

EPIDEMIC  
ALERT &  
RESPONSE

# Report of a cross-border intercountry meeting on disease surveillance and response in the Great Lakes region

Kampala, Uganda  
31 May–2 June 2004

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World Health Organization  
Department of Communicable Disease  
Surveillance and Response

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## 1. Background

In order to strengthen the support to countries, the World Health Organization (WHO) Regional Office for Africa organized its countries into five epidemiological blocks, one of being the Great Lakes Region. In June 2003, the WHO Regional Office in collaboration with headquarters organized a meeting of the ministers of health of the countries of the Great Lakes Region (Burundi, Democratic Republic of Congo, Kenya, Uganda and the United Republic of Tanzania), to review the progress made in the implementation of the protocol of cooperation and the plan of action on communicable disease control in the region, which had been formulated in 1997. The protocol was amended and a four-year plan of cooperation for 2004–2007 was adopted.

The 2003 interministerial meeting also recommended that WHO:

- strengthen the WHO intercountry team by providing more human resources, especially consultants with different expertise, to improve the quality of work, and also financial and logistical resources to ensure that it functions optimally;
- develop joint epidemic preparedness and response plans for the border areas;
- formalize cross-border meetings during interepidemic periods in order to reinforce epidemiological surveillance for timely detection and response to epidemics;
- improve coordination of partners and advocate for intercountry and cross-border activities to control epidemics in the Great Lakes Region.

## 2. Cross-border intercountry meeting 2004: objectives

In line with the above recommendations, a cross-border intercountry meeting on communicable disease surveillance and response was held in Kampala, Uganda, on 31 May–2 June 2004, bringing together participants from countries of the Great Lakes Region.

The meeting aimed at reaching a common agreement on the objectives of the intercountry surveillance project<sup>1</sup> and to harmonize the project's plan of action with Integrated Disease Surveillance and Response (IDSR) implementation and with the continuing training activities on communicable disease surveillance. The agenda is shown in Annex 1.

The specific objectives were to:

- i. review progress and gaps in disease surveillance and response in high-risk areas;
- ii. agree on a joint cross-border plan of action that addresses the:
  - development of the computerized Early Warning and Alert Response Network (EWARN) application, to be used by the Great Lakes countries for the improvement of disease surveillance and response in high-risk areas;

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<sup>1</sup> The intercountry surveillance project refers to the support from WHO headquarters (from Epidemiology Strengthening and Public Health Mapping and Geographic Information Systems) to strengthen the early warning and response component of the intercountry and cross-border activities in the Great Lakes Region.

- establishment of a subregional database for exchanging human resources in the Great Lakes Region;
- scaling up of cross-border activities in disease surveillance;
- production of guidelines for intercountry surveillance activities;
- iii. define activities for intensifying training on IDSR in high-risk areas;
- iv. agree on a framework for scaling up IDSR implementation in areas most affected by epidemics.

### 3. Meeting participants

Two participants, the Director of Epidemiology and Disease Prevention and Control/WHO Surveillance Officer, were invited from each country. Laboratory staff were also invited from the Democratic Republic of Congo and Uganda. An expert in social mobilization and communication from the private sector and the coordinator of the East African Integrated Disease Surveillance Network (EAIDSNet) attended. Staff from WHO headquarters, the WHO Regional Office for Africa and the Great Lakes intercountry epidemiologist help to facilitate the meeting. The list of participants is given in Annex 2.

### 4. Expected outputs

The expected outputs from the meeting were:

- i. a joint cross-border plan of action that outlines:
  - a list of communicable diseases for early warning and associated cross-border activities;
  - specifications of variables for information sharing and exchange at border districts, and at national and intercountry levels;
  - specification of a mechanism for information sharing and exchange at the different levels;
- ii. criteria for setting up a subregional database for the exchange of human resources for support in the occurrence of an epidemic in the region;
- iii. identification of activities for scaling up training on IDSR in high-risk border districts, with a focus on peripheral health facilities;
- iv. definition of high-risk border areas for scaling up IDSR and cross-border activities.

### 5. Approach adopted

The three-day meeting was opened by the WHO Representative for Uganda, Dr Walker Oladapo. He reiterated WHO's commitment to intercountry communication and collaboration, as one of the essential ways to control epidemic-prone diseases in the Great Lakes Region. He highlighted some of the benefits and achievements accruing from the signing of the protocol of cooperation for the Great Lakes Region, which resulted in the exchange of stocks of anti-meningitis vaccines (between Rwanda and Uganda; and Rwanda and the Democratic Republic of Congo) during the meningitis outbreak, exchange of technical expertise, exchange of disease information, and improved coordination of control activities. He called on participants to consolidate the achievements and take the intercountry agenda forward.

The meeting comprised of plenary sessions and two sets of work in small groups. Summaries of the group work were presented and discussed in the plenary sessions.

## 6. Key issues discussed and outcomes

### 6.1 Plenary presentations

#### 6.1.1 Introduction of the protocol of cooperation in the Great Lakes *Dr Nestor Ndayimirije, intercountry epidemiologist for the Great Lakes Region*

The achievements in the plan of action for the Protocol of the Great Lakes Region were presented. As part of the strategy to raise funds to implement the planned activities, an observation was made concerning one of the recommendations from the interministerial meeting in 2003 to prepare and submit a proposal to the Global Fund to Fight AIDS, Tuberculosis and Malaria. It was clarified that the Global Fund finances country proposals and it is not possible for WHO to submit any proposal to it. It was therefore agreed that a small working group should outline the key priority areas to be included in the proposal for possible submission to the Global Fund.

#### 6.1.2 IDSR implementation in the WHO African Region: progress, challenges

*Dr Idrissa Sow, WHO Regional Office for Africa*

Dr Sow highlighted the progress made in the implementation of IDSR in the WHO African Region, which included:

- assessments completed in 91% of countries;
- plan of action developed by 85% of countries;
- IDSR technical guidelines and training modules adapted by 74% of countries;
- training of health staff using the IDSR training materials launched by 52% of countries.

**The challenges included:**

- obtaining the resources for scaling up training at district level and at all health facilities;
- obtaining and maintaining the commitment of ministries of health to the implementation;
- scaling up IDSR implementation to health facilities at all levels;
- improving the quality of the data collected.

**Issues of concern included the:**

- completeness and exhaustiveness of reporting, which affect the data quality;
- role of the laboratory in cross-border activities and the quality of laboratory diagnoses, especially for diseases such as malaria and typhoid.

It was noted that WHO did not have any special funds to help countries to implement IDSR activities. Countries were advised to: include the activities in their annual workplans; endeavour to get access to programme funds for polio, measles and malaria; and seek additional funds from donors (e.g. United States Agency for International Development, who provided funds to the Democratic Republic of Congo and Uganda).

The need to involve the private sector, anthropologists and communication experts in epidemiological surveillance and response was observed. It was recommended that a regional database of experts be established for the purpose of responding to epidemics within the region.

#### 6.1.3 Progress of intercountry activities in the Great Lakes Region – Disease surveillance, preparedness and response

*Dr Nestor Ndayimirije, intercountry epidemiologist for the Great Lakes Region*

Establishment of subregional laboratory network

*Dr Thomas Aisu, intercountry laboratory expert for the Great Lakes Region*

Meeting participants observed overdiagnoses of diseases such as typhoid, syphilis and malaria. It was also noted that the apparent increase in the number of malaria cases was not just as a result of improved reporting and/or overdiagnosis, but a reflection of an actual increase in incidence, since other diseases indicated a declining trend. In addition, there is a significant number of patients attended to by private practitioners, which is not normally reported.

On the issue of sustaining a regional emergency stock for responding to outbreaks, it was agreed that it would be necessary to establish a mechanism for loaning countries to make it sustainable. Countries would be able to access the regional stock against a "sticker number" or other channels of payment.

