



**World Health  
Organization**

REGIONAL OFFICE FOR

**Africa**

**AFR/RC60/9**

22 June 2010

**REGIONAL COMMITTEE FOR AFRICA**

**ORIGINAL: ENGLISH**

Sixtieth session

Malabo, Equatorial Guinea, 30 August–3 September 2010

Provisional agenda item 7.10

**RECURRING EPIDEMICS IN THE WHO AFRICAN REGION:  
SITUATION ANALYSIS, PREPAREDNESS AND RESPONSE**

**Report of the Regional Director**

**CONTENTS**

	<b>Paragraphs</b>
BACKGROUND .....	1–7
ISSUES AND CHALLENGES .....	8–14
ACTIONS PROPOSED.....	15–26

## BACKGROUND

1. Countries in the WHO African Region continue to be affected by recurring epidemics of cholera, malaria, meningitis, measles and zoonotic diseases including viral haemorrhagic fevers, plague and dengue fever. The epidemics have significant impact on health and economic development in the Region. For example, in 2007, African countries experienced economic losses of US\$ 60 million as a result of cholera.<sup>1</sup>

2. Conditions favouring recurring epidemics are prevalent in most Member States in the Region. Inadequate access to safe water and sanitation, underlying health conditions, limited public awareness of prevailing health risks, and weak health systems with limited capacity for timely identification and response to epidemics all contribute to the frequency and severity of epidemics. The inextricable link between humans and animals in Africa can lead to a serious risk to public health given that the majority of emerging and re-emerging infectious diseases have originated from animals. Zoonoses such as Ebola, Marburg, Lujo arenavirus, plague, yellow fever and H5N1 avian influenza are examples of diseases experienced in the African Region in recent years.

3. Epidemics associated with high morbidity and mortality often occur in large geographical areas. For instance, between 2004 and 2008, 13 countries reported a total of 170 927 meningitis cases,<sup>2</sup> 44 countries reported a total of 749 713 measles cases<sup>3</sup> and 41 countries reported a total of 691 290 cholera cases.<sup>4</sup> Recurring epidemics of cholera, meningitis and measles were reported by numerous countries.<sup>5</sup> Case fatality ratios (CFRs) reached 5% or higher during some cholera outbreaks, 10% or higher during some meningitis epidemics, and 60% or higher during most Ebola and Marburg outbreaks.<sup>6</sup>

4. In 2009, all 46 Member States in the Region reported at least one disease epidemic: 33 countries<sup>7</sup> reported pandemic influenza A (H1N1), 20 countries<sup>8</sup> reported cholera, seven countries<sup>9</sup> reported meningitis, and Malawi and Mozambique reported typhoid. The meningitis belt stretches over 21 countries<sup>10</sup> with a total of 495 million inhabitants at high risk of epidemic during the meningitis season (October to May). During the meningitis 2009 season, 81 283 cases and 4473 deaths (CFR = 5.5%) were reported by 14 countries<sup>11</sup> in the meningitis belt.

5. The already weak health systems of countries experiencing recurring epidemics suffer when financial, human and logistical resources are further diverted to epidemic response. Routine

---

<sup>1</sup> Kirigia JM et al. Economic burden of cholera in the WHO African Region. *BioMed Central International Health and Human Rights*, 2009, 9:8.

<sup>2</sup> WHO, Multidisease Surveillance Centre, Ouagadougou, Burkina Faso, <http://www.who.int/csr/disease/meningococcal/epidemiological/en/index.html> (last accessed 30/03/10).

<sup>3</sup> [http://www.who.int/immunization\\_monitoring/en/globalsummary/timeseries/tsincidencemea.htm](http://www.who.int/immunization_monitoring/en/globalsummary/timeseries/tsincidencemea.htm) (last accessed 30/03/10).

<sup>4</sup> WHO, Global Health Atlas, <http://apps.who.int/globalatlas> (last accessed 31/03/10).

<sup>5</sup> Cholera, eleven countries: Angola, Democratic Republic of the Congo, Ethiopia, Kenya, Liberia, Mozambique, Nigeria, Senegal, Tanzania, Uganda, Zambia. Meningitis, 10 countries: Burkina Faso, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of Congo, Ethiopia, Ghana, Mali, Niger, Nigeria. Measles, 10 countries: Algeria, Chad, Democratic Republic of Congo, Guinea-Bissau, Mauritania, Mozambique, Niger, Nigeria, Tanzania and Uganda.

