the relief effort, including personnel and goods

1 Documents A58/6 and A58/6 Add.1.

generously made available as a result of both national and international solidarity;

Noting that the effectiveness with which affected nations respond to sudden events of this scale reflects their preparedness and readiness for focused and concerted action, particularly in relation to saving life and sustaining survival;

Recalling that more than 30 countries worldwide are currently facing major, often longstanding, crises, with as many as 500 million persons at risk because they face a variety of avoidable threats to their survival and well-being, and that around 20 other countries are at high risk of serious natural or man-made events, increasing the number of persons at risk to between 2000 million and 3000 million;

Appreciating that analyses of health needs and performance of health systems, within the context of national policies and internationally agreed development goals, including those contained in the United Nations Millennium Declaration, are essential for the proper rehabilitation and recovery of equitable individual and public health services, and that this task is best undertaken if there are clear synergies between preparedness and response;

Reaffirming the need to build local capacity to assess risks, and to prepare for, and respond to, any future catastrophe, including by providing continuous public education, dispelling myths about health consequences of disasters, and reducing the risk of disaster damage in critical health facilities; Recognizing that improvement of social and economic circumstances of the most disadvantaged countries is a preventive action that reduces the risk of crises and disasters and their consequences;

Taking into account the outcomes of the World Conference on Disaster Reduction (Kobe, Hyogo, Japan, 18 to 22 January 2005),

1. CALLS UPON the international community to continue, in response to countries' requests, its strong and long-term support to areas affected by the tsunamis of 26 December 2004, and to give similar attention to the needs of people affected by other humanitarian crises;

2. URGES Member States:

   (1) to provide adequate backing to tsunami-affected countries and all other Member States affected by crises and disasters for the sustainable recovery of their health and social systems;

   (2) to pay particular attention to mental health needs and establishment of service-delivery models in their health and social systems;

   (3) to make their best efforts to engage actively in the collective measures to establish global and regional preparedness plans that integrate risk-reduction planning into the health sector and build up capacity to respond to health-related crises;

   (4) to formulate, on the basis of risk mapping, national emergency-preparedness plans that give due attention to public health, includ-

ing health infrastructure, and to the roles of the health sector in crises, in order to improve the effectiveness of responses to crises and of contributions to the recovery of health systems;

(5) to ensure that women and men have equal access to both formal and informal education on emergency preparedness and disaster reduction through early warning systems that empower women, as well as men, to react in timely and appropriate ways, and that appropriate education and response options are also made available to all children;

(6) to pay particular attention to gender-based violence as an increasing concern during crises, and to provide appropriate support to those affected;

(7) to ensure that – in times of crisis – all affected populations, including displaced persons, have equitable access to essential health care, focusing on saving those whose lives are endangered and sustaining the lives of those who have survived, and paying particular attention to the specific needs of women and children, older people, and persons with acute physical and psychological trauma, communicable diseases, chronic illnesses, or disability;

(8) to provide support for a review, within the Proposed programme budget 2006-2007, of WHO's actions in relation to crises and disasters, in order to allow for immediate, timely, adequate, sufficient and sustained interventions, and to consider increasing contributions in order to ensure adequate financing of significant WHO actions and interventions before, during and after crises;

(9) to protect national and international personnel involved in improving the health of crisis affected communities, and to ensure that they receive the necessary back-up to undertake urgent and necessary humanitarian action and relief of suffering – to the greatest possible extent – when lives are endangered;

(10) to strengthen information systems and to improve collaboration with national and international media in order to ensure the availability of accurate and up-to-date information;

(11) to enhance international solidarity and to identify mechanisms for joint cooperation in the development of emergency preparedness and response strategies;

(12) to consider improving existing intergovernmental mechanisms for humanitarian assistance and possible additional mechanisms and modalities for the rapid availability of resources in the event of disasters, so as to allow for prompt and effective response;

3. REQUESTS the Director-General:

(1) to intensify WHO support for tsunami-affected Member States and all other Member States affected by crises and disasters as they focus on effective disease-surveillance systems, and improved access to clean water, sanitation, safe foodstuffs, good-

quality essential medicines and health care, particularly for mental health, providing necessary technical guidance, including that on management of bodies of the deceased and avoidance of communicable diseases, and ensuring prompt and accurate communication of information;

(2) actively, and in a timely manner, to provide accurate information to international and

local media to counter rumours in order to prevent public panic, conflicts, and other social and

economic impacts;

(3) to pay particular attention to providing support to Member States for establishment of

service-delivery models in their health and social systems;

(4) to encourage cooperation of WHO's field activities with those of other international organizations, with the support of donor agencies, so as to help governments of countries affected by the tsunamis to coordinate responses to public health challenges, under the aegis of the United Nations Office for the Coordination of Humanitarian Affairs, and to plan and implement the rapid and sustainable rehabilitation of health systems and services, and to report to the Health Assembly on the progress of such cooperation;

(5) to assist in the design of health aspects of programmes that provide support to persons whose lives and livelihoods have been affected by the tsunamis, and of the services needed to address their physical and mental trauma;

(6) to adapt, redesign where necessary, and secure adequate resources for effective work in the area of emergency preparedness and response, and other areas of work involved in the Organization-wide response to crises;

(7) to enhance WHO's capacity to provide support, within the coordination mechanisms of the United Nations system and of other institutions, particularly the International Red Cross and Red Crescent Movement, for formulating, testing and implementing health-related emergency preparedness plans, responding to the critical health needs of people in crisis conditions, and planning and implementing sustainable recovery after a crisis;

(8) to establish clear lines of command within WHO in order to facilitate rapid and effective responses in the initial stages of an emergency, and to communicate those arrangements clearly to Member States and other partners in the United Nations system;

(9) to mobilize WHO's own health expertise, to increase its ability to locate outside expertise, to facilitate effective collaboration between local and international expertise, to ensure that knowledge and skills are updated and relevant, and to make this expertise available in order to provide prompt and appropriate technical

support to both international and national health disaster preparedness, response, mitigation and risk-reduction programmes;