Communication and social mobilization were observed to be the weakest activities in the Great Lakes Region. It was observed that there is a need for a communication strategy for the management of cross-border epidemics.

While national reference laboratories are performing well, only 5% of district laboratories are part of the national laboratory network. There is a need to strengthen the laboratories by developing standard operating procedures (SOPs).

#### 6.1.4 Issues arising from presentations from countries on:

- existing Early Warning and Response Network (EWARN) mechanisms
- high-risk areas for epidemics
- challenges to intercountry collaboration
- types of software currently in use in each country (Excel, EpiInfo, HealthMapper, etc.)

In general, countries are following the same process in implementing IDSR, although they are at different stages of implementation. Constraints include shortage of personnel (quality and quantity) especially at the peripheral level, shortage of supplies and logistics, insufficient means of communication for exchange of information, inadequate mass mobilization and information,

education and communication (IEC) materials, and lack of financial resources to roll out IDSR training to all districts and health facilities.

Overall, there are weaknesses in laboratory capacity and networks within the countries. In particular, there are problems with false positive results in the diagnosis of plague in the United Republic of Tanzania and of yellow fever in Uganda.

There is a need to strengthen private–public sector partnerships.

Problems occur in implementing cross-border activities in socially and politically unstable environments. Sadly, these are the areas usually affected by epidemics.

Since health facility data do not give a true picture of the disease burden in a country, the development of community-based surveillance systems was recommended, using the previous primary health-care system model as a prototype.

Generally, very little progress, if any, had been made by countries in terms of cross-border collaboration at the provincial and district levels. Border districts were not communicating with each other, resulting in delays in instituting preventive measures that would otherwise help to contain outbreaks before they become uncontrollable. However, in cases of highly infectious diseases such as Ebola and meningitis, cross-border communication was observed to be efficient.

#### 6.1.5 **Data** management tools in the WHO African Region

Mr Aboubacar *Ndiaye*, *Data Management Team*, WHO Regional Office for Africa,

Mr Ndiaye presented the common software in use, clearance procedures of data management tools and applications for disease surveillance and response. Data managers in respective countries had been trained on the relevant tools. Countries needing further support could request such assistance through the relevant WHO country office.

#### 6.1.6 Strengthening intercountry collaboration on surveillance and response in the Great Lakes Region: support of the Rockefeller Foundation and United Nation Foundation

*Dr Margaret Lamunu*, *Communicable Disease Surveillance and Response*, WHO headquarters

*Dr Lamunu* covered the background and strategic framework for surveillance and response to communicable diseases, principles of early warning, and the concept (including the added value) of the EWARN application, using examples of pilot work in India, Serbia and Montenegro. The achievements in cross-border activities in the Great Lakes Region were reviewed and the details were presented of the support from the Rockefeller Foundation (RF) and United Nation Foundation (UNF) for intercountry collaboration in the region.

The RF/UNF support aimed at improving the coordination between the different networks working on cross-border and intercountry activities in the Great Lakes Region and harmonizing the activities with those contained in the protocol of cooperation endorsed by the six Member States. Emphasis was placed on standardization of training packages, introduction of the

EWARN application to facilitate cross-border activities in the region, and development of the relevant guidelines to support the activities.

### **Issues discussed**

Concerns were raised about new software being introduced into countries in an uncoordinated way and that the new software and EWARN application needed to be cleared by the WHO Regional Office for Africa before introduction into countries. It was clarified, however, that the EWARN application was not a new tool but an application based on software being used by countries, such as EpiInfo and Excel. The application had an added advantage of producing automated alerts, tables, graphs, updated maps, reports and bulletins, depending on the configuration and programming. However, each country determines which kinds of outputs it needs, and the configuration and programming is done based on the specifications provided by the intended user. The relevant departments in WHO headquarters will work closely and coordinate with the WHO Regional Office for Africa in implementing the EWARN application.

On issues regarding the threshold values indicated for meningitis in the EWARN application – which were not consistent with the values recommended by the WHO Regional Office for Africa – it was clarified that the values were used to elaborate and illustrate the concept of the application, but the adaptation of the application in the Great Lakes Region would take into consideration the appropriate threshold values for the different diseases. It was mentioned that the same application is being used for the surveillance of meningitis in Ouagadougou, Burkina Faso.

It was questioned whether the EWARN application could be used for entomological or ecological surveillance. This would not be possible since the relevant data are not routinely collected.

Countries acknowledged the need: for better coordination in implementing the EWARN application; for additional guidelines for cross-border activities, such as social mobilization; and to standardize the training strategy and/or package for cross-border training.

#### 6.1.7 Use of the EWARN application for meningitis control

*Mr Honore Flavien Ake, WHO Public Health Mapping and Geographic Information Systems (currently at the Multi-Disease surveillance Center, Ouagadougou, Burkina Faso)*

Mr Ake emphasized that the EWARN application was not a new tool, but had been developed in the WHO office in Ouagadougou, Burkina Faso, and is also used in some other West African countries. Data on meningitis from different countries, with different formats based on national reporting tools, were used. For countries using the standardized Excel spreadsheet, formulae are predetermined and an indicator appears in blue when the alert levels are surpassed. It was also highlighted that the EWARN application could be adapted for use in all subregions, with possible adaptation of threshold values and other specifications. The application can also be programmed to provide outputs that show detailed data per district, if required.

It was further highlighted that the EWARN application was used for data sent regularly from seven countries in West Africa including the Democratic Republic of the Congo. However, for it to be used in the Great Lakes Region, it needs to be cleared by WHO Regional Office for Africa and adapted to the needs of the region.

6.1.8 IDSR training in the WHO Regional Office for Africa: how to disseminate existing IDSR training materials and reach the peripheral health facilities in areas most affected by epidemics

*Dr Idrissa Sow, WHO Regional Office for Africa*

Dr Sow emphasized the goal of reaching each district through training targeted at health workers at the district and local level. He also stressed the need for joint cross-border training courses and on-the-job training, using IDSR training modules based on the IDSR guidelines.

**Issues discussed**

It was noted that the training modules in all countries were very similar in content and the variations were only in the names of the health jurisdiction. This therefore ruled out the need for standardization and harmonization of training packages. However, additional training modules may need to be developed, if gaps are identified.

Joint cross-border training activities were seen as a significant challenge. Various reasons for this were discussed, including government legal procedures.

6.1.9 Establishment of a network of experts for outbreak response

*Dr Idrissa Sow, WHO Regional Office for Africa*

Dr Sow focused on the concept of networking and timely support to countries. He explained that membership would be determined by the qualifications, experience and skills of the individuals. Members could then be linked or contacted through e-mail, telephone, fax or post. The network could become operational through regular information sharing and updating of the membership.

Timely support to countries would depend on the country request and availability of the members. The proposed framework and profile of experts was approved by the participants.

6.1.10 The East African Integrated Disease Surveillance Network

*Dr Leonard Mboera, Coordinator of the East African Integrated Disease Surveillance Network*

Dr Mboera highlighted the rationale for the establishment of the East African Integrated Disease Surveillance Network (EAIDSNet), which focuses on intercountry and cross-border collaboration in three east African countries (Kenya, Uganda and the United Republic of Tanzania). Members of EAIDSNet include ministries of health, public health training institutions and research organizations in the three countries.

The project is in its second phase: there have been many achievements in phase I (which was funded for three years). Phase II includes a three-year plan of action that contains activities which are in line with those in the protocol of cooperation. Funding for the planned activities has already been secured.

EAIDSNet will circulate a copy of its three-year workplan to the WHO intercountry team for the Great Lakes Region for information.

There is a strategy to have EAIDSNet as part of the health desk of the East African Community.

### **Issues discussed**

There was growing concern about the various networks existing in the region and participants emphasized the need to for further coordination and communication between the networks, to avoid duplication of effort.

It was noted that EAIDSNet is currently not addressing directly laboratory activities.

It is for the East African Community Secretariat to decide whether other countries could join EAIDSNet.

