INTERNATIONAL CONSULTATION ON STRENGTHENING NATIONAL CAPACITIES FOR EPIDEMIC PREPAREDNESS AND RESPONSE IN SUPPORT TO THE NATIONAL IMPLEMENTATION OF THE INTERNATIONAL HEALTH REGULATIONS (IHR), LYON, FRANCE, HOTEL SOFITEL, 2-5 MAY 2006

BACKGROUND PAPER FROM A DEVELOPING COUNTRY PERSPECTIVE
Acknowledgements

This background paper was prepared for International Consultation on Strengthening National Capacities for Epidemic Preparedness and Response in Support to the National Implementation of the IHR, Lyon, France, 2-5 May 2006 by Dr. Ambrose Otau Talisuna MBchB, Msc, PhD, Assistant Commissioner Epidemiology and Surveillance Ministry of Health, Uganda in consultation with Dr. Gilles Poumerol and Dr. Stefan Lazzari of WHO headquarters in Lyon. Financial assistance for the development of this background paper was provided by the World Health Organization.
## List of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHEIC</td>
<td>Public health emergencies of international concern</td>
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<td>DRC</td>
<td>Democratic republic of Congo</td>
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<td>EMC</td>
<td>Epidemic management committee</td>
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<td>EPR</td>
<td>Epidemic preparedness and response</td>
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<td>IDSR</td>
<td>Integrated disease surveillance and response</td>
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<td>IEC</td>
<td>Information, education and communication</td>
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<td>IHR</td>
<td>International health regulations</td>
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<td>M &amp; E</td>
<td>Monitoring and evaluation</td>
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<td>MMWR</td>
<td>Morbidity and mortality weekly report</td>
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<td>RRT</td>
<td>Rapid response teams</td>
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<td>SARS</td>
<td>Severe Acute Respiratory syndrome</td>
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<td>SOPs</td>
<td>Standard operating procedures</td>
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<td>WHA</td>
<td>World health Assembly</td>
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<td>WHO</td>
<td>World Health organization</td>
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<td>WHOAFFRO</td>
<td>Regional office of the world health organization for Africa</td>
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</table>
1. Background

Many countries especially the resource constrained developing countries are striving to strengthen their national surveillance systems for prediction and early detection and response to epidemics, priority setting, planning, resource mobilization/allocation, and monitoring and evaluation. The revised international health regulations (IHR) adopted at the 58th world health assembly (WHA 58.3) in 2005, offer an opportunity for accelerating this process. In addition, IHR 2005 also offer an opportunity for designing or setting up innovative approaches for the rapid verification of rumors or reports about public health emergencies of international concern (PHIEC), the timely notification/transmission of data to the world health organization (WHO) and other state parties, provision of regular feedback to national and sub-national levels and to other stakeholders using different methods including the print media. Furthermore, problem based training of health workers and formative supervision will be critical in enhancing the core capacities at national, sub-national and community level. Core capacity strengthening for the implementation of IHR 2005 in resource constrained developing countries has to be streamlined and should start from the national level but special focus has to be put on the sub-national and community levels. In the IHR 1969, the scope of public health emergencies of international concern (PHEIC) has been limited to a list of notifiable diseases. However, with the increasing disease burden due to emerging and re-emerging infections as well as the multiple sources (infectious, chemical, biological etc.) of health risks, this scope has to inevitably widen.

The purpose and scope of IHR 2005 has been stated in article 2 as”

To prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade

This scope is definitely very broad because it covers both known and unknown public health risks. It also covers public health risks of multiple causality, consequently, the decision making instrument for the determination whether an event is a public health emergency of international concern in the IHR 2005 (Annex 2) is a right step forward in
this endeavor. Nonetheless, some countries especially those in the WHO/AFRO region have, during the consultative process for IHR 2005, expressed a need to have some minimum list of diseases imbedded within the decision making instrument for both advocacy and capacity building. This mixed model offers a smooth transition from IHR 1969 to IHR 2005. However, it creates new challenges because health workers have to move away from the culture of a notifiable disease list to a decision making instrument and they will require sensitization and training in the use of the decision making instrument.

In many countries, there exists a national health policy and or health sector strategic plan which outlines the package of interventions to address the major causes of ill health and the disease burden and which is usually the basis for resource allocation. It will be critical that such national polices and strategic plans clearly articulate the core capacity strengthening needed for the implementation of the IHR 2005. This will facilitate resource allocation for the implementation of the IHR 2005, within the short, medium and long term expenditure frameworks of the countries.