(10) to foster WHO's continued and active cooperation with the International Strategy for Disaster Reduction, thereby ensuring adequate emphasis on health-related concerns in the implementation of the outcomes of the World Conference on Disaster Reduction (Kobe, Hyogo, Japan, 18-22 January 2005);

(11) to ensure that WHO helps all relevant groups concerned with preparation for, response to, and recovery after, disasters and crises through timely and reliable assessments of suffering and threats to survival, using morbidity and mortality data; coordination of health-related action in ways that reflect these assessments; identification of, and action to, fill gaps that threaten health outcomes; and building of local and national capacities, including transfer of expertise, experience and technologies, among Member States, with adequate attention to the links between relief and reconstruction;

(12) to strengthen existing logistics services within WHO's mandate, in close coordination with other humanitarian agencies, so that the necessary operational capacity may be available for Member States to receive prompt and timely assistance when faced with public health crises;

(13) to develop models and guidelines for rapid health-impact assessments after crises, in order to assure appropriate, timely and effective response to affected communities;

(14) to inform the Fifty-ninth World Health Assembly, through the Executive Board, of progress made in the fulfilment of this resolution.

(Seventh plenary meeting, 20 May 2005 –
Committee A, first report)

ANNEX 2 – WHA 59.22 EMERGENCY PREPAREDNESS AND RESPONSE

The Fifty-ninth World Health Assembly,

Having considered the report on emergency preparedness and response;[1]

Aware of the suffering caused by natural and man-made disasters;

Noting that the resilience of nations and communities affected by crises is being eroded by the extreme pressures they face on a daily basis and over a protracted period; Concerned that emergency preparedness in many countries is weak, and that existing mechanisms may not be able to cope with large-scale disasters such as the earthquakes in Bam, Islamic Republic of Iran and, more recently, in northern India and Pakistan, the earthquakes and tsunamis in south Asia, and the hurricanes Katrina and Rita in the United States of America;

Appreciating the progress made, particularly in the Eastern Mediterranean and South-East Asia regions with regard to emergency response to the south Asian earthquake;

Recalling resolution WHA58.1 on health action in relation to crises and disasters, with particular emphasis on the earthquakes and tsunamis of 26 December 2004, and the United Nations General Assembly resolution 60/124 on Strengthening of the coordination of emergency humanitarian assistance of the United Nations,

1. EXPRESSES its sympathy, support and solidarity for the victims of disasters, their families and their governments;

2. REQUESTS Member States to further strengthen national emergency mitigation, preparedness, response and recovery programmes through, as appropriate, legislative, planning, technical, financial and logistical measures, with a special focus on building health systems and community resilience;

3. URGES Member States to provide support to affected countries and to WHO so that it may address immediately, within its mandate, humanitarian health crises;

4. REQUESTS the Director-General, to take the necessary steps:

(1) to provide the necessary technical guidance and support to Member States for building their health-sector emergency preparedness and response programmes at national and local levels, including a focus on strengthening community preparedness and resilience;

(2) to build on the Hyogo Framework for Action 2005-2015, stemming from the World Conference on Disaster Reduction (Kobe,

1 Document A59/20.

Hyogo, Japan, 18-22 January 2005), when providing support to Member States to assess the status of health-sector emergency preparedness, including assessment of the resilience and risk-management capability of hospitals and other key health infra-structures;

(3) to work to ensure that WHO, within its mandate, is able to respond effectively to emergencies and crises and, in doing so, continues to work closely with other organizations of the United Nations system, under the coordination of the United Nations Office for the mechanisms;

5. REQUESTS the Director-General in particular:

(1) to explore and implement measures to enhance WHO participation in the overall humanitarian response through existing mechanisms such as the Central Emergency Response Fund, International Search and Rescue Advisory Group, or the United Nations Disaster Assessment and Coordination team;

(2) to compile a global database of authoritative technical health references in order to facilitate health-sector response to emergencies and crises;

(3) to establish and maintain, in collaboration with relevant organizations of the United Nations system and other partners, a tracking service that will monitor and assess mortality rates in humanitarian emergencies;

(4) to take part in United Nations system-wide mechanisms for logistics and supply management that would assure immediate mobilization of vital supplies in emergencies and crises;

6. FURTHER REQUESTS the Director-General to report to the Sixtieth World Health Assembly, through the Executive Board, on progress in implementing this resolution.

(Ninth plenary meeting, 27 May 2006 –
Committee B, third report)

ANNEX 3 – SELECTED COUNTRIES (PHASE 1)

Regional Office for Africa

Central African Republic (Pilot)
Algeria
Côte d'Ivoire
Democratic Republic of Congo
Ethiopia
Guinea
Kenya
Liberia
South Africa
Uganda
Zimbabwe

Regional Office for the Americas

Ecuador (Pilot)
Argentina
USA
Colombia
Saint Lucia
Dominican Republic
Haiti
Jamaica
Panama
Suriname
Uruguay
Haiti
Jamaica
Panama
Suriname
Uruguay

Regional Office for the Eastern Mediterranean

Jordan (Pilot)
Afghanistan
Egypt
Iran (Islamic Republic of)
Iraq
Pakistan
Saudi Arabia
Sudan
Syria
Tunisia
Morocco

Regional Office for Europe

Tajikistan (Pilot)
Albania
Armenia
Azerbaijan
Bulgaria
Georgia
Kyrgyzstan
Republic of Serbia
Kazakhstan
Turkey
The former Yugoslav Republic of Macedonia

Regional Office for South-East Asia

Maldives (Pilot)
Bangladesh
Bhutan
Democratic People's Republic of Korea
India
Indonesia
Myanmar
Nepal
Sri Lanka
Thailand
Timor-Leste

Regional Office for the Western Pacific

Solomon Islands (Pilot)
Cambodia
China
Fiji
Japan
Lao People's Democratic Republic
Malaysia
Mongolia
Papua New Guinea
Philippines
Viet Nam