## 6.2 Group work: discussions and outcomes

### 6.2.1 Session I

Participants worked in three different groups to develop a two-year plan of action for implementation of cross-border and intercountry activities in the Great Lakes Region. Each group:

- summarized the gaps and challenges in preparedness, early warning, surveillance, response, data analysis and information sharing (see point iii below);
- defined the high-risk border districts. The criteria used to define these districts included: having high risks for epidemics (in terms of multiple epidemics and frequency of outbreaks); large numbers of people and populations crossing the borders; and poor surveillance systems. The high-risk districts and the disease threats are specified in Annex 3. These districts were then mapped out into eight zones using the WHO HealthMapper tool (Annex 4);
- defined the type of information to be shared and mechanism for collaboration on preparedness, interventions, response, sharing of resources, and coordination of cross-border activities;
- proposed a workplan for implementing priority cross-border activities at national and intercountry level in the most affected districts.

#### **i. List of diseases for cross-border and intercountry activities (Annex 3)**

- Cholera
- Malaria
- Measles
- Meningitis
- Plague
- Shigellosis
- Viral haemorrhagic fever
- Human African trypanosomiasis
- Leishmaniasis
- Typhoid
- Human immunodeficiency virus (HIV)

- Tuberculosis (TB)
- Neonatal tetanus

**ii. Activities identified for cross-border and intercountry collaboration**

**Cross-border activities**

- Collecting and compiling of baseline information (situation analysis).
- Holding routine meetings to share and discuss epidemiological information, prepare district plans, plan and coordinate interventions, and share experiences. To facilitate initiation of these meetings, it was recommended that WHO provide some seed money (an average of US\$ 6000 per country in the first year).
- Holding emergency meetings when epidemics occur.
- Epidemiological information sharing through bulletins and newsletters.
- Developing additional guidelines and training materials required for cross border activities.
- Harmonizing IEC materials.
- Organizing common training sessions at border areas.
- Disseminating information related to the protocol of cooperation.
- Developing common plans for surveillance and preventive activities at border areas.
- Outbreak investigation and response.

**Intercountry activities (national and ICP level)**

- Coordinating cross-border training.
- Supporting intercountry meetings.
- Advocating for support of intercountry activities by national governments.

**iii. Table of gaps and challenges for cross-border and intercountry activities**

Activities	Gaps and challenges	
	Cross-border	Intercountry
Preparedness and early warning	<ul style="list-style-type: none"> <li>• Lack of data collection tools</li> <li>• Inadequate communication facilities and transport</li> <li>• Inadequate guidelines for cross border activities e.g. job aids, standard operating procedures, social mobilization</li> <li>• Lack of contingency/emergency supplies for outbreak response</li> <li>• Poor skills in outbreak management</li> <li>• Lack of joint planning between border districts</li> <li>• Inadequate involvement of communities</li> <li>• Lack of joint and coordinated social mobilization</li> </ul>	<ul style="list-style-type: none"> <li>• Shortage of laboratory reagents and supplies</li> <li>• Inadequate funding for activities</li> <li>• Lack of contingency stock for emergency response</li> </ul>

Surveillance	<ul style="list-style-type: none"> <li>• Delayed case detection and outbreak detection</li> <li>• Lack of knowledge on epidemic thresholds</li> <li>• Poor communication facilities (radio, telephone, e-mail, etc.)</li> <li>• Lack of data collection tools</li> <li>• Inadequate capacity for data management</li> <li>• Lack of feedback</li> <li>• Poor diagnostic capacities</li> </ul>	<ul style="list-style-type: none"> <li>• Weak information sharing between countries</li> </ul>
Response capacity	<ul style="list-style-type: none"> <li>• Untimely response on either side of the border</li> <li>• Poor community involvement</li> <li>• Inadequate capacity for outbreak response</li> </ul>	<ul style="list-style-type: none"> <li>• Untimely response</li> <li>• Inadequate human-resource capacity</li> </ul>
Data management	<ul style="list-style-type: none"> <li>• Inadequate capacity for analysis</li> <li>• Lack of data management tools</li> <li>• Poor information sharing</li> </ul>	<ul style="list-style-type: none"> <li>• Shortage of statisticians</li> <li>• Inadequate training on data management software and equipment</li> </ul>
Laboratory activities	<ul style="list-style-type: none"> <li>• Inadequate facilities for specimen transportation</li> <li>• Inadequate use of laboratories for outbreak investigation and confirmation</li> <li>• Absence of standard operating procedures at health facilities of border districts</li> <li>• Absence of laboratory networks</li> <li>• Lack of qualified laboratory technicians</li> </ul>	<ul style="list-style-type: none"> <li>• Weak laboratory networks</li> <li>• Inadequate capacity for confirmation of priority diseases</li> </ul>
Monitoring		<ul style="list-style-type: none"> <li>• Very weak coordination of cross-border activities</li> </ul>

**iv. Type of information for routine sharing by border districts**

- Baseline data: population figures, health facilities within 50 km radius from the administrative boundary, administrative information, human resources, communication systems, stakeholders, etc.
- Weekly reports on morbidity, mortality, age groups affected and causative agents (where possible).
- Weekly update on the progress of epidemics.
- Drug sensitivity results (if available).
- Rumours of outbreaks.

- Information on the synchronization and coordination of activities to prevent cross-border outbreaks.
  - Available resources (equipment, drugs, reagents, etc.).
- v. Variables and outputs by diseases for information sharing**
- Number of cases and deaths on the specific diseases (weekly and monthly).
  - Drug resistance results for malaria on a monthly basis.
  - Outbreak control reports for major outbreaks.

**vi. Table of proposed mechanism of collaboration for cross-border and intercountry activities**

Areas for collaboration	Mechanism	
	for cross-border activities	for intercountry activities
Preparedness	<ul style="list-style-type: none"> <li>• Annual and quarterly planning meetings (more frequent in outbreaks)</li> <li>• Meetings organized on rotational basis by district administration</li> <li>• Synchronization of guidelines (surveillance, treatment, SOPs,<sup>b</sup> tools)</li> <li>• Establishing joint response teams</li> </ul>	<ul style="list-style-type: none"> <li>• ICP<sup>a</sup></li> <li>• Placement of emergency stock for loaning countries</li> <li>• Ensure availability of a budget for epidemic preparedness and response</li> </ul>
Response/interventions	<ul style="list-style-type: none"> <li>• Emergency and coordination meetings</li> <li>• Operationalization of joint response activities</li> </ul>	<ul style="list-style-type: none"> <li>• Notification of outbreaks</li> <li>• Supervision of cross-border activities</li> <li>• Establishing rapid response teams, composed of experts</li> <li>• Securing laboratory kits for confirmatory diagnosis</li> </ul>
Resource sharing	<ul style="list-style-type: none"> <li>• Each country to mobilize its own finances and logistics</li> <li>• Share and exchange human resources (cost met by individual countries)</li> </ul>	<ul style="list-style-type: none"> <li>• Borrowing and lending of emergency stocks</li> <li>• Exchange of expertise coordinated by ICP</li> </ul>
Coordination	<ul style="list-style-type: none"> <li>• National meeting organized by ministry of health</li> <li>• By WHO country office/ICP</li> <li>• By EAIDSNet<sup>c</sup> for certain aspects in east African countries</li> </ul>	<ul style="list-style-type: none"> <li>• Coordination of cross-border training</li> <li>• Supporting intercountry meetings</li> <li>• Advocacy for national governments to support intercountry activities</li> </ul>

<sup>a</sup> ICP = Intercountry programme for communicable disease control.

<sup>b</sup> SOPs = standard operating procedures.

<sup>c</sup> EAIDSNet = East African Integrated Disease Surveillance Network.