<sup>6</sup> WHO, Global Health Atlas, <http://apps.who.int/globalatlas/>; WHO, Multi-Disease Surveillance Centre, Ouagadougou, Burkina Faso, <http://www.who.int/csr/disease/meningococcal/epidemiological/en/index.html>.

<sup>7</sup> WHO, African Region situation updates: pandemic influenza A (H1N1), update 74, <http://www.afro.who.int/en/pandemic-influenza-h1n1-2009/situation-updates.html>.

<sup>8</sup> Angola, Benin, Burundi, Cameroon, Republic of Congo, Democratic Republic of the Congo, Ethiopia, Kenya, Liberia, Malawi, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

<sup>9</sup> Burkina Faso, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, Niger and Nigeria.

<sup>10</sup> Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan, Togo and Uganda.

<sup>11</sup> Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya and Mali.

health services are often affected during epidemics because the priority shifts to epidemic response activities. For example, during recent Ebola and Marburg epidemics, services in outpatient, antenatal, tuberculosis and HIV/AIDS clinics were suspended.<sup>12</sup>

6. Epidemic preparedness and response have improved since 1993 when Member States were urged to strengthen epidemiological surveillance for communicable diseases at the district level.<sup>13</sup> This was further strengthened by the adoption of the Integrated Disease Surveillance and Response Strategy (IDSR)<sup>14</sup> in 1998 and the International Health Regulations (IHR 2005)<sup>15</sup> which entered into force in June 2007. However, national surveillance systems remain inadequate to act as early warning systems for the timely identification of unusual health events with epidemic potential.

7. This document was prepared in response to a request during the Fifty-ninth session of the Regional Committee for Africa.<sup>16</sup> It highlights issues and challenges related to recurring epidemics in the Region and proposes concrete actions for improving national epidemic and pandemic preparedness and response capacity.

## ISSUES AND CHALLENGES

8. Notable improvement in regional and national capacities for early detection, confirmation and characterization of epidemic and pandemic threats has been recorded after adoption of the IDSR Strategy and International Health Regulations (2005). However, most countries have not conducted comprehensive risk assessments to facilitate the identification of populations and geographic areas at risk of epidemics. To date, risk assessments have been conducted for yellow fever in 11 countries.<sup>17</sup> Member States need to develop the technical capacity required to expedite risk assessment activities. Communities are not often aware of common local disease risks and their associated risk factors. Existing communication strategies are often inadequate for raising community awareness about risks to human health and behaviours that could reduce these health risks.

9. All 46 Member States of the WHO African Region have surveillance systems capable of detecting epidemics but are unable to function as early warning systems. The time between case detection and reporting for most epidemics is more than the recommended 24 hours.<sup>18</sup> The reasons include inadequate community-based surveillance, low index of suspicion among health

---

<sup>12</sup> Okware SI et al. An outbreak of Ebola in Uganda. *Tropical Medicine and International Health*, 2002, 12:1068-75; WHO, End of Ebola outbreak in Uganda, 20 February 2008, [http://www.who.int/csr/don/2007\\_02\\_20b/en/index.html](http://www.who.int/csr/don/2007_02_20b/en/index.html) (last accessed 28/03/10); Roddy P et al. Decreased peripheral health service utilization during an outbreak of Marburg haemorrhagic fever, Uíge, Angola, 2005. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 2009, 103(2):200-2. Epub 5 October 2008.

<sup>13</sup> Resolution AFR/RC43/R7: Epidemiological surveillance of communicable diseases at the district level. In: *Forty-third session of the WHO Regional Committee for Africa, Gaborone, Botswana, 1–8 September 1993, final report*. Brazzaville, World Health Organization, Regional Office for Africa, 1993 (AFR/RC43/27), pp. 15–16.

<sup>14</sup> Resolution AFR/RC48/R2: Integrated epidemiological surveillance of diseases: regional strategy for communicable diseases. In: *Forty-eighth session of the WHO Regional Committee for Africa, Harare, Zimbabwe, 31 August–4 September 1998, final report*. Brazzaville, World Health Organization, Regional Office for Africa, 1998 (AFR/RC48/15), pp. 5-6.