ANNEX 4 – RESPONDENTS

Region	*Country*	*Contact Name*
AMRO	Barbados	Elizabeth Ferdinand
AMRO	Honduras	Godofredo Andino Sanchez
AMRO	Argentina	Marcelo Rodolfo Muro
AMRO	Costa Rica	Grettel Meneses Obando
AMRO	El Salvador	Ana Gloria Morales de Calles
AMRO	Uruguay	Juan Carlos Roiguez Nigro
AMRO	Paraguay	Aida Concepcion Galeano Rojas
AMRO	St. Lucia	Stephen King
AMRO	Belize	Godswell Flores
AMRO	Peru	Jorge Artemio Moscol Gonzalez
SEARO	Indonesia	Rustam S. Pakarva
SEARO	Nepal	G D Thakur
SEARO	Thailand	Pornpet Paniapivakul
SEARO	India	A K Sengupta
SEARO	Bhutan	Tshering Dhendup
SEARO	Timor-Leste	Mario Serekai
SEARO	Bangladesh	K M Wahidul Hoque
SEARO	Maldives	Ahmed Afaal
SEARO	Sri Lanka	Bipin Kumar Verma
AFRO	Algeria	Noureddine Dekkar
AFRO	Cote d'Ivoire	Joseph Niangue
AFRO	DRC	Francois Nguessan
AFRO	Guinea	Emmanual Roland Malano
AFRO	Uganda	Bwire Godfrey
AFRO	Liberia	K. Karsor Kollie
AFRO	Kenya	Samuel Gikunju Maingi
AFRO	Zimbabwe	S. M. Midzi
AFRO	Ethiopia	Zerihun Tadesse
AFRO	South Africa	Lance Williams, Rhett Davis
EMRO	Afghanistan	Omid Entezar
EMRO	Sudan	Saad El-Din Hussein
EMRO	Syria	Tawfic Hasaba
EMRO	Iran	Hasan Korani
EMRO	Iraq	Muhamed Yassir Ahmed
EMRO	Pakistan	Jehanzeb Khan Aurakzai
EMRO	Morocco	Mohammed Hamouiyi
EMRO	Tunisia	Naoufel Soani / Henda Chebbi
EMRO	Egypt	Amin Alsadek Othman
EMRO	Yemen	Ali Ahmed Saryah
EMRO	Oman	Salem bin Said Al-Wahibi
EMRO	Saudi Arabia	Tarek Bin Salem Al-Arnous

WPRO	Papua New Guinea	Victor Golpak
WPRO	China	Li Zhipeng
WPRO	Vietnam	Duong Quoc Trong
WPRO	Mongolia	Bayarmaa Chinbaatar
WPRO	Cambodia	Khuon Eng Mony
WPRO	Philippines	Carmencita Alberto-Banatin
WPRO	Laos	Sithat Insisiengmay
WPRO	Fiji	Timaima Tuiketei
WPRO	Malaysia	Rozlan Bin Ishak
EURO	Albania	Arben Ivanaj / Socol Dedja
EURO	Armenia	Hayrapetyan Armen Onikovitch
EURO	Krgyzstan	Kutukeev Toktogazy Satybaldievitch
EURO	Kasakhstan	Zholshorinov Aitmaganbet Zhidebaevitch
EURO	Azerbaijan	Verdiyev Israil Mamedaga ogly
EURO	Turkey	Ersoy Kuscu
EURO	Montenegro	Krto Nikolic
EURO	Macedonia	Margarita Spasenovska
EURO	Moldova	Chebanu Georgy Kirillovitch
EURO	Bulgaria	Ivanov Vesselin
EURO	Georgia	Utiashvili Zurab Eldarovich

ANNEX 5 – TIME-LINE (PHASE 1)

Time-line (Phase 1)

Activity	First quarter			Second quarter			Third quarter		
	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan
Design of tools & guidelines	X	X							
Feedback (in-house, RAs)		X	X						
Refinement & Translation of tools			X						
Introduction of survey			X						
Field testing (pilot study)			X						
Data Collection Phase (I)			X	X					
Data Management				X	X	X	X		
Report Writing							X	X	

Landmarks on the timeline

4 July 2006: Teleconference with Regional Advisers
7 July 2006: Feedback from RA
14 July 2006: Launching Pilot study
18 July 2006: Response from Pilot States
26 July 2006: Launching Phase (I)/Sending out updated packages
18 August 2006: Response from Phase (I) states
5 September 2006: Asking for further clarifications from Regional Advisers, if needed
20 November 2006 Sharing preliminary results with Regional Advisers
22 December 2006 Draft report

ANNEX 6 – QUESTIONNAIRE

Dear Colleague

The Health Action in Crisis department at WHO - headquarters wishes to thank you for taking some of your most precious time and busy schedule to respond to this questionnaire. It should be noted that:

1. You would be contributing to a database, which is unique and unprecedented.
2. Such information would be instrumental in developing or strengthening the national strategy of preparedness of health sectors for emergencies
3. The data-base would be subject to easy updates in the future, once the country-specific information is meticulously prepared this time
4. Your name will be acknowledged as a contributor to the survey, While responding, please observe the following:
5. Accuracy and completeness of submitted information
6. Consulting other colleagues who could help in providing relevant information
7. Supporting your responses with documents, whenever possible

Contents

The questionnaire includes the following sections:

Section A – Personal details

Section B – Emergency preparedness & response background

Section C – Assessment of emergency preparedness & response preparedness

1. Policy & legislation
2. Institutional arrangements
3. Vulnerability assessment
4. Health sector plan
5. Training & education
6. Monitoring & evaluation
7. International cooperation & partnerships
8. Non-government
9. Human resources
10. Further comments

Section A – Personal details

Please complete the following personal details:

A.1 Your name

A.2 Your title

A.3 Organization

A.4 Postal address
A.5 Country
A.6 Telephone number
A.7 Facsimile number
A.8 E-mail address

Section B – Emergency preparedness & response background

Please answer the following questions in relation to yourself and the country:

B.1 Have you had direct personal or professional experience of an emergency or disaster?
Yes No
If yes, please describe when and where this happened, your capacity then
If no, please go to question B.2

B.2 Has your country recently experienced an emergency or disaster (last 5 years)?
Yes No
If yes, please describe when and where
If no, please go to question B.3.