**vii. Mechanisms of report sharing between countries**

- Bulletin
- Weekly report
- Monthly report
- Annual monitoring report
- E-mail, fax, telephone

6.2.2 Session II

In the second set of group work, participants were reorganized into three different groups, and each group was assigned different tasks which included:

- consolidation of a two-year workplan for priority cross-border and intercountry activities that was prepared during the first set of group work;
- developing a draft concept for a proposal for the enhancement of the prevention and control of epidemics in the Great Lakes Region. The concept is to be developed further into a full proposal for submission to the Global Fund (Annex 5);
- analysis of issues for operational research and issues related to typhoid diagnosis in the Great Lakes Region (Annex 6).

## 7. Next steps

### 7.1 General

1. All participants should share the outcome of the meeting with high-level authorities in the WHO country offices and ministries of health, and with other stakeholders.
2. Medical officers in the high-risk border districts should be made aware of their role in implementing cross-border activities.
3. Each country should immediately mobilize local resources, where possible, to start implementing some of the cross-border activities.
4. Each country should promote sharing of information on the disease profile in the high-risk border districts.
5. WHO and country participants should follow up on the implementation of the cross-border plan of action developed.

### 7.2 Commitment from ministries of health

In order to guide countries in making appropriate commitments to support implementation of cross-border activities, the following guiding principles were presented. Countries should:

1. sensitize high-level authorities (ministry of health and WHO) and stakeholders of the outcome of the meeting;
2. embark on implementation of the proposed activities as soon as possible (by July 2004 at the latest);
3. start by implementing activities that do not require many resources and which are easier to implement;
4. endeavour to use locally available resources;
5. attempt to mobilize more resources from partners;

6. maintain flow of information between the high-risk districts, ministry of health, WHO and intercountry teams.
7. conduct regular follow-up on high-risk areas.

**Burundi will:**

1. disseminate the protocol of cooperation;
2. conduct advocacy for cross-border activities with the Permanent Secretary in the ministry of health.

**Kenya will:**

1. sensitize the technical group in the ministry of health on epidemics at border districts;
2. formalize links with the Kenya Medical Research Institute to support cross-border activities;
3. disseminate protocol of cooperation;
4. incorporate the protocol of cooperation in the new five-year strategic plan currently under development;
5. review existing budget to take into consideration some of the activities in the plan of action for cross-border activities.

**Uganda will:**

1. actively create social mobilization committees at the border areas;
2. promote sharing of information from the high-risk border areas;
3. develop a detailed plan of action for cross-border activities;
4. disseminate laboratory SoPs;
5. further strengthen three additional regional laboratories serving the high-risk border districts.

**United Republic of Tanzania will:**

1. train laboratory staff on confirmation of cholera, cerebrospinal meningitis and shigellosis;
2. disseminate laboratory SoPs and job aids;
3. disseminate the signed protocol of cooperation for awareness;
4. review the existing budget to incorporate the activities in the plan of cooperation.

### 7.3 Tasks for EAIDSNet, Intercountry programme for communicable disease control, WHO Regional Office for Africa and WHO headquarters

**EAIDSNet**

1. Harmonize activities of EAIDSNet with those in the protocol of cooperation.
2. Share resources.

**Intercountry programme for communicable disease control**

1. Finalize meeting report and disseminate to participants.
2. Compile and analyse baseline data from high-risk areas.
3. Follow up on the implementation of the cross-border plan of action.

**WHO Regional Office for Africa**

1. Provide back-up for the intercountry programme for communicable disease control.

**WHO headquarters**

1. Provide strategic guidance.
2. Provide technical support.
3. Continue to mobilize resources to support implementation of cross-border activities.

## Annex 1. Agenda

31 May 2004

<b>Time</b>	<b>Topic (person in charge)</b>	<b>Expected output</b>
<b>08.30–09.00</b>	Registration of participants	Complete list and contact details of participants
<b>09.00–09.15</b>	Opening ceremony (WHO Representative in Uganda)	
<b>INTRODUCTION</b>		
<b>09.15–09.45</b>	<ul style="list-style-type: none"><li>• Administrative announcements</li><li>• Election of chairperson and rapporteurs</li><li>• Objectives of the meeting (Dr Nestor Ndayimirije, intercountry epidemiologist for the Great Lakes Region)</li><li>• Introduction of the protocol of cooperation in the Great Lakes (Dr Nestor Ndayimirije)</li></ul>	<ul style="list-style-type: none"><li>• Clarify objectives of the meeting and define expected results</li><li>• Common understanding of the protocol of cooperation and its objectives</li></ul>
<b>09.45–10.00</b>	Integrated Disease Surveillance and Response (IDSR) implementation in the WHO African Region: progress, challenges (Dr Idrissa Sow, WHO Regional Office for Africa)	Updated information on progress and challenges of IDSR implementation in different countries
<b>10.00–10.30</b>	Break	
<b>10.30–11.00</b>	Progress of intercountry activities in the Great Lakes Region: <ul style="list-style-type: none"><li>– Disease surveillance, preparedness and response (Dr Nestor Ndayimirije)</li><li>– Establishment of subregional laboratory network ( Dr Thomas Aisu, intercountry laboratory expert for the Great Lakes Region)</li></ul>	Progress and challenges in disease surveillance, preparedness and response

**PRESENTATIONS FROM COUNTRIES AND  
WHO REGIONAL OFFICE FOR AFRICA**

<b>11.00–12.30</b>	<p>Presentation from countries:</p> <ul style="list-style-type: none"> <li>– Existing Early Warning and Response Network (EWARN) mechanisms</li> <li>– High-risk areas for epidemics</li> <li>– Challenges to intercountry collaboration</li> <li>– Types of software currently in use in each country (Excel, EpiInfo, HealthMapper, etc.)</li> </ul> <p>(10 min presentation for each country and 10 min for discussion)</p>	<ul style="list-style-type: none"> <li>• Sharing information on surveillance and EWARN activities and identifying challenges to intercountry collaboration</li> <li>• Identification of high-risk areas</li> <li>• Identification of software in use</li> </ul>
<b>12.30–14.00</b>	Lunch	
<b>14.00–15.00</b>	<p>Presentation from countries (continued): (same topics as previous section)</p>	As for previous section
<b>15.00–15.30</b>	<p>Data management tools in the WHO African Region (Mr Aboubacar Ndiaye, Data Management Team, WHO Regional Office for Africa)</p>	Update on existing data management tools

**SUPPORT OF ROCKEFELLER FOUNDATION/UNITED NATIONS FOUNDATION TO  
CROSS-BORDER ACTIVITIES IN THE GREAT LAKES REGION**

<b>15.30–16.00</b>	<ul style="list-style-type: none"> <li>• Presentation of the project and its objectives (Dr Margaret Lamunu, WHO headquarters)</li> <li>• Discussion</li> </ul>	Clear and common understanding of the project and its objectives
<b>16.00–16.30</b>	Break	
<b>16.30–17.00</b>	<ul style="list-style-type: none"> <li>• Use of the EWARN application for meningitis control (Mr Honore Flavien Ake, WHO Public Health Mapping and Geographic Information Systems, currently at the Multi-Disease surveillance Center, Ouagadougou, Burkina Faso)</li> <li>• Clarifications and discussions</li> </ul>	Principles of EWARN defined

1 June 2004

### **PREPARATION OF CROSS-BORDER PLAN OF ACTION**

<b>08:00–08:30</b>	Synthesis of the previous day's activities	
<b>08:30–09:00</b>	<ul style="list-style-type: none"><li>• IDSR training in WHO Regional Office for Africa: how to disseminate the existing IDSR training materials and reach the peripheral health facilities in the most affected areas (Dr Idrissa Sow)</li><li>• Discussion</li></ul>	Time frame for training activities at health facilities in the border areas
<b>09:00–09:30</b>	Discussion and definition of criteria for the identification of national experts to be included in the subregional database, and information management (Dr Idrissa Sow)	Protocol for human resources database and its use
<b>09:30–10:00</b>	<ul style="list-style-type: none"><li>• Presentation of the East African Integrated Disease Surveillance Network (EAIDSNet) (Dr Leonard Mboera)</li><li>• Discussion</li></ul>	Experience from EAIDSNet
<b>10:00–10:30</b>	Break	