At the 58th World Health Assembly (WHA) 2005, WHO member states have endorsed the international health regulation (IHR) 2005 and committed themselves to implement them by 2007. It is important to recall that when disaster strikes, the least prepared the community is, the most damage it causes. Also surprises are always greater for the unprepared and the quality of response is directly proportional to the level of readiness. Therefore, epidemics, like other public health emergencies, whether local, national, regional or global, can reach disastrous proportions where there is poor preparation and the response is weak or uncoordinated. The latter could be exacerbated if resources are scarce and can not be mobilised quickly.

In this paper, we briefly outline how IHR 2005 should be systematically introduced and implemented in developing countries particularly in Africa and also articulate which core capacities need to be developed or strengthened. This background paper is not prescriptive and it is should not be viewed as restrictive. Rather it should serve as guiding document that can be modified based on the country specific needs.
Some of the sections here under already have tools for their implementation (refs). However, others will require the development of additional tools and protocols.

2. Systematic introduction and implementation of IHR 2005

In order to ensure that the IHR 2005 implementation process is systematic, there will be a need to follow some kind of stepwise approach similar to that used for the introduction of integrated disease surveillance in the WHO/AFRO region (refs). Although some of the steps highlighted might occur concurrently rather than as a sequence of events, they have nonetheless been separated in this paper for clarity so that they are not missed.

2.1 Sensitization

A formal sensitization of the political leadership, infectious disease control managers, surveillance staff and other stakeholders such as those in air and maritime transport and relevant sector ministries such as agriculture will be critical for the introduction of IHR 2005. Such sensitization should particularly address the major changes in IHR 2005 such as; the decision making instrument and the areas that need core capacity strengthening. Furthermore, the staff involved in the various components and programs of surveillance and epidemic response should be fully sensitized of the importance and relevance of IHR to their work. As much as possible, the core capacity strengthening should be within the on going capacity building for public health surveillance and public health information systems (WHO, 1999, Thacker and Berkelman, 1988, Thacker and Stroup, 1994). However, in some areas such as community based event detection and rumor verification, new approaches will have to be identified for the involvement of the community.

2.2 Risks and vulnerability assessment

Each country should conduct a comprehensive risk and vulnerability assessment at national and sub-national level, including the community level before 2007. The assessment will facilitate the identification of the gaps, strengths, challenges, opportunities and threats in core components such as case management, response capabilities, infection control and the role of quarantine when required. In addition, it will identify gaps and challenges for the laboratory such as status of laboratory networks for
specimen transportation and referral, quality assurance and quality control and accreditation. Furthermore, assessment will identify gaps in the core functions in epidemiological surveillance such as rapid response capability and community mobilization.

2.3 Planning

Based on the findings from the risk and vulnerability assessment, a joint national strategic plan should be developed with the participation of different stakeholders such as the ministry of health, the world health organization, other relevant sector ministries such as agriculture, veterinary and fisheries, training/research institutions, disease specific health programs and sub national level health managers. In addition sectors such as immigration departments, portals of entry staff and civil aviation agencies should also be represented. The joint plan should be the basis for advocacy and resource mobilization. It is anticipated that such joint planning will enable consensus building, enhance ownership by all stakeholders, and facilitate the sharing of a common vision for the implementation of IHR 2005. In addition, bringing different stakeholders together might have the gains of increasing the funding base for strengthening core capacities for the implementation of the IHR 2005.

2.4 Strengthening political commitment and fostering stewardship

At the 58th WHA, member countries through their ministers for health have committed themselves to setting up systems that will permit the implementation of IHR, 2005. High political commitment is important for the successful implementation of IHR 2005 and this should be sought from the highest level. In addition there will be a need to provide stewardship through the development or revision of different protocols and guidelines such as:

- Guidelines and training materials for the introduction of the decision instrument and the reporting hierarchy.
- Protocols for cross border collaboration.
- Guidelines for planning for surveillance, epidemic alert and response
- Standard operating procedures (SOPs) for the laboratory by level.
- Log book for outbreaks/rumors at national and sub-national levels
- Guidelines for infection control
- Checklist for outbreak investigation and response
- Guidelines about the composition of rapid response teams and checklists for event verification and response
- Generic guidelines for data storage and management
- Guidelines for health measures at airports and ground crossings
- In addition to the above, regular feedback (weekly or monthly) to all stakeholders about the state of affairs with respect to PHIEC.