B.3 To what major hazards (natural, technological, social) or conflicts that may cause emergencies is your country exposed? Please list.

Section C – Assessment of emergency preparedness & response

1.0 Policy & legislation

1.1 Does a national policy exist on emergency preparedness & response (such as laws, executive orders, ministerial decisions or resolutions)
Yes No
If yes, please attach relevant documentation
If no, please proceed to question 2.1

1.2 Does such policy prescribe:
1.2.1 a formal, multi-disciplinary emergency preparedness & response programme for the health sector at the national level?
Yes No
1.2.2 a formal, multi-disciplinary emergency preparedness & response programme for the health sector at the provincial level?
Yes No
1.2.3 the development of a national, multi-disciplinary health emergency preparedness & response plan?
Yes No
1.2.4 the conduct of regular simulation exercises at all relevant levels?
Yes No

1.3 Do you have any further comments on the country's policy and legislation for emergency preparedness & response?
Yes No
If yes, please add below.

2.0 Institutional arrangements for emergency preparedness & response

2.1 Please mention the main actor in emergency preparedness & response

2.2 Is there a full time emergency preparedness & response unit in the Ministry of Health?
Yes No
If yes, please describe its terms of reference, number of full time staff and annual budget, if available.
If no, please go to question 2.3

2.3 Is there a full time director/coordinator/focal point for emergency preparedness & response at the central level of the Ministry of Health?
Yes No
If yes, please indicate the title, contact details and the authority/level to which (s)he reports.

2.4 Is emergency preparedness & response part of the job description for key Ministry of Health personnel?
Yes No

2.5 Is there a national, multi-disciplinary health sector emergency preparedness & response committee?
Yes No
If yes, please list the health-related disciplines represented on this committee and the committee terms of reference.

2.6 Is there a national multi-sectoral (including non-health sector) emergency preparedness & response committee?
Yes No
If yes, please list the different sectors represented on this committee and the committee terms of reference. If no, please go to question 2.8

2.7 Is the Ministry of Health a member of the national multi-sectoral emergency preparedness & response committee?
Yes No
If yes, please provide the name and position of this committee member.

2.8 Are there current health sector emergency preparedness & response programmes and projects being conducted by the Ministry of Health?
Yes No
If no, please proceed to question 3.1
If yes, please mark as appropriate:

2.8.1 Hazard analysis & vulnerability assessment
Yes No

2.8.2 Public awareness programmes on risks and emergencies
Yes No

2.8.3 Response to emergencies and crises
Yes No

2.8.4 Early warning and alerting systems
Yes No

2.8.5 Communication systems

Yes No

2.8.6 Logistic platforms and emergency information systems

Yes No

2.8.7 Simulation exercises

Yes No

3.0 Vulnerability assessment

3.1 Does a national emergency profile exist for this country?

Yes No

If yes, please describe how this profile is developed and its contents.

3.2 What processes are used in this country for assessing the possible impact of major hazards, conflicts or crises on people's health and on health infrastructure?

Yes No

If yes, please describe this process.

3.3 Are all relevant health sector involved in the process?

Yes No

3.4 Are hazard maps developed at the national level?

Yes No

3.5 Are hazard maps developed at the provincial levels?

Yes No

3.6 Do you have any further comments on the country's vulnerability assessment?

Yes No

If yes, please add below.

4.0 Health sector plan

4.1 Has this country developed a national, multi-disciplinary health emergency preparedness & response plan?

Yes No

If no, please go to question 4.4

4.2 Is the plan:

4.2.1 developed and maintained by a formal health sector planning committee?

Yes No

If yes, to whom does this committee report?

4.2.2 based on the results of hazard assessment?

Yes No

4.2.3 linked to the national, multi-sectoral emergency preparedness & response plan?

Yes No

4.3 Does the plan describe:

4.3.1 health sector command and control arrangements?

Yes No

4.3.2 roles and responsibilities of all health sector ?

Yes No

4.3.3 logistic platforms and emergency information systems?

Yes No

4.3.4 measures to protect and prepare health care facilities?

Yes No

4.4 Do you have any further comments on the country's health sector emergency preparedness & response plan?

Yes No

If yes, please add below.

5.0 Training & education

5.1 Has a country training needs analysis in health emergency preparedness & response been conducted?

Yes No

5.2 Are there competency or performance standards to assist in the development of training and education?

Yes No

5.3 Are there formally accredited emergency training courses or institutions for health sector personnel?

Yes No

If yes, please provide titles

5.4 Are there country health emergency preparedness & response guidelines and other publications?

Yes No

If yes, please describe

5.5 Is your country interested in participation in HEARNET training courses, to prepare national health staff for field deployment in case of an emergency?

Yes No

5.6 Do you have any further comments on the country's health sector emergency training and education?

Yes No

If yes, please add below.

6.0 Monitoring & evaluation

6.1 Have health sector emergency simulation exercises have been conducted in the last 12 months?

Yes No

If yes, please list.

6.2 Are health sector emergency simulation exercises planned for the next 12 months?

Yes No

If yes, please list.

6.3 Is there an evaluation or audit method for assessing the effectiveness of the health sector emergency preparedness & response?

Yes No

If yes, please describe, including the last time this evaluation or audit method was applied

6.4 Does the MoH have methods for capturing lessons learned following emergency responses?

Yes No

If yes, please describe below, including the last time this method for capturing lessons learned was applied.

6.5 Do you have any further comments on the country's monitoring and evaluation?
Yes No
If yes, please add below.

7.0 International Cooperation & Partnerships

7.1 Is the health sector emergency preparedness & response programme benefiting from international or bilateral cooperation programmes?
Yes No
If yes, please list these programmes together with the sponsoring country or organization.

