International Health Regulation

Madhavi Mankar*, Violet Pinto**

Introduction

The spread of infectious diseases from one part of the world to another is not a new phenomenon, but in recent decades a number of factors have underscored the fact that the infectious disease events in one country may be of potential concern whether through tourism or migration or as a result of disasters; growth in international trade in food; biological, social and environmental changes linked with urbanization; deforestation; alteration in climate; changes in method of food processing, distribution and consumer habits. Consequently the need for international co-operation in order to safeguard global health has become increasingly important.

WHO issued its first set of legally binding regulations in 1951; in order "to ensure the maximum security against the international spread of diseases with minimum interference with word traffic".1 At that time the disease situation was relatively stable. It was focused on six “quarantinable” diseases, cholera, plague, relapsing fever, small pox, typhus and yellow fever.

Why do we need IHR?

The number of people travelling internationally is increasing every year. According to statistics of the World Tourism Organization, international tourist arrivals in the year 2005 exceeded 800 million. In 2005, the majority (402 million) of international tourist arrivals were for the purposes of leisure, recreation and holiday (50%). Business travel accounted for some 16% (125 million) and 26% (212 million) consisted of travel for other reasons such as visiting friends and relatives, religious purposes, pilgrimages and health treatment. For the remaining 8% of arrivals, the purpose of visit was not specified.4

International travel can pose various risks to health, depending on the characteristics of both the traveller and the travel. Travellers may encounter sudden and significant changes in altitude, humidity, microbes and temperature, which can result in ill health. In addition, serious health risks may arise in areas where accommodation is of poor quality, hygiene and sanitation are inadequate, medical services are not well developed and clean water is unavailable. It is estimated that 2.1 billion airline passengers, travelled in 2006. The infectious diseases are now spreading faster by emerging more quickly, than ever before. There are now 40 diseases that were unknown a generation ago. During the last five years, WHO has verified more than 1100 epidemic events worldwide.

History of International Health Regulation (IHR)2,3

1830, 1847: Cholera epidemics in Europe were catalyst for intense infectious disease diplomacy and multi-lateral co-operation.

1851: First International Conference in Paris.

1951: WHO issued first set of legally

*B: Lecturer, Department of Community Medicine; **L: Lecturer, Department of Preventive and Social Medicine, Padamshree Dr. D.Y. Patil Medical College, Nerul.
binding international sanitary regulation.

1969: WHO adopted international sanitary regulation and renamed as international health regulation.


23rd May 2005: world health assembly adopted revised IHR

15th June 2007: came in to force revised IHR.

Why a new IHR:

- The international health regulation (1969) were intended to protect against the international spread of four diseases namely small pox, yellow fever, cholera, and plague.
- Following the eradication of small pox, requirement for international notification was reduced to the remaining three diseases.
- However, recent experience with SARS (severe acute respiratory distress syndrome) and Chernobyl disaster, have underscored the need for expanding the scope of IHR to include notification, verification and control of all diseases or
- The international health regulations (IHR) were revised in 2005 to address today’s challenges especially a public health emergency of international concern (PHEIC).

What is Public Health Emergency of International Concern (PHEIC)

Public health emergency of international concern (PHEIC) refers to an extraordinary public health an event which requires an international response.

Criteria for a PHEIC include:
1. the geographic setting
2. time
3. size of outbreak
4. proximity to an international border or airport
5. speed of spread and mode of transmission, amongst other factors.

Objectives of Revised IHR:

1. To ensure the appropriate application of routine preventive measures (e.g. at ports and air ports) and the use by all countries of internationally approved documents (e.g. Vaccination certificate).
2. To ensure the notification to WHO of all events that may constitute a public health emergency of international concern.
3. The implementation of any temporary recommendations should the WHO Director General have determined that such an emergency is occurring.
4. In addition to above, the revised IHR focus on the provision of support for affected states and the avoidance of stigma and unnecessary negative impact on international travel and trade.

Scope of Revised IHR 2005

Initially IHR was focused on six “quarantinable” diseases cholera, plague, relapsing fever, small pox, typhus and yellow fever. The IHR 2005 expands the focus of collective defense from just a few quarantinable diseases to include any emergency with international repercussions for health including outbreaks of emerging and epidemic prone disease outbreaks of food borne disease, natural disasters and chemical or radio-nuclear events whether accidental or caused deliberately.