2.5 Establishing/strengthening the coordination mechanism for the IHR 2005

At national level, a coordination mechanism for the implementation of IHR 2005 should be established or strengthened. A focal point with direct mandate to communicate to the world health organization should be designated. In selecting the focal point several factors should be considered such as timeliness in sharing the information. Therefore, a high caliber cadre of staff such as the technical head of the health sector might not be appropriate because of a busy schedule, yet a very low cadre of staff would require clearance, therefore a balance has to be struck. In addition, there might be a need to establish a technical/advisory committee composed of different stakeholders such as surveillance and disease prevention managers, air transport, and hospital management teams, rapid response teams, laboratory group, academic institutions and agriculture and veterinary services. The secretariat to the coordination committee should ideally be the focal point for IHR in the country unless there are strong reasons to do otherwise. Since most of the implementation is likely to be conducted at the sub-national level, there could be advantages in identifying focal points for the sub-national coordination as well.

3.0 Development/strengthening core capacities at national and sub-national level

In order to strengthen core capabilities at national and sub-national level we have modified the conceptual model that has been proposed for strengthening integrated disease surveillance (McNabb et al, 2003) (Figure 1)
Figure 1

**Core components**
- Preparedness
- Alert
- Organization of the response
- Actual response
- Data synthesis and analysis
- Hypotheses generation
- Notification, dissemination and feedback
- Supervision and monitoring

**Organizational Issues**
- Administrative structure- Decentralization etc
- Vertical disease-specific approach vs. integration of all IHR activities under one agency
- Role of research institutions and universities

**Critical Issues**
- How to detect events- Decision instrument
- How to grade magnitude- Local, national, regional, global
- How to determine expectedness
- Decision to notify WHO
- Pathway for reporting

**Individual Issues**
- Motivation/incentives schemes for event detection and reporting
- Education/motivation for high quality reporting
- Job satisfaction

**Support functions**
- Training
- Communication networks
- Resources
- Logistics- Transport
- Coordination mechanism

**Improved performance of countries with respect to IHR**
- Prompt and timeliness of notification and responses
- Improved data utilization
- Rapid feedback
- Good laboratory support
In this conceptual model we have identified the different core components, the support components, organizational and individual factors that have to be considered during the core capacity strengthening. A critical factor among the organizational factors is the administrative structure and the level of decentralization or devolution of implementation. The latter has to be considered so that core capacities are strengthened at all levels. If the support and core components are strengthened and the organizational and individual factors are addressed, it is very likely that there will be improved performance leading to timely notification and timely response.

3.1 strengthening the core response capacities

3.1.1 Preparedness

Being prepared for outbreaks is paramount for timely and appropriate response. Mortality and morbidity can be greatly reduced with a high level of preparedness for outbreaks. There is therefore a need to assess the national and district capacity to respond to outbreaks in the unfortunate event that they occur. National and district level capacity in the following areas needs to be assessed and where necessary capacity should be built as a matter of urgency.

3.1.2 Surveillance and epidemic alert

Event investigation, notification/reporting, active case-search/contact tracing, line listing formats and the decision making instrument should to be produced and widely disseminated. In order to ensure early detection an early warning system has to be strengthened. This may vary from a weekly surveillance system backed up with robust outbreak investigation or prompt rumour or signal tracing and verification followed by prompt notification.

3.1.3 Clinical management

The severe acute respiratory syndrome (SARS) outbreak in south East Asia and outbreaks of viral hemorrhagic fevers in Uganda, Democratic Republic of Congo (DRC) and the Sudan (Refs) have demonstrated that preparation for appropriate case management while ensuring the protection of health service providers is very crucial. Consequently, developing countries have to ensure that they build core capacities
i) **Site of clinical management or site of treatment**

The specific guidelines for case management will depend on the cause or the available knowledge about the health risks. However, there is a need to have some generic guidelines by level on how suspected cases will be managed. For example, checklists for deciding whether to admit, isolate or manage as out patient have to be developed. In addition, a dedicated room to handle public health emergencies has to be designed at the out patient departments of health facilities to limit mixing with non exposed patients.

ii) **Stock piling**

This has always been a difficult area in developing countries because convincing the ministry of finance to procure supplies or allocate funds for what is just anticipated is not an easy notion in a scenario of scarce resources. Nonetheless countries have to stock some medical supplies and commodities such as drugs, IV fluids, disinfectants, syringes and PPE (see below).