7.2 Is there a budget allocation for the national emergency preparedness & response programme in the WHO country budget?
Yes No
If yes, please state the amount, percentage compared to the total biennial budget and list activities funded for the current biennium.

7.3 What are the priority areas in health sector emergency preparedness & response that could be strengthened if more national political support and funding were made available?

7.4 What are the priority areas in health sector emergency preparedness & response that could be strengthened through international technical support?

7.5 What are the strongest parts of the country's health sector emergency preparedness & response programme that could serve as models for others or be cited as international best practice?
Please mention examples, web references, personnel contact details, etc.

7.6 Do you have any further comments on the country's international cooperation and partnerships?
Yes No
If yes, please add below.

8.0 Non-government (NGOs)

8.1 Are NGOs involved in emergency preparedness & response?
Yes No
If yes, in what capacity?

8.2 Are NGOs members represented on national committees for emergency preparedness & response?
Yes No

8.3 Is there a legal document governing NGOs role in emergency preparedness & response?
Yes No
If yes, please attach relevant documentation

8.4 Which activities are NGOs involved in?
8.4.1 Hazard analysis & vulnerability assessment
Yes No

8.4.2 Public awareness programmes on hazards & emergencies
Yes No

8.4.3 Response to emergencies and crises
Yes No

8.4.4 Training and education
Yes No

8.4.5 Early warning and alerting systems
Yes No

8.4.6 Communication systems
Yes No

8.4.7 Logistic platforms and emergency information systems
Yes No

8.4.8 Simulation exercises
Yes No

8.5 Could you provide names of NGOs (national or international) or other (e.g. Red Cross, Red Crescent) or academic institutions involved in emergency preparedness & response?

9.0 Human resources

Please complete the following table on Human Resources (HR) in emergency preparedness & response

Human resources category	9.1 Number in the Ministry of Health	9.2 Available job description	9.3 Training for emergencies
Emergency coordinators	9.1.1	9.2.1 Yes No	9.3.1 Yes No
Emergency medical technicians (certified first-aid workers)	9.1.2	9.2.2 Yes No	9.3.2 Yes No
Physicians trained for emergency preparedness & response	9.1.3	9.2.3 Yes No	9.3.3 Yes No
Nurses trained for emergency preparedness & response	9.1.4	9.2.4 Yes No	9.3.4 Yes No
Emergency social workers	9.1.5	9.2.5 Yes No	9.3.5 Yes No
Others, specify	9.1.6	9.2.6 Yes No	9.3.6 Yes No

9.4 Do you have any further comments on the country's human resources for emergency preparedness & response?
Yes No
If yes, please add below.

10.0 Further comments

If you have further comments on health sector emergency preparedness and response, please add below.

ANNEX 7 – INSTRUCTION MANUAL

What is the rationale behind this survey?

The World Health Organization, as the international lead agency in health, is aggressively working to reduce the unacceptable losses from emergencies, disasters and other crises. To reach this goal, the Ministers of Health of the 192 Member States meeting in Geneva at the occasion of the World Health Assembly adopted 2 resolutions urging countries to enhance the level of their national emergency programmes, and asking WHO to support countries in this particular field (WHA 58.1 of May 2005 and WHA 59.22 of May 27, 2006).

As a result, a specific functional group devoted to Emergency Preparedness and Capacity Building has been created within WHO. A Global Expert Consultation on Emergency Preparedness was conducted in February 2006. Among the key recommendations of the experts, was the conduct of a global assessment to assess the status of country emergency preparedness around the world.

This assessment will be based on the contribution from each country (specifically MoH and health sector partners). It is a self assessment that is done voluntarily and therefore cannot qualify for an audit. Similar global assessments are conducted regularly by WHO in the various health domains such as NCD, Mental health, Mother and Newborn Health, etc. These assessments have greatly improved the way national programmes are designed and implemented in one hand and the nature and the quality of guidance and support provided by WHO and other international and bilateral partners in the other hand.

What are its specific objectives?

The global assessment will provide each country and, consequently, the international community and the World Health Organization, with valuable information that allows for:

- Establishment of an emergency preparedness & response baseline against which countries can measure both the progress made and the impact of future emergency programmes and projects. In a way it is a tool to diagnose the current situation, highlight strengths and weaknesses, and establish goals to improve the status of emergency preparedness in the health sector on short-, mid- and long-term bases **(situation analysis)**.
- Guidance based on quantitative data to be used for strategic planning and budgeting of staff and resources dedicated to emergency management capabilities and assets **(evidence based data helping decision making process)**.
- Assessment of how national health sector programmes and will work with each other and with other sectors and partners at nation-

al, provincial and local levels before, during and after an emergency **(inter-sectoral collaboration)**.

- International partners, specifically WHO, to identify best practices, case studies for resilience as well as a set of strategic directions to strengthen countries' capabilities in health sector emergency preparedness and response **(best practices and case-studies)**.
- Providing a convincing basis for directing additional resources from national, international and bilateral sources to overcome current weaknesses and contribute to the improvement and enhanced responsiveness of emergency preparedness programmes at national and sub-national levels **(fund raising and fiscal support)**.
- Drawing on existing capabilities, strengths and best practices in the various countries in order to build a technical resources database accessible world-wide which could provide the necessary guidance for improving the state of preparedness at national, community and organizational levels **(improving preparedness)**.

What are the expected outcomes of the survey?

- Establishment of an emergency preparedness & response database which helps decision makers establish goals to improve the status of emergency preparedness in the health sector on short-, mid- and long-term bases.
- Assessment of national inter-sectoral collaboration as well as collaboration with partners at national, provincial and local levels before, during and after an emergency.
- Guidance based on quantitative data to be used for strategic planning and budgeting of staff and resources dedicated to emergency preparedness & response capabilities and assets.
- Identification of best practices and case studies for resilience as well as a set of strategic directions in order to build a technical resources database accessible world-wide which could provide the necessary guidance for improving the state of preparedness at national, community and organizational levels.
- Such information would represent baseline country databases for future updates, which would allow for inter- and intra- country comparisons over time, as well as evaluation of the effectiveness of measures for emergency risk preparedness & response and preparedness, which were implemented based on the initial assessment of the current survey.