### **GROUP WORK: SESSION I**

<b>10:30–11:00</b>	Group work on the identification of gaps and challenges in surveillance and response, data analysis and information sharing in the most affected/high-risk areas	
<b>11:00–11:30</b>	Presentations of group work and discussions on gaps in surveillance and response	Identification of gaps in the most affected/high-risk areas
<b>11:30–12:30</b>	Group work on how to improve EWARNS in the most affected areas	
<b>12:30–14:00</b>	Lunch	
<b>14:00–15:00</b>	Presentations of group work and discussions on EWARNS mechanisms	Proposed activities for EWARNS development, process of EWARNS, focal points, information flow

- 15:00–16:00** Group work on the development of a plan of action for cross-border collaboration in the most affected areas
- 16:00–16:30** Break
- 16:30–17:00** Group work for the development of a plan of action for cross-border collaboration in the most affected areas (continued)

2 June 2004

- 08:00–08:30**      Synthesis of previous day's activities
- 08:30–10:00**      Presentations of group work and discussions  
on a plan of action for cross-border  
collaboration in the most affected areas
- 10:00–10:30**      Break
- 10:30–11:00**      Presentation of group work and discussions      Cross-border plan of action  
(continued)
- GROUP WORK: SESSION II**
- 11:00–12:30**      Group work on consolidated cross-border  
plan, proposal for the Global Fund,  
operational research
- 12:30–14:00**      Lunch
- 14:00–15:00**      Group work (continued)
- 15:00–16:00**      Presentation of group work and discussions      Consolidated cross-border plan
- 16:00–16:30**      Break
- 16:30–17:00**
  - Next steps
  - Close of meeting

## Annex 2. List of participants

### Burundi

Dr Seheyé Emmanuel  
Directeur du service d'épidémiologie et statistiques, Ministère de la Santé publique, B.P. 1820,  
Bujumbura

### Kenya

Dr Charles Nzioka  
Head, Disease Outbreak Management Unit, Ministry of Health, P.O. Box 20781, Nairobi

Dr Joyce Onsongo  
Disease Prevention and Control, World Health Organization, P.O. Box 45335, Nairobi

### Rwanda

Dr Mamadou Malifa Baldé  
L'Organisation mondiale de la Santé, P.O. Box 1324, Kigali

Dr Véronique Mugisha  
Directrice de l'épidémiologie et de l'hygiène publique, Ministère de la Santé, B.P. 84, Kigali

### Uganda

Dr Baraba Gaspard Guma  
Head, National Public Health Laboratory, Ministry of Health, P.O. Box 7272, Kampala

Dr Deogratius Kaddu Mulindwa  
Senior Lecturer, Makerere University Faculty of Medicine, Department of Medical  
Microbiology, P.O. Box 7072, Kampala

Dr Miriam Nanyunja  
Disease Prevention and Control, World Health Organization, P.O. Box 24578, Kampala

Dr Ambrose Talisuna  
Assistant Commissioner, Epidemiology Surveillance Division, Ministry of Health, P.O. Box  
7272, Kampala

## United Republic of Tanzania

Mr Vincent Mgya  
Principal, Laboratory Technology, Coordinator of laboratory services, Ministry of Health, P.O. Box 9083, Dar es Salaam

Dr Peter Mmbuji  
Integrated Disease Surveillance and Response Program Manager, National Institute of Medical Research, P.O. Box 9653, Dar es Salaam

## Partners

Dr Leonard Mboera  
Coordinator, East African Integrated Disease Surveillance Network, P.O. Box 9653, Dar es Salaam, United Republic of Tanzania

## Teams for Intercountry programme for communicable disease control

Dr Thomas Aisu  
Inter-Country Program/Laboratory Strengthening, World Health Organization, P.O. Box 24578, Kampala, Uganda

Dr Faustine Maiso  
Inter-Country Program/Human African Trypanosomiasis, World Health Organization, P.O. Box 24578, Kampala, Uganda

Dr Nestor Ndayimirije  
Inter-Country Program/Communicable Disease Surveillance and Response, World Health Organization, P.O. Box 24578, Kampala, Uganda

Dr Monica Adhiambo Olewe  
Inter-Country Program/Malaria, World Health Organization, P.O. Box 24578, Kampala, Uganda

Dr Charles Paluku  
Inter-Country Program/Malaria, World Health Organization, P.O. Box 24578, Kampala, Uganda

Ms Jane Nyanzi Magoba  
Social Mobilization/Communication, Communication Research and Development, P.O. Box 21040, Kampala, Uganda

## WHO Regional Office for Africa

Dr Idrissa Sow  
World Health Organization Regional Office for Africa, P.O. Box BE773, Harare

Mr Aboubacar Ndiaye  
Data Management Team, World Health Organization Regional Office for Africa, P.O. Box BE773, Harare

## WHO headquarters

Dr Margaret Lamunu  
Medical Epidemiologist, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland

Mr Honore Flavien Ake  
System Developer, Public Health Mapping and Geographic Information Systems, World Health Organization, Geneva 27, Switzerland (currently at the Multi-Disease Surveillance Center, B.P. 549 Ouagadougou, Burkina Faso)

## Annex 3. Table of selected high-risk border districts and disease threats

<b>Zone</b>	<b>Countries</b>	<b>High-risk border districts</b>	<b>Disease threats</b>
1	Burundi	Cibitoke, Bubanza, Buj Rural, Bururi, Buj Mairie, Makamba	Cholera, typhoid
	Democratic Republic of Congo	Uvira, Nyangezi, Lemera, Bukavu, Goma, Kabare, Fizi, Nundu, Kalemie	Cholera
	Rwanda	Gihundwe, Mbilizi, Bushenge, Kibogora, Gisenyi, Kabaya, Muhororo, Kibuye Murunda, Mugonero	Cholera
2	Burundi	Makamba, Rumonge (Bururi)	Cholera
	United Republic of Tanzania	Kigoma, Kasulu	Cholera
3	Burundi	Cankuzo, Rutana, Ruyigi, Makamba, Ngozi, Kayanza, Muyingi, Kirundo	Meningitis
	Rwanda	Gihundwe, Kibogora, Mibilizi, Bushenge, Kibilizi, Kaduha, Bugesera, Kabgayi, Kibungo	Meningitis
	United Republic of Tanzania	Karagwe, Kibondo, Kasulu, Kigoma	Meningitis
4	Rwanda	Byumba, Ruhengeri, Nyagatare	Malaria, shigellosis, NNT <sup>a</sup>
	Uganda	Kisoro, Kabale, Masaka, Ntungamo, Rakai, Mbarara	Shigellosis, malaria, measles, NNT, cholera
	United Republic of Tanzania	Bukoba, Ngara, Karagwe	Measles
5	Kenya	Busia, Teso, Bungoma, West Pokot, Mount Elgon, Trans-Nzoia, Turkana	Tryps, VHF, cholera, NNT, measles, leishmaniasis, shigellosis, HIV, <sup>b</sup> TB, <sup>c</sup> malaria