iii) **Capacity for referral**

It is increasingly clear that inadequate ambulance service is one of the rate determining steps to the timelines of response. Capacity for ready ambulance services has to be built at national and sub-national level.

iv) **Training and refreshing health workers.**

Although training is cross cutting, training with particular focus of case management, supportive care and infection control should be conducted

3.1.4 **Infection prevention and control in health care, home and community settings**

Based on the latest information on the transmission of infections in health care, the Centers for Disease Control/Hospital Infection Control Practices Advisory Committee (HICPAC) has revised the guidelines for isolation precautions in health care settings with the recommendation that hospitals and patient care institutions implement standard precautions in the place of universal precautions. Indeed standard precautions correlate with universal precautions with minor revisions in nomenclature only. The concept of isolating patients with transmissible diseases is crucial in infection prevention and control. This concept is an outgrowth of earlier practices where persons diagnosed with a
transmissible infectious disease were "quarantined." Traditional systems of isolation precautions have relied on an understanding of the mechanisms by which disease can be spread and have focused the use of protective barrier equipment in order to interrupt transmission and to break the chain of infection.

The experience with the SARs epidemic and its subsequent threat in developing countries in Africa and the Avian Influenza (AI) outbreak has demonstrated that for most developing countries, core capacities for infection prevention and control are largely inadequate. IHR 2005 should be used as the legal framework for the establishment of minimum core capacities for infection prevention and control with particular focus on:

a) Health care settings
   i) Proper hand hygiene
   This is the single most important infection prevention and control practice in health care (including laboratory specimen handling), home and community settings. It is important that hand washing protocols that are appropriate for clients and health workers are updated and should address hand washing techniques and the sundries needed.

   ii) Barrier protection

   Barrier protection is important for the prevention of infection for all the five main modes of transmission viz: contact (direct or indirect), droplet, vehicle, airborne or vector borne transmission. Developing countries should, at the bare minimum, have in country personal protective equipment (PPE) such as caps, masks, aprons, gowns, boots, gloves, goggles; disinfection guidelines, disinfectants, spraying gear, body bags; basins; buckets; drums; gum boots to cater for peripheral health workers, national and sub-national RRTs to cover at least the first 100 patients,

   iii) Patient placement/confinement

   Most developing countries, as a result of resource constraints, might not be able to observe all standard precautions. Consequently there will be a need to have some
isolation room or unit in some health facilities. As a starting point, such capacity could be established for every hospital and later coverage can be expanded as resources permit.

iv) Patient transport

In order to be prepared to respond to highly infectious patients, developing countries will need to build capacity to have appropriate transport (ambulances) equipped with relevant disposal equipment. In addition there will be a need to develop guidelines and procedures for transporting the patient to designated hospitals, provision of PPE for personnel involved in the transport of patients as well as procedures for their disposal, guidelines for decontamination of vehicles of they are contaminated.

v) Care of equipment and medical waste disposal

Guidelines for appropriate disposal of waste, contaminated laundry and sharps and the cleaning sterilization and disinfection of equipment, instruments and devices have to be updated of developed. Protocols should be updated and the necessary equipment made available. In addition the countries should assess the availability of facilities for medical waste disposal and ensure that polices for the disposal of regulated medical waste are formulated and adhered to.

vi) Prevention and control of highly infections airborne transmissions

Some airborne health risks require special air handling and ventilation such as negative pressure to limit transmission. Such an undertaking is costly, but developing countries might initially designate a few facilities such as regional or provincial hospitals and establish a unit with capacity for special air handling and ventilation.

vi) Core capacities for handling laboratory specimens

The SOPs for lab should be assessed to determine whether the handling of laboratory specimens has been well covered as well as the required barrier protection for personnel collecting and handling laboratory specimens. Specifically countries have to develop SOP for handling BIOHAZARD material.
vii) Procedures for the handling of human remains

Burials are a common source of infection for infections diseases. Therefore guidelines for quick burial have to be developed that are sensitive to the local cultural issues of the community. Indeed a lot of social mobilization is usually needed in this area.

b) Home and community settings

Isolation

Generic home isolation should be developed and will be adapted depending on cause, but they are likely to include:

- Guidance on limiting unnecessary movement of suspected patients from home except as necessary for medical care
- Guidance on separation of the patient from other persons in the household if feasible such as sleeping in different room or hut
- Guidance on limitation of the number of people in the household who come in contact with suspected case to a few who are involved in patient support
- Guidance on what the non exposed people should do