How were countries selected to respond?

At this phase of the survey, ten member states from each Regional Office have been selected to participate and provide relevant data. Selection criteria included one or more of the following:

- Prior or current experience with hazards (biological, technological, social) resulting in emergencies (e.g. famines, earthquakes, tsunamis, political conflicts associated with internal displacement);

- Vulnerability (low preparedness for emergency risk management);
- Risk of potential hazards resulting in emergencies;
- Presence of a focal point for emergency preparedness and response;
- Currently receiving relief funds for emergency preparedness and response from international agencies (e.g. WHO, OCHA, etc);

Who should respond / complete this questionnaire?

- MoH focal point for emergency preparedness (best choice)
- Senior MoH official designated for emergency preparedness plans (planning, execution)
- Senior MoH official trained for emergency preparedness
- Senior MoH official interested in emergency preparedness

How could the respondent attempt each section?

Section A – Personal details

This section enquires about personal information of the focal point who is responsible for completing the questionnaire, and would be a resource for any further information or enquiries, as needed.

Section B – Emergency preparedness & response background

This section enquires about information on experience of the respondent/ country viz-a-viz situations resulting in emergencies as famines, earthquakes, tsunamis, political conflicts associated with internal displacement. An emergency is defined as: any crisis event, including a disaster, which requires a significant and coordinated response. Biological hazards are processes of organic origin or those conveyed by biological vectors, including exposure to pathogenic micro-organisms, toxins and bioactive substances, which may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Technological hazards are dangers originating from technological or industrial accidents, dangerous procedures, infrastructure failures or certain human activities, which may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Social hazards are social processes or phenomena that may constitute a damaging event.

Section C – Assessment of emergency preparedness & response

1. Policy & legislation

National policies are formal statements of a course of action which govern emergency preparedness (defined below) and response defined as: provision of assistance or intervention during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected. It can be of an immediate, short-term, or protracted duration. Policies have functions of: establishment of long-term goals, assignment of responsibilities for achieving them, establishment of recommended work policies, and determination of criteria for decision making.

2. Institutional arrangements

The main actor would be the main body / agency / ministry responsible for emergency preparedness & response in the country (not the top official in charge). A dedicated unit for emergency preparedness within the MoH has its own chief and job description; the MoH would be represented on a multi-sectoral national committee for emergency preparedness & response. Emergency preparedness is defined as: activities and measures taken in advance to ensure effective response to the impact of hazards (biological, technological, social, conflicts), including the issuance of timely and effective warnings and the temporary evacuation of people and property from threatened locations

3. Vulnerability assessment

Vulnerability assessment is a procedure for identifying hazards and determining their possible effects on a community, activity, or organization. It provides information essential for: sustainable development, emergency prevention, mitigation, preparedness, response and recovery. An emergency profile is situation analysis of hazards (existent, potential) and resources (required / available, human / material [fixed / mobile]) to handle them. Hazard mapping represents geographical distribution of hazards (existent, potential) on national / provincial / district levels.

4. Health sector plan

This is an agreed set of arrangements for responding to, and recovering from emergencies, including the description of responsibilities, management structures, and resource and information management strategies.

5. Training and education

This section enquires about training on emergency response and recovery arrangements at the sites where relevant personnel may work (including: workshops, exercises, pamphlets, public displays, etc). Training needs analysis aims at: describing allocated tasks, determining tasks personnel are capable of taking, determining which ones require further training. A list of titles of formally accredited emergency training courses in the country needs to be included (rather than organizers or at which levels they are organized). HEARNET stands for Health Emergency Action Response Network. HEARNET seeks to provide a pool of qualified, experienced, and well-prepared international health personnel for crises and disasters. WHO was asked to develop the HEARNET as an inter-agency programme, including its training component. Courses are aimed at personnel for humanitarian health teams and was designed to improve joint working at country level.

6. Monitoring and evaluation

Monitoring & evaluation during implementation include: measuring the progress towards project objectives, performing an analysis to find out causes of deviation, and determining corrective actions. Simulation exercises are tools for monitoring and evaluating parts of emergency preparedness programmes involving response to the simulation of real events. Lists of the types of exercises carried out / planned for, need to be included (rather than organizers or at which levels they were / to be organized).

7. International cooperation & partnerships

This includes collaboration with and support received from outside the country, whether financial, technical, material (mobile / fixed) or otherwise.

8. Non-governmental (NGOs)

These include voluntary , charitable groups, and professional associations that are involved in various emergency preparedness and response activities, whether jointly (with MoH) or independently. In addition to NGOs, other societies as Red Cross, Red Crescent, as well as some academic institutions play significant roles in emergency preparedness and response.

9. Human resources

These include personnel responsible for back-up reception, who have specific technical and human skills, including: reception - recovery skills, technical knowledge of logistic support, safety consciousness, local language, first-aid. These may include: emergency coordinators, emergency medical technicians, physicians / nurses / social workers specially trained for emergency preparedness and response. This section enquires about the number of currently available personnel in each mentioned category, rather than the future requirements for the country.

What are important references to consult, if needed?