The goal of the revised IHR is to prevent the international spread of emerging infection such as severe acute respiratory distress syndrome (SARS), a pandemic of human influenza, as well as other public health
Decision Instrument for the Assessment and notification of events that may constitute a Public Health Emergency of International Concern

1. Is the public health impact of the event serious?
2. Is the event unusual or unexpected?
3. Is there a significant risk of international spread?
4. Is there a significant risk of international travel or trade restriction?

EVENT SHALL BE NOTIFIED TO WHO UNDER THE INTERNATIONAL HEALTH REGULATION

emergencies such as chemical and industrial accidents that may affect population across the borders.

The IHR (2005) are broader in scope and require each country to report to the WHO any public health emergency of international concern (PHEIC), whether nuclear, biological or chemical in nature, irrespective of the origin. In addition to its new modification and reporting requirements, the IHR 2005 focus...
on the provision of support for affected states and the avoidance of stigma and unnecessary negative impacts on international travel and trade. In contrast to the IHR (1969), which were restricted to the passive reporting of information by governmental authorities, the IHR (2005) are proactive and include provision that empower WHO to initiate an assessment and response based not only on government reports but also other relevant information and reports by the media and non-governmental Organization (NGOs).

Diseases reportable under the IHR 2005

In the recent past population growth, incursion in to previously uninhabited areas, rapid urbanization, intensive farming practices, environmental degradation and the misuse of antimicrobials have disrupted the equilibrium of the microbial world. New diseases are emerging at the historically unprecedented rate of one per year.

The categories are as follows:

1. **Epidemic prone diseases**
   - Cholera, yellow fever, meningococcal disease, SARS, avian influenza, ebola, marburg haemorrhagic fever, nipah virus infection, drug resistant diarrhoeal diseases, hospital acquired infections, malaria, meningitis, respiratory tract infections and sexually transmitted infections and HIV infections.

2. **Food borne diseases**
   - Microbial contamination chemicals and toxins. The emergence of new food borne diseases i.e. new variant of Creutzfeldt Jakob disease (vCJD) associated with bovine spongiform encephalopathy (BSE).

3. **Accidental and deliberate outbreaks**
   - Breaches in biosafety measures are often responsible for outbreaks associated with the accidental release of infectious agents for example anthrax in USA in 2001.

4. **Toxic chemical accidents**
   - Dumping of 500 tons of petrochemical waste in at least 15 sites led to the deaths of 8 people, and 90000 were seeking medical help in West Africa in the year 2006.

5. **Radio nuclear Accidents**
   - Chernobyl disaster in 1986 resulted in the evacuation and resettlement of over 3,36,000 people.

6. **Environmental disasters**
   - Heatwave in Europe 2003, the lives of 35,000 persons were linked to extremes in weather.
   - Bhopal gas tragedy in December 1984

**Member States Obligation to the new IHR**

Once the regulations come into force, Member States are required to

- Designate a national IHR focal point.
- Strengthen core capacity to detect report and respond rapidly to public health events.
- Assess events occurring in their territory and to notify WHO, within 24 hours, of all events that may constitute a public health emergency of international concern (PHEIC).
- Provide routine inspection and control activities at international airport, seaports and some ground crossings.
- Build a legal and administrative framework in line with IHR (2005) requirements.

Member countries are required to complete the assessment of existing national structures and resources by June 2009, and
develop the necessary public health infrastructure and human resources to meet the IHR requirements by 2012. Concerned about the public health risk from human cases of avian influenza, several countries including India volunteered to implement in advance some provisions of the IHR (2005).†

Benefits to member states
- Being a partner in the international effort to maintain global health security.
- Core capacities will be strengthened to report and respond to public health risks and a PHEIC in the country.
- Clear guidelines on outbreak verification process, technical; and logistical support will be provided by WHO upon request in the case of a PHEIC.
- Be eligible for support from global outbreak alert and response network (GOARN).
- WHO emphasizes an amicable settlement of differences through, negotiation, mediation, conciliation and arbitration. Disputes may also be settled by referral to the WHO Director General.