	Uganda	Busia, Tororo, Sironko, Nakapiripirit, Kapchorwa	Human African trypanosomiasis, cholera, measles, NNT, shigellosis, leishmaniasis
6	Democratic Republic of Congo	Aba, Faradje, Laibo, Dungu, Doruma, Logo, Aru, Reti, Drodro	VHF, <sup>d</sup> plague
	Uganda	Arua, Nebbi, Masindi, Hoima, Bundibugyo, Kasese, Bushenyi, Rukungiri and Kanungu, Kisoro	Cerebrospinal meningitis, plague, VHF, cholera, shigellosis, measles, NNT, malaria
7	Kenya	Kwale, Taita-Taveta, Migori, Trans-Mara, Kuria, Narok, Kajiado	Cholera, plague, measles, NNT, shigellosis, HIV, TB, malaria
	United Republic of Tanzania	Muheza, tanga, Lushoto, Same, Mwanga, Rombo, Moshi, Monduli, Serengeti, Ngorongoro, Tarime	Cholera, plague, measles, NNT, shigellosis, HIV, TB, malaria
8	Kenya	Siaya, Bondo, Kisumu, Homabay, Suba, Nyando, Rachuonyo	Cholera, plague, measles, NNT, shigellosis, HIV, TB, malaria
	Uganda	Kalangala, Bugiri, Mayuge, Mukono, Wakiso, Jinja, Kampala	NNT, malaria
	United Republic of Tanzania	Musoma, Ukerewe, Mwanza	Cholera, malaria

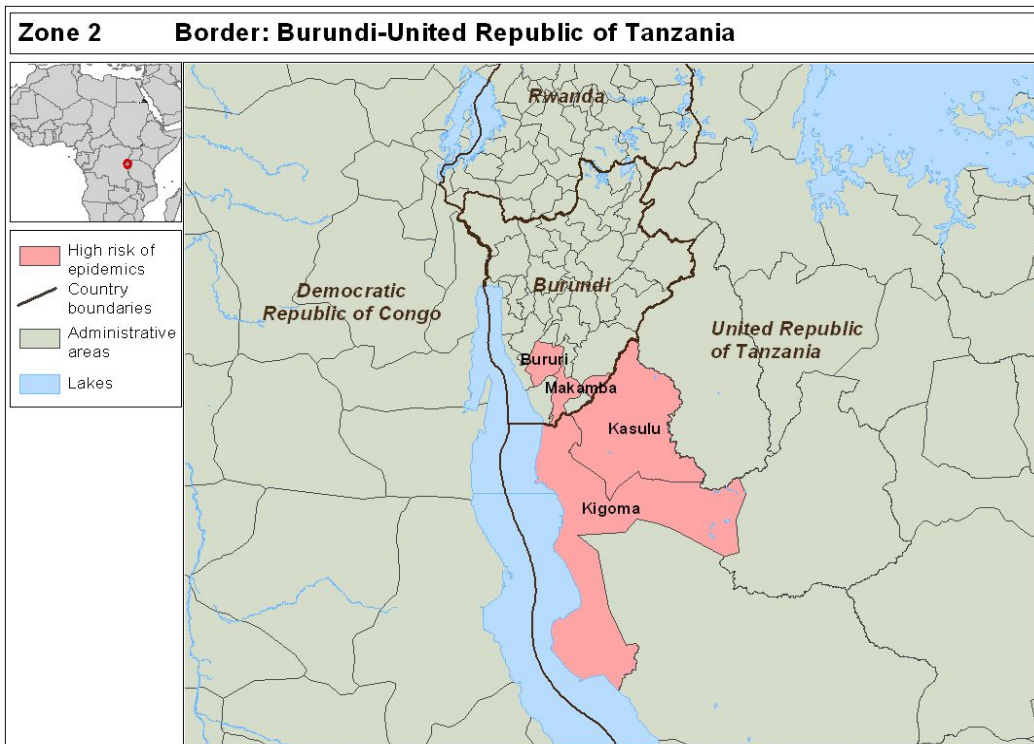
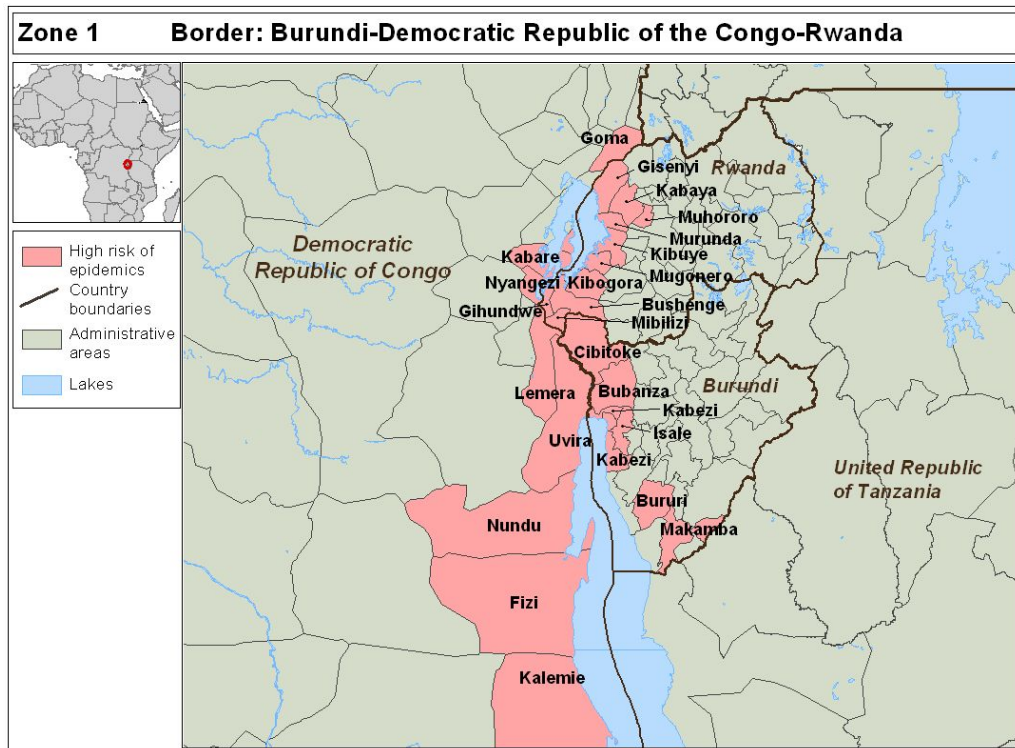
<sup>a</sup> NNT = neonatal tetanus.