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3. WHO Emergency Preparedness Unit, Division of Emergency and Humanitarian Action, *Planning for emergencies part 9 - intersectoral planning*. Geneva, World Health Organization, 1995.
4. *Living with risk: a global review of disaster reduction initiatives*. Geneva: Inter-Agency Secretariat of the International Strategy for Disaster Reduction. Geneva, United Nations ISDR, 2004.
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ANNEX 9 – ABBREVIATIONS

AFR	African Region
AMR	American Region
DGR	Director-General's Representative
DPM	Director of Programme Management
EMR	Eastern Mediterranean Region
EMT	Emergency Medical Technicians
EPC	Emergency Preparedness and Capacity Building
EUR	European Region
HAC	Health Action in Crises Cluster, WHO
ICRC	International Committee of the Red Cross
IFRC	International Federation of Red Cross and Red Crescent Societies
IRC	International Rescue Committee
ISDR	International Strategy for Disaster Reduction
MOE	Ministry of Emergencies
MoH	Ministry of Health
MOI	Ministry of Interior
MSF	Médecins Sans Frontières
NGO	Nongovernmental Organization
PAHO	Pan American Health Organization
RA	WHO Regional Adviser
SEAR	South East Asia Region
UN	United Nations
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
UNOCHA	United Nations Office for the Coordination of Humanitarian Action
UNICEF	United Nations International Children's Emergency Fund
WHA	World Health Assembly
WHO	World Health Organization
WPR	Western Pacific Region
WR	WHO Representative

APPENDIX – A PROPOSED STRATEGIC PUBLIC HEALTH EMERGENCY MANAGEMENT FRAMEWORK

1. Introduction

The purpose of this draft strategic public health emergency management framework is to facilitate the reduction of risks associated with public health emergencies and to ensure a coordinated response to them. The framework is intended for the management of public health:

- before specific emergencies;
- during specific emergencies;
- after successful management of an emergency.

It provides a description of the principles of emergency management, some necessary components, and some products. It is intended to deal with emergencies with potential human health, environmental, social and economic impacts. It is generic in nature and must be adapted to apply to particular local contexts.

2. Principles

2.1 Risk management approach

Risks need to be identified in the nation's strategic context, their probability and consequences assessed, existing risk treatments evaluated, and further risk treatments selected and implemented if necessary. This will involve continually scanning of the risk environment to identify new risks, and to determine more efficient and effective risk treatments. Specific hazards of serious concern may be identified for which specific management strategies may be devised. The management system itself should be subject to scrutiny to ensure inherent management risks are identified and treated.

2.2 All risks approach

All public health risks should be addressed in a consistent and coordinated manner. As far as possible, the same generic emergency management arrangements should be used across all sectors with specific strategies, for example natural hazard control strategies, where these are required.

2.3 All agencies approach

All players in the public health emergency management scene should be engaged, including all levels of government, the health sector and the community. Active partnerships should be developed and promoted to ensure all responsible organizations play their part. Public health emergency management arrangements

should dovetail with the evolving national and jurisdictional emergency management arrangements. Lead agencies should be identified to lead the response to each type of event, with assistance from the jurisdictional emergency management system and other agencies or sectors.

2.4 Prepared community

Active participation of communities should be sought to ensure reporting of possible public health emergencies and cooperation in their management.

2.5 Comprehensive approach

Programmes should aim to reduce public health risk, prevent or mitigate emergencies, prepare for them, and adequately respond to and assist in recovery from them when they occur.

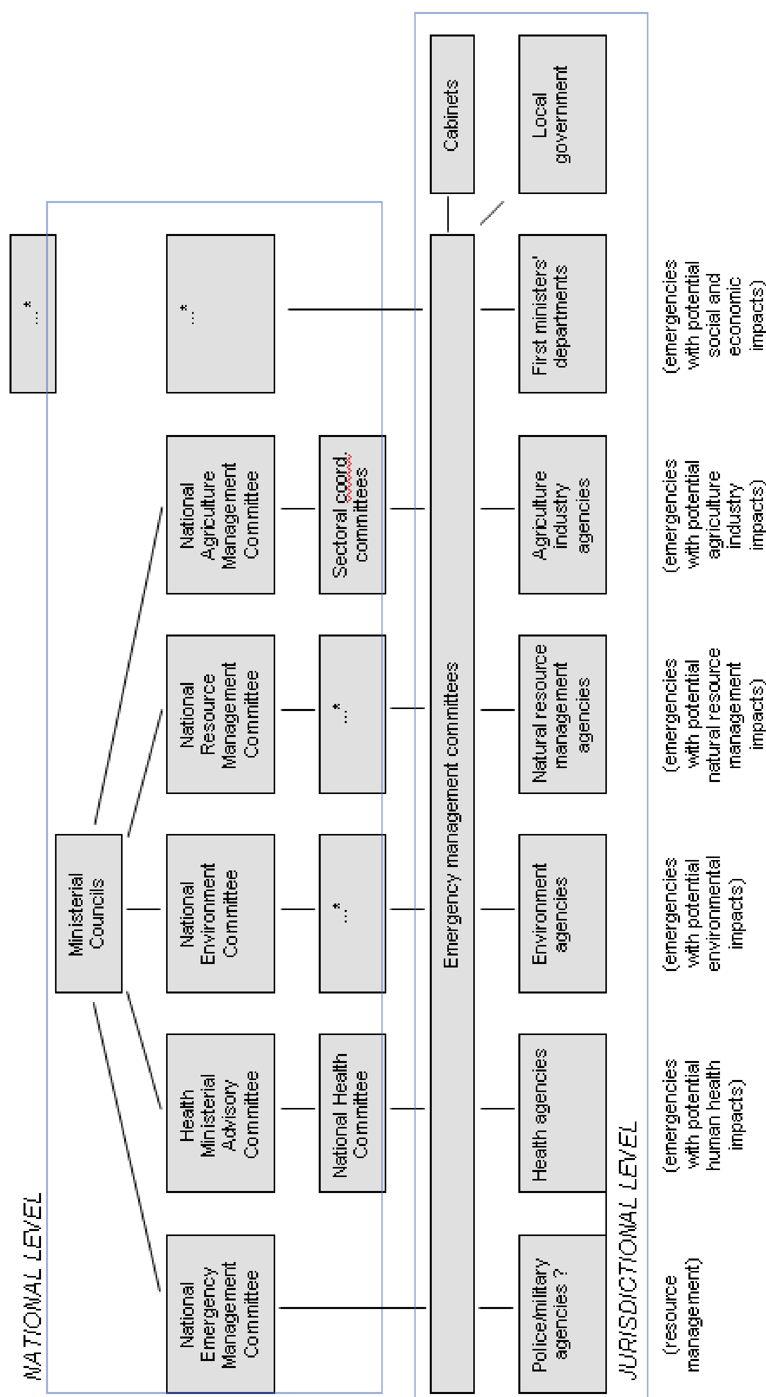
3. Management components, critical success factors and products