Infection control measures

- Simple guidelines on hand washing with soap after touching potentially contaminated surfaces or materials
- Source control guidance depending on cause
- Supply of simple protective wear such as gloves to community resource persons or mobile teams
- Simple guidance to limit sharing of beddings, towels and clothing
- Simple guidelines on the use of dishes and other eating utensils
- Simple guidelines on household waste disposal
- Simple guidelines on cleaning and disinfection of environmental surfaces
3.1.5 Training

Training guidelines should be quickly developed based on cause and should be made widely available to health workers. In addition, health workers should be trained on how to use the decision instrument. Large laminated and pocket size decisions instruments could make their utilisation more user-friendly. Furthermore, depending on cause, there may be a need to quickly refresh health workers about the signs and symptoms, case management and infection control procedures.

3.1.6 Social mobilization and sensitization

During the outbreak, it is important to inform the relevant community leaders and disseminate the relevant IEC materials, key radio messages, Film vans, and personnel.

3.1.7 Other logistics

A logistics focal person should develop a checklist of the logistics needed such as vehicles and fuel, contingency funds, personnel and all the other logistics identified under case management and infection prevention and control above.

3.2 Organization for the response and conducting the response

There will be a need to set up or orient the epidemic management committees about the IHR 2005, develop EPR plans, stock the necessary commodities and supplies and train health workers and other relevant stakeholders. Laboratory equipment and supplies (transport media), standard operating procedures for specimen collection and rapid response teams (RRTs) should be available at national and sub-national level. At national and sub-national level a multi disciplinary rapid response team (RRT) should be set up and trained to use the decision instrument and to conduct an investigation (see Figure 2). Such a team should at the minimum be composed of an epidemiologist, a logistician, a clinician, a laboratory technologist or technicians and a social mobilization expert.
Figure 2: Scheme for verification and notification

Community level alert

Health unit verification if possible
Otherwise notification of higher level support

Health sub-district RRT verification
if applicable
Otherwise notification

District or provincial level RRT verification
Or National level notification

National level RRT verification
Otherwise regional or global technical assistance
With respect to conducting the response, the epidemic preparedness and response committee has to be set up and strengthened and should coordinate the response. Core capacity strengthening should be built for the following functions: investigation (tools and checklist), confirmation, coordination, case management, prevention of further spread, surveillance during the outbreak to track trends and to identify new areas that are affected and continuous social mobilization (see box below). There will be a need to develop or adapt generic tools such as: Case reporting forms; Contact recording sheets; Contact tracing/follow up forms; Algorithms for mobile teams; Referral scheme for suspected cases (see annex); organization schemes for mobile teams; Patient collection flow charts; Burial flow charts and forms. In addition, proper documentation is crucial during the outbreak (process report), at the end (final report) and several months later (Post epidemic evaluation report).
Box 2: Guidelines for surveillance during outbreaks

Priorities
It is important that all cases suspected events are detected, registered and transferred to the established isolation facilities. In addition, contacts of cases need to be registered and followed up for a given period depending on the incubation period after their last contact with a case. A number of activities need to be implemented in order to have successful surveillance including.

- Detection and reporting of cases and deaths in the community
- Transport of cases to hospital
- Burial of dead persons
- Registration of cases in the community and in health facilities
- Registration of all close contacts with cases
- Follow-up of contacts after last contact both at the hospital (e.g. relatives) and in the villages where the case came from.
- Daily analysis and production of a daily epidemiological report to assist in decision making.

Detection and reporting of cases/deaths
A number of activities have to be conducted at the different levels to ensure complete detection and notification/reporting of cases.

Community Alert System
Community resource persons should be trained to recognize the symptoms and to report promptly to the local health unit as well as to mobilize and educate the community.

Health facility level
The health personnel should be trained to:
- Conduct verification
- Report cases using the most appropriate and quick communication system
- Safely handle suspected cases at health facilities and arrange for immediate transfer
- Ensure strict adherence to infection control guidelines

Mobile Teams
There may be a need to organize mobile surveillance teams composed of health workers and volunteers from organizations such as the Red Cross. Such teams can facilitate the following active search and contact tracing for both new and old cases.
The core components discussed above are summarised in the matrix presented in figure 3 below.