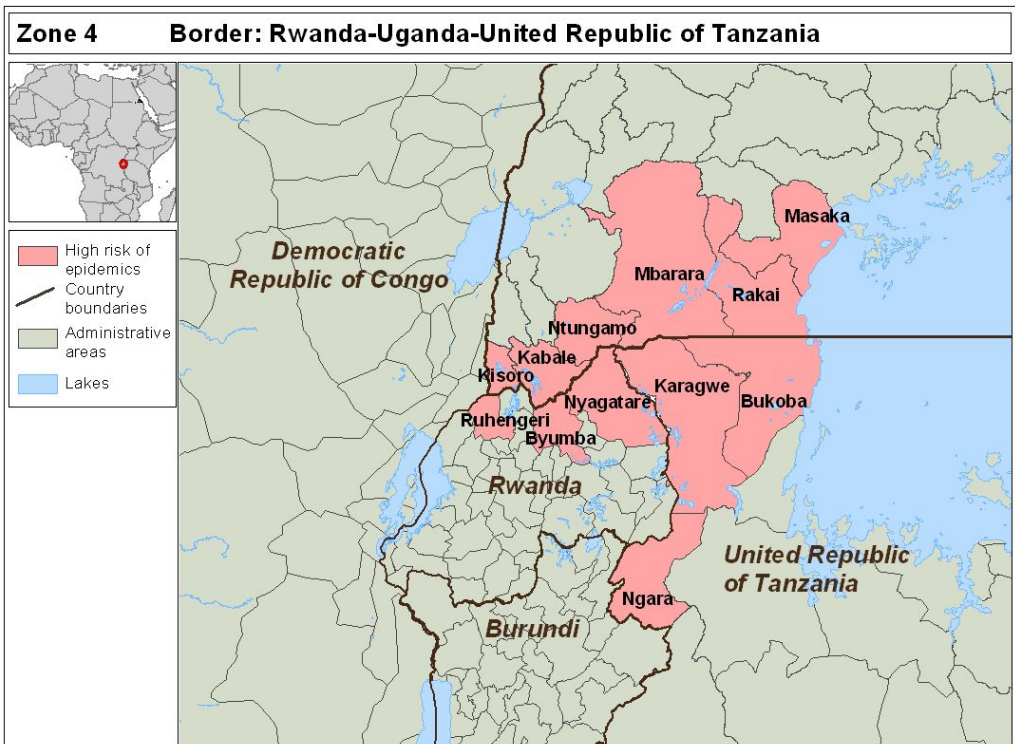
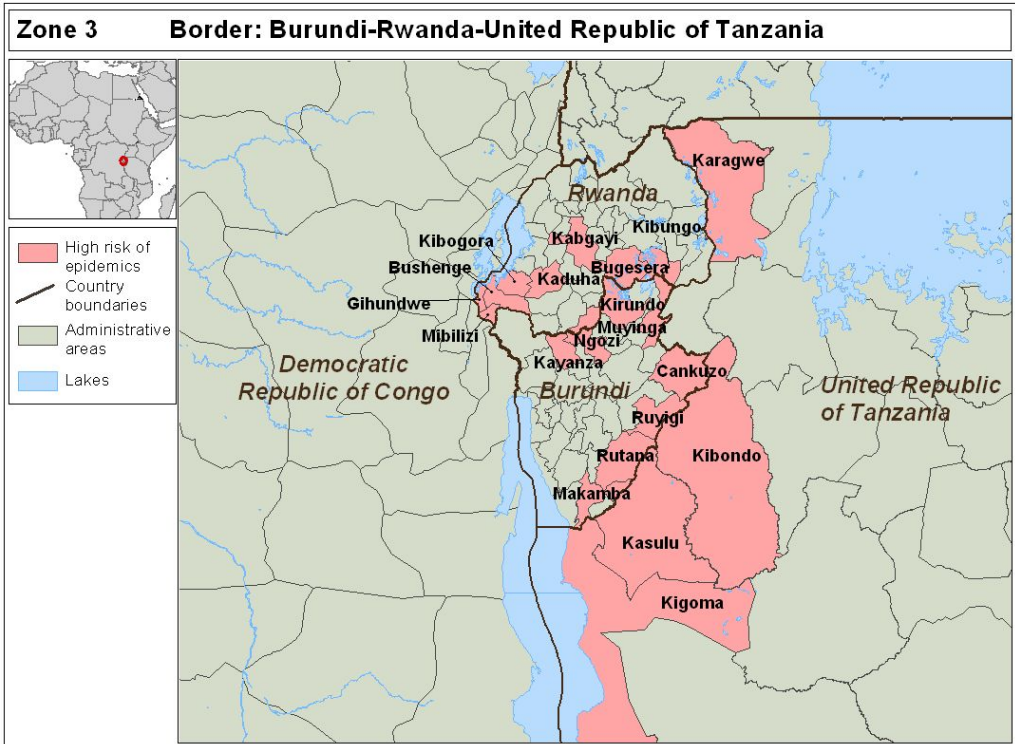
<sup>b</sup> HIV = human immunodeficiency virus.

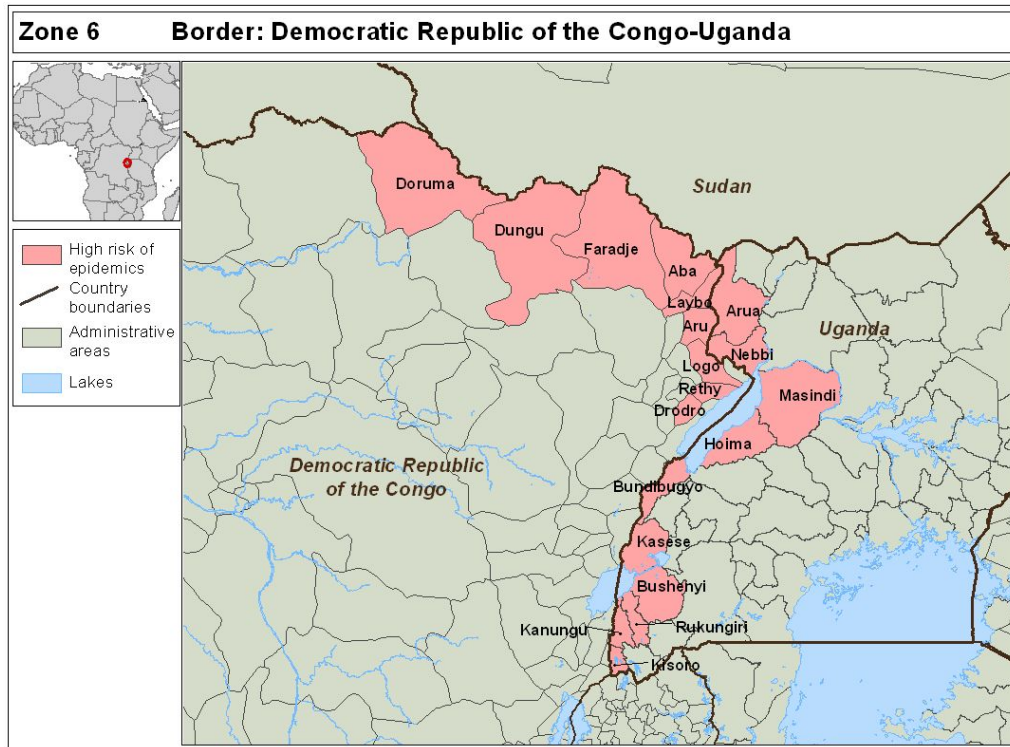
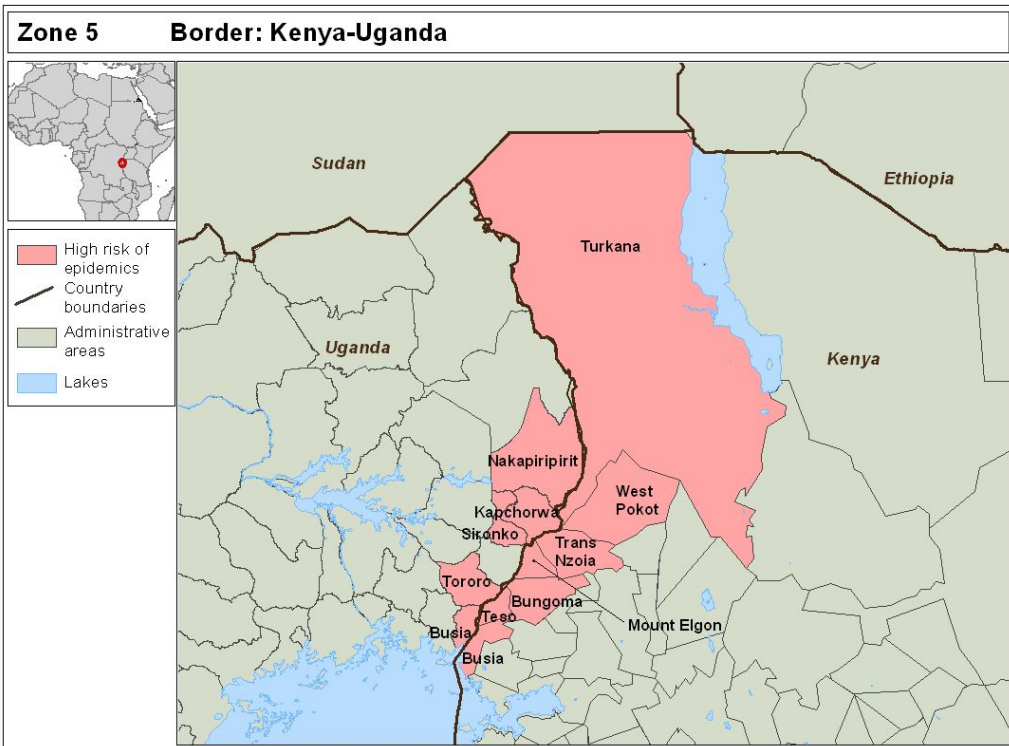
<sup>c</sup> TB = tuberculosis.