<sup>15</sup> WHO, Resolution WHA58.3, International Health Regulations (2005). In: *Fifty-eighth World Health Assembly*, Geneva, Switzerland, 21–23 May 2005.

<sup>16</sup> Resolution AFR/RC59/R5: Strengthening outbreak preparedness and response in the African Region in the context of the current influenza pandemic. In: *Fifty-ninth session of the WHO Regional Committee for Africa, Kigali, Rwanda, 31 August–4 September 2009, final report*. Brazzaville, World Health Organization, Regional Office for Africa, 2009 (AFR/RC59/19), pp. 14–16.

<sup>17</sup> Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Ghana, Guinea, Liberia, Mali, Nigeria, Senegal and Sierra Leone.

<sup>18</sup> WHO/CDC. *Technical guidelines for Integrated Disease Surveillance and Response in the African Region*. Geneva, World Health Organization and Centers for Disease Control and Prevention (Atlanta), 2008.

workers, inadequate laboratory equipment and referral networks at local level, and weak communication and disease notification systems.<sup>19</sup>

10. Linkages and collaboration between human and animal health sectors necessary for a comprehensive approach to zoonoses remain weak both at the regional level and within Member States. Moreover, there is a lack of knowledge and understanding about the human-animal interface for the transmission of some emerging zoonotic diseases such as Ebola, Marburg and influenza. The H5N1 avian influenza threat revealed a lack of multisectoral coordination structures. National and district epidemic management committees do not usually incorporate technical experts from agriculture, wildlife, environment or veterinary sectors; in addition, there are no systems for sharing routine disease surveillance information or for joint preparedness and response activities for animal and human health.

11. The exchange of epidemiological data across borders and responses to outbreaks improved after Member States with similar epidemiological profiles established intercountry protocols of collaboration. The WHO Regional Office for Africa supported implementation of the intercountry protocols of collaboration through the establishment of subregional technical support teams which provide assistance for epidemic preparedness and response. For instance, countries in the meningitis belt are now implementing enhanced surveillance for meningitis and share data on a weekly basis to monitor trends; intercountry meetings are conducted annually to share experiences, challenges and lessons learnt. However, intercountry coordinated approaches and comprehensive responses to all potential epidemics are still inadequate. For instance, cross-border meetings to plan joint activities are not provided for in national preparedness and response plans and are not held on a regular basis.

12. Timely response to epidemics requires sufficient resources and comprehensive plans. Although all of the 46 countries in the Region have pandemic influenza preparedness and response plans and 26 countries have one or more disease-specific plans,<sup>20</sup> only 16 countries have consolidated epidemic preparedness and response plans covering multiple priority diseases. Less than 20% of the countries are able to maintain functional national epidemic rapid response teams and contingency stocks of supplies needed for epidemic response.<sup>21</sup> Preparedness and response to epidemic-prone diseases at all levels are severely limited by lack of adequate financial resources.

13. Response capacity at health-care facilities and at community level has improved where there are ongoing activities to enhance community awareness and participation in safe behaviours related to personal and community hygiene.<sup>22</sup> Similarly, response has improved where health-care workers, community health agents, volunteers and other partners in at-risk communities have been trained in recognition and case management of local epidemic-prone diseases. Nevertheless, response capacity is limited at local level in most countries because of lack of awareness and inadequate supplies.

14. Some of the underlying factors associated with recurring epidemics are general and outside the scope of the health sector. Ecological, environmental and socioeconomic changes tend to aggravate the predisposing factors. Inadequate access to safe water and sanitation, prolonged rainy or dry seasons, and population displacements associated with natural and man-made

---

<sup>19</sup> Grais RF et al. Time is of the essence: exploring a measles outbreak response vaccination in Niamey, Niger. *Journal of the Royal Society Interface*, 2008, 5:67–74.

<sup>20</sup> WHO, Regional conference on pandemic influenza A (H1N1) 2009, Johannesburg, South Africa, 11–13 August 2009, final report, <http://www.afro.who.int>. (last accessed 01/04/10).

<sup>21</sup> WHO, Situation analysis of Communicable Disease Surveillance and Response Programme. Brazzaville, World Health Organization, Regional Office for Africa, 2008.