Component	Critical success factors	Products
3.1. **Coordination** – Integration of organizational and whole-of-government decision-making and governance before, during and after emergencies	• All relevant are engaged • The same coordination framework is used for risk assessment, risk reduction and prevention/mitigation, preparedness, response and recovery. • National and jurisdictional coordination committees exist • Criteria are established to determine lead agency for specific events	• Operating guidelines and trained members for coordination committees • A description of organizational coordination at jurisdictional and national levels (see Section 4)
3.2 **Risk assessment** – Systematic analyses of hazards, exposures and vulnerabilities	• Risks are assessed and treated in accordance with standards • Sources of risk, elements at risk and risks inherent in treatments are analysed • A diagnostic capacity exists to analyse potential or existing risks • Risk assessment informs risk reduction, prevention, mitigation, preparedness, response and recovery	• A risk treatment plan outlining risks, risk treatments and responsibilities. • A pre-event decision model that identifies potential public health hazards, prioritizes them, and allows assessment of existing risk reduction measures and emergency response plans (see Section 5)
3.3 **Knowledge and information management** – Gathered, stored, accessible and applied information	• Effective networks of people are developed and maintained • Research is targeted and results are incorporated into practice • Effective communication systems between people and exist • Systems to gather, collate, analyse and disseminate information exist at jurisdictional and national levels	• Coordinated research programmes • Web based information sets relating to people, and risks • Systems for managing information during emergencies
3.4 **Legislation** – Law to support action	• Management responsibilities are allocated • Appropriate powers are provided • Clarity in the application of law exists	• Legislation • Memoranda of understanding on the use of legislation

Component	Critical success factors	Products
3.5 **Public communication** – Timely and consistent information exchanged with the public before, during and after emergencies	• Public awareness and education activities are targeted and evaluated • A network of communications managers exists across all jurisdictions • Crisis communications arrangements are established and evaluated	• Public education and awareness products • A crisis communication manual • Agreements on how crisis communications will be managed
3.6 **Resource management** – People, equipment and finances that may assist in emergency management	• Resource management protocols between and jurisdictions exist • Adequate facilities for response in all exist • Resource management systems exist at all levels • Financial arrangements for emergency management actions exist • Criteria for determining which emergencies warrant cost sharing exist	• A national resource coordination system • Agreements for resource sharing across jurisdictions • Emergency operations centres • Cost sharing agreement
3.7 **Prevention/mitigation** – Regulatory and physical measures to reduce risk and ensure that disasters are prevented, or their effects mitigated	• Prevention strategies are based on risk assessment • Prevention is adequately funded at all levels of government and in industry • All reasonably practicable measures are taken to reduce risk and prevent or mitigate disasters • Community participation is encouraged	• Public education and awareness products
3.8 **Monitoring and surveillance** – Systems to predict, detect, warn and alert of potential emergencies	• People and organizations are aware of monitoring and surveillance systems • Potential emergencies are appropriately reported • Diagnostic capacity for a range of potential emergencies exists	• Monitoring and surveillance systems • Reporting system • Networked laboratory capacity
3.9 **Response and recovery planning** – Policies, strategies, plans and procedures	• Plans are based on sound risk assessment and scenarios • Plans are developed by organizations responsible for specific types of emergency • Public health emergency management plans are linked to related plans, particularly generic, all hazards, jurisdictional emergency management plans	• A generic emergency response plan • Response plans for each organization and jurisdiction
3.10 **Assessment and training** – Personnel able to perform to agreed standards	• Training needs established by regular training analysis • A variety of training options, i.e. generic and specialized training, competency based, undergraduate and post-graduate, continuing professional development	• Competency standards • Training courses • Assessed and trained people
3.11 **Response** – Actions taken in anticipation of, during, and immediately after an emergency to ensure that its effects are minimized	• The community is informed of the risks and appropriate actions • Analyses of potential impact inform response actions • The objectives of specific responses are clearly defined • Responses are commensurate with seriousness and resource needs of incursions • Liaison occurs between all operations centres	• Event decision model (see Section 5)

Component	Critical success factors	Products
3.12 **Recovery** – The reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical well-being	• Arrangements are generic and applicable to all types of emergencies • Plans are linked to related plans, particularly generic, all hazards, jurisdictional emergency recovery plans	
3.13 **Continuous improvement** – The systematic, ongoing efforts to improve performance against agreed standards	• A variety of tools are used including: exercising; auditing against performance standards; benchmarking; debriefing following events • New emergency management initiatives are embedded in existing arrangements	• Performance standards • Exercises, audits, etc.

4. Coordination framework



5. Pre-event decision model

To be developed in local context.

6. Event decision model

To be developed in local context.

7. Definitions

assessment and training – personnel are able to perform to agreed standards

continuous improvement – the systematic, ongoing efforts to improve performance against agreed standards

coordination – integration of organizational and whole-of-government governance and decision-making before, during and after emergencies

emergency – a public health event requiring urgent and coordinated action

response and recovery planning – policies, strategies, plans and procedures

recovery – the reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical wellbeing

response – actions taken in anticipation of, during, and immediately after an emergency to ensure that its effects are minimized

jurisdiction – a state or territory governments or the national Government

knowledge and information management – gathered, stored, accessible and applied information

lead agency – agency or sector responsible for managing specific types of emergencies

legislation – law to support action

monitoring and surveillance – systems to predict, detect, warn and alert of potential emergencies

national – all levels of government and industry

prevention/mitigation – regulatory and physical measures to ensure that emergencies are prevented, or their effects mitigated.

public communications – timely and consistent information exchanged with the public before, during and after emergencies

resource management – people, equipment and finances that may assist in emergency management

risk assessment – systematic analyses of hazards, exposures and vulnerabilities