Vaccine for Travellers
Vaccines for travellers include: 1) those that are used routinely, particularly but not only in children; 2) others that may be advised before travel to disease endemic countries; 3) those that in some situation, are mandatory.

Progress in implementation of the IHR (2005) in India
IHR requirements are being actively implemented in India. The Government of India has designated the National Institute of Communicable Diseases (NICD) as the national focal point for IHR; state level and district level focal points are being identified. Strengthening national surveillance system

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*these vaccines are currently being introduced in some countries. †routine for certain age groups and risk factors, selective for general travellers. "no longer routine in most industrialized countries.
*these vaccines are also included in the routine immunization programme in several countries.

is at the heart of IHR (2005). The Government of India has allocated Rs 4.08 billion (Rs 408 crores) over 5 years for the integrated disease surveillance project (IDSP) to build infrastructural and human capacity at the district and state levels. Under this project, nearly 20,000 medical officers, 1,15,000 health workers and more than 4,000 laboratory technicians have been trained so far in procedures for rapid detection and response to disease outbreaks in 22 states.© Accredited social health activists (ASHAs) in national rural health mission (NRHM) can also play an important role in reporting unusual events.
to the local authorities. To facilitate rapid communication from the district onwards, districts are being connected electronically, through satellite and the terrestrial network for transmission of surveillance data, videoconferencing and distant learning.

**Regional Challenges and opportunities for IHR Implementation**

- Identify and develop core capacities to recognize and report new diseases or events at primary health care level.
- Capacity to confirm the diagnosis and institute appropriate control measures at the subsequent levels.
- Member states must have a functional early warning system in place combined with diagnostic, prevention and control facilities especially in:
  - hospitals; and
  - point of entry
  - Where core capacities are weak and need strengthening, WHO will provide technical support.

**Indian scenario for implementation of IHR (2005)**

While implementation of the IHR (2005) is being systematically planned, several challenges are anticipated in its operationalization in a country as large and diverse in India. Following are the pre-requisites for successful implementation of IHR 2005.

1. A strong public health infrastructure.
2. Participation of all governmental organization and NGOs.
3. Full participation and commitment from every health professionals like public, private sectors, or from civil society or the media.
4. Timely reporting and responding to public health emergencies.
5. Close collaboration between the veterinary and human health sectors as many emerging diseases are zoonotic in origin.

In India, as health is a subject of state government, local, district and state government should have to be fully involved and committed in operationalizing IHR 2005. Huge financial resources for implementation of IHR 2005 and sharing information in a timely manner by local public health authorities to higher authorities are big challenges ahead for implementation of revised IHR, but to face this challenge our government should enhance investment in public health sector.

**Conclusion**

A recent experience shows that addressing public health threats at their source is the most effective way to reduce their potential to spread internationally. A combination of strategies based on specific circumstances will have to be developed for each country. IHR 2005 is a big milestone in the history of public health. Health Minister Anbumani Ramdoss on 6th June 2007 said India will not face any problem in implementing International Health Regulation to provide public health security. In India, the revised international health regulation (IHR 2005) was implemented on 15th June 2007. IHR 2005 provides big challenges to come in to reality but its opportunities like strengthening public health infrastructure, public private partnership. Integrated disease surveillance Project (IDSP) for capacity building and electronic, satellite and terrestrial networking would be boon for public health system in India in near future.

**References**

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**Low Framingham Risk Score Despite High Prevalence of Metabolic Syndrome in Asymptomatic North-Indian Population**

Conflicting data exists regarding relationship between the Framingham risk score (FRS) and presence of metabolic syndrome (MS). Strong influence of age on FRS may further modify this relationship as prevalence of MS at younger age increases in South-Asian countries including India. However, only limited information is available about the prevalence of MS and its relationship with FRS in such populations at present.

In conclusion, the present study demonstrates high prevalence of MS at a younger age in asymptomatic North-Indian office-executives. Since the majority of these subjects had low CV risk according to FRS despite high prevalence of MS, it is possible that the sole reliance on FRS may result in inappropriate underestimation of longterm CV risk in these subjects.

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