<sup>22</sup> <http://www.afro.who.int/en/divisions-a-programmes/ddc/protection-of-the-human-environment/programme-components/water-sanitation-and-hygiene.html> (last accessed 01/04/10).

disasters contribute to the frequency and severity of epidemics. Increasing financial investment to raise standards of living will ultimately reduce the occurrence of epidemics. Strong partnerships and community participation are critical for successful preventive actions.

## **ACTIONS PROPOSED**

15. Member States are encouraged to consider the following proposed actions to improve epidemic preparedness and response capacity. Specific recommendations are proposed for improving the detection and confirmation of epidemic threats as well as preventing and controlling epidemics.

### **Early detection, confirmation and characterization of epidemic and pandemic threats**

16. Conduct risk assessments to identify the populations and geographic areas at risk of relevant epidemic-prone diseases. Multisectoral analyses should be conducted to characterize the specific risks (e.g., disease vectors, inadequate water and sanitation, risk behaviours) to facilitate planning for disease prevention and epidemic preparedness and response.

17. Establish or strengthen early warning systems to detect epidemic-prone diseases. Early warning systems should be incorporated into national integrated disease surveillance activities at all levels. Community-based surveillance systems maintained by community health workers should be supported and linked to national surveillance and early warning systems. Member States urgently need to improve systems and processes for both immediate notification and weekly reporting of epidemic-prone diseases, particularly at the local level through improved communication mechanisms (e.g. data transfer by mobile phone). They should ensure that all levels of national laboratory networks are functional and meet all reference standards.<sup>23</sup>

18. Adopt the “one world, one health” approach to the prevention and control of zoonotic diseases. Collaboration between human and animal health sectors needs to be strengthened to improve understanding of the human-animal interface of transmission of zoonoses. Specifically, national and district task forces should incorporate technical experts from animal health, agriculture, environment and human health disciplines to establish mechanisms for sharing routine disease surveillance information and for coordinating joint preparedness and response activities.

### **Prevention of epidemics**

19. Invest in environmental health to improve access to safe water and adequate sanitation, promote good community and personal hygiene, and implement vector control measures to advance the prevention and control of communicable diseases. Mechanisms for strong partnerships at national level should be enhanced.

20. Expand health promotion activities for epidemic-prone diseases in collaboration with existing health promotion and hygiene education programmes. National, provincial and district levels should support communities to plan and implement practical risk reduction measures including improvement of environmental health, safe water and sanitation, food hygiene, vector control and personal hygiene. Key messages on common epidemic threats should be included in the curricula of primary and secondary schools.

---

<sup>23</sup> WHO/CDC. Technical guidelines for Integrated Disease Surveillance and Response in the African Region. Geneva, World Health Organization and Centers for Disease Control and Prevention (Atlanta), 2008.

21. Conduct research to identify environmental, ecological, climatic, socioeconomic and cultural factors which facilitate the emergence and transmission of epidemic-prone diseases. Explore host factors that affect the impact and spread of epidemics including immune suppression (e.g. HIV/AIDS, malnutrition) and antimicrobial resistance.

#### **Epidemic preparedness and response capacity**

22. Establish functional national multisectoral epidemic management committees with responsibilities to prepare for and coordinate epidemic responses. These committees should update national consolidated epidemic preparedness and response plans that include disease-specific plans and standard operating procedures. Member States are encouraged to establish and support similar mechanisms at provincial and district levels. Partners should be incorporated in the epidemic management committees.

23. Conduct training for health workers including refresher training in management of epidemic-prone diseases, and prevention and control of infection. Create and maintain epidemic rapid response teams at national, provincial and district levels and train the teams in outbreak investigation and response including use of simulation exercises. Member States should have administrative arrangements in place for rapid mobilization and support.

24. Improve rapid response capacity by prepositioning contingency stocks of essential supplies, equipment, vaccines, and diagnostic and treatment supplies at national, provincial and local levels. Provide sufficient financial resources to support response activities.

25. Organize regular intercountry meetings to discuss implementation of joint protocols of cooperation for epidemic control. Member States are encouraged to strengthen communications with neighbouring countries to improve the sharing of information on communicable diseases.

26. The Regional Committee is invited to examine this document and endorse the actions proposed.