**Figure 3**

1. **Preparedness**
   - Setting up and orienting the EMC
   - Setting up and training the RRT
   - Developing an EPR plan
   - Stocks and logistics
   - Training/Orientation
   - Maintain Surveillance / Forecasting

2. **Alert**
   - Early Warning systems
   - Detection
   - Rumour tracing
   - Verification
   - Notification

3. **Organization of the response**
   - Human resources
   - EPR committee
   - Rapid response team
   - Financial resources
   - Stocks of drugs and equipment
   - Logistics

4. **Response**
   - Investigation
   - Confirmation
   - Coordination
   - Case management
   - Prevention of spread
   - Surveillance (epidemic trend)
   - Social mobilization
   - Other control activities
   - Process report
   - Final report
   - Post-mortem evaluation

Epidemic preparedness and response
3.2 Strengthening data management and analysis

Many countries in the different regions of the world health organisation (WHO) are presently analyzing their data periodically (i.e. weekly, monthly and quarterly) so as to track epidemics and for the early detection and timely response to the outbreaks. It is critical that a user friendly database structures are established for data storage at national and sub-national levels. However, regular data analysis is a big challenge at the sub-national level for most developing countries and generic data analysis guides developed at national level might be useful to stimulate data analysis for action at the sub-national levels.

3.3 Dissemination of data for action

Sharing of information is important and IHR 2005 should be used as the legal framework for stimulating periodic feedbacks to the different stakeholders. A major challenge for most developing countries is inadequate feedback at sub-national levels. Like for data analysis, generic feedback formats developed at national level could be adapted for use at sub-national levels.

3.4 Strengthening the Laboratory network

Laboratory strengthening will be very critical to the successful implementation of IHR 2005. A laboratory technical/advisory committee with membership from public, private, non governmental organizations and other partners could be an appropriate forum for policy guidance on laboratory. Sub-national laboratory networks that are linked to the national public health laboratory will facilitate faster specimen referral. However, standard operating procedures (SOPs) for the laboratory have to be developed to assure quality and for uniformity and standardisation.

3.5 Long term capacity strengthening

The IHR 2005 need to be introduced in the pre service training curriculum of health training institutions

3.6 Strengthening communication

In order to ensure timely reporting and dissemination of information, there will be a need to establish functional communication networks between national and sub-national
levels. These could vary from radio communication, email to more sophisticated networks depending on availability of resources.

3.7 Monitoring and evaluation

Many countries have already developed or adapted the world health organization generic indicators for tracking the progress in the implementation of integrated disease surveillance through periodic technical supervision visits. Countries need to review these in light of the requirements of IHR 2005.

Conclusion

The vision for successful implementation of IHR 2005 at national level should be to have in place a good system for Epidemic Prevention, Preparedness and Response at all levels and to have a functional system for surveillance, forecasting and early detection of epidemics and other health emergencies. The short to medium term goal should be to strengthen core capacities for effective prevention and control by strengthening communication so as to improve information flow; strengthening rumor or outbreak/epidemic detection, verification, investigation and response; improving the sharing of information through prompt notifications and regular feedback; strengthening the capacity of health workers through training and supervision; strengthening laboratory networks and initiating a system of accreditation; improving data management, data validity/quality and utilization. In order to achieve these objectives sustained funding will be needed to implement the following core interventions. Many challenges exist but progress can be made with concreted efforts from multiple stakeholders. The necessary policy and regulatory framework at national level has to be set up from the outset. Furthermore, coordination between the focal point for IHR and other technical departments of the MoH for training, supervision and M & E and tools development will be very important. Support from the Governments and the development partners is needed for the implementation of IHR 2005 and governments need to commit resources for this. There are some gains that have been made in strategies like IDSR and IHR 2005 should not reinvent the wheel but rather use these existing avenues. However, where their gaps innovative approached have to be sought such as more involvement of the communities.
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Annex 1: Algorithm for active search

- Community Alert
- Systematic Household Survey
- Contact tracing

Household Investigation: Is there a suspected case?

YES:
Alert case

- Review suspected case definition
- Suspect case(s)
  - Yes: Complete:
    - Case Report Forms
    - Contact Recording Sheets
  - No: Leave Information, education and communication material

NO:
Case contact

- Case contact
- No suspect Case

YES:
Mark Contact Tracing Form

NO:
Leave Information education and communication material

Refer case(s) to designated hospital
Annex 2: Referral system for suspected cases

Alert system
(At community level)

⇓

Peripheral health units / mobile teams

⇓

Sub –District level (depending on country)

⇓

District health office

⇓

Patient collection team