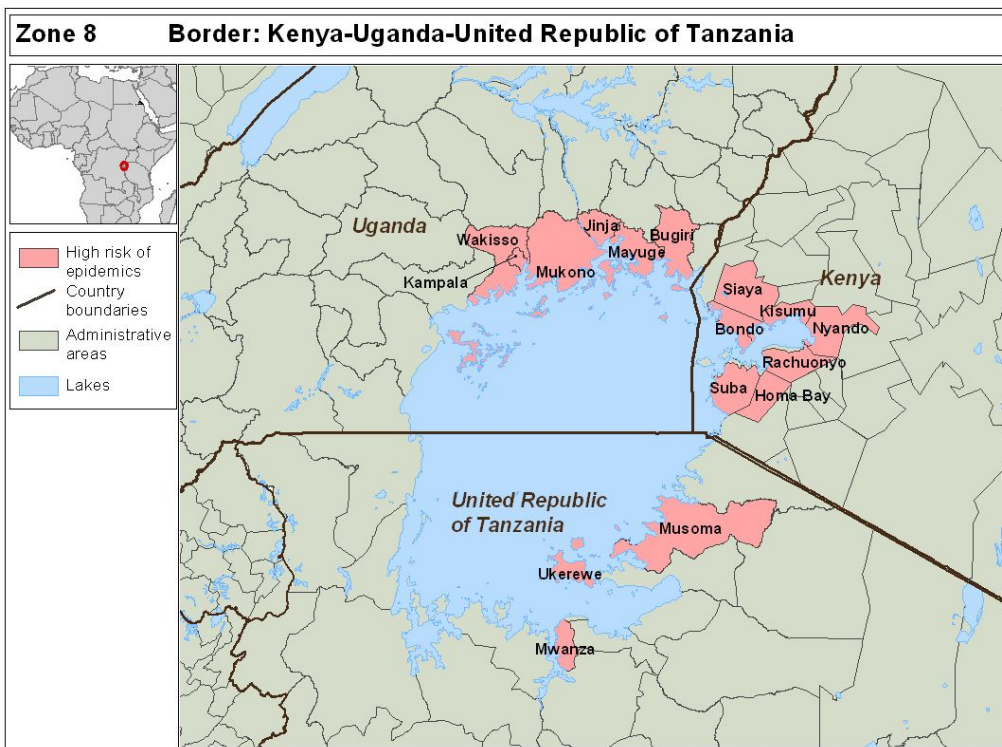
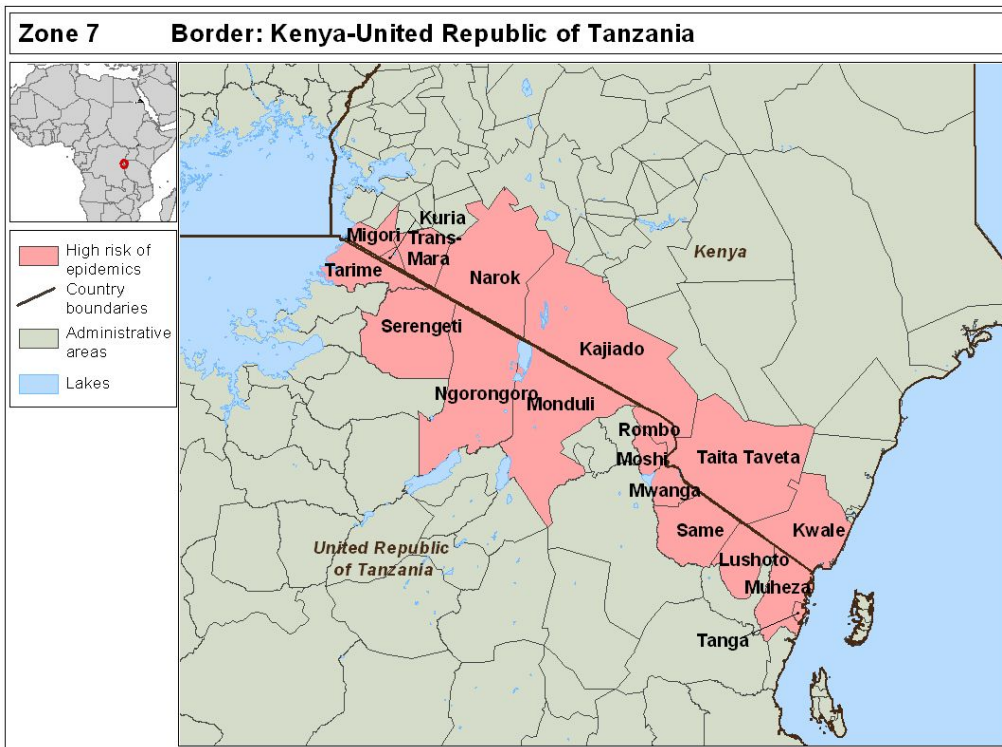
<sup>d</sup> VHF = viral haemorrhagic fever.

## Annex 4 Maps of cross-border zones in the Great Lakes Region at high risk of epidemics









## Annex 5 Draft concept for a proposal for the enhancement of the prevention and control of epidemics in the Great Lakes Region

### 1. General objective

- To support Member countries in the Great Lakes Region to implement a minimum package of interventions so as to reduce the frequency, scope and gravity of epidemics and vaccine-preventable diseases.

### 2. Specific objectives

- To accelerate and scale up implementation of IDSR.
- To strengthen disease surveillance and response to epidemic-prone diseases.
- To support and expand the implementation of subregional initiatives such as those on HIV/AIDS, malaria control, disease surveillance and disease prevention.
- To support country plans to synchronize and implement supplemental vaccination activities, especially with respect to measles catch-up and follow-up campaigns.
- To support and accelerate the establishment of functional public health laboratories and a system of accreditation.

### 3. Priority areas/activities

- Strengthening the coordination mechanism for the implementation of activities established cooperation protocol.
- Harmonizing of data management tools available at subregional level.
- Improving capacity for intercountry operational communication systems.
- Improving capacity for rapid confirmation of etiological agents.
- Standardizing case management protocols in the subregion.
- Ensuring availability of adequate drug and vaccine supplies.
- Strengthening mechanisms for effective management of epidemics.
- Supporting and strengthening social mobilization for the implementation of cross-border activities.
- Regularly monitoring antimicrobial and antiparasitic resistance patterns in the subregion.
- Generating up-to-date information on behavioural and cultural aspects at subregional level.

## Annex 6 Issues for operational research and typhoid diagnosis in the Great Lakes Region

1. Key operational research questions
  - Why do is there a high case-fatality rate for cholera and meningitis in the subregion?
  - What are the factors that predispose some districts, and not others, to meningitis and cholera epidemics?
  - Is the Widal test a good tool for public health?
  - Is the clinical case definition of typhoid specific enough for surveillance?
2. Problems in typhoid diagnosis
  - Overdiagnosis, resulting from incorrect diagnosis (clinical and laboratory).
  - Incorrect clinical diagnosis, resulting from case definition not being used; or case definition being not very specific.
  - Incorrect laboratory diagnosis, resulting from incorrect use of Widal test.
3. Widal test
  - It is a test for antibodies to the O and H antigens of the bacteria.
  - Titration must be done to obtain a titre. Ideally the test should be done at the first contact with the patient and then 2–3 weeks later to determine if there has been a 4-fold increase in titre.
  - Alternatively, if a Widal cut-off titre for the subregion has been established, then the test can be done at first contact with the patient and the result compared with the cut-off value.
4. Operational research questions
  - Validation of clinical symptoms of typhoid against the reference test (blood culture) to establish a specific case definition.
  - Validation of the Widal test against blood culture.
  - Establishment of the Widal cut-off titre for the subregion.