

# Global Public Health and Information Technologies:

## How Infectious Disease Reporting Systems are Redrafting Our Sense of Nationhood

February 2008

ACTION for Health

Document Status:

- |  |  |
|--|--|
| <input type="checkbox"/> Published Paper         | <input type="checkbox"/> Practitioner's Pointers |
| <input type="checkbox"/> Working Paper           | <input type="checkbox"/> Briefing Note           |
| <input type="checkbox"/> Report                  | <input type="checkbox"/> Research Tool           |
| <input type="checkbox"/> Draft                   | <input type="checkbox"/> Overview                |
| <input checked="" type="checkbox"/> Presentation | <input type="checkbox"/> Other                   |

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# Global Public Health and Information Technologies:

How Infectious Disease Reporting Systems are Redrafting  
Our Sense of Nationhood

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## • Infectious Disease Surveillance Systems

- ❑ Defined as “the ongoing systematic collection, analysis, and interpretation of outcome-specific data for use in the planning, implementation, and evaluation of public health practice”
- ❑ **Global Outbreak and Response Network (GOARN)**
  - ❑ Developed by the World Health Organization (WHO)
  - ❑ Detects and responds to about 50 outbreaks/yr
  - ❑ Collects reports of outbreaks, verifies outbreaks, communicates results to public health bodies, coordinates assistance



# • Infectious Disease Surveillance Systems

## □ Global Public Health Information Network (GPHIN)

- Developed by Health Canada
- Automated search engine continuously monitors:
  - Websites, News wires, Local on-line newspapers, Public health email services (ProMed-Mail), Electronic discussion groups
- GPHIN notifies WHO (and other public health agencies) of possible outbreak
- In 2004, 40% of WHO's early outbreak notification came from GPHIN
- GPHIN officials in Ottawa were the first to notice reports coming out of China (SARS)



# International Health Regulations

Subject	Current IHR(1969)
Mission	Maximum security against international spread of infectious diseases, with minimum interference with world traffic
Types of illness covered	Yellow fever, plague, cholera
Surveillance	Nation reports
National public health systems	Limited hygiene measures on international carriers and at borders
Governance	Not transparent

## Problems with IHR(1969)

- ❑ Nations did not report disease outbreaks
  - ❑ Fear of economic repercussions
- ❑ Unaffected states imposed sanctions far in excess of those permitted under IHR
- ❑ IHR lacked specific risk reduction measures to prevent spread of disease across borders
- ❑ Many poor countries lack health and communications infrastructure to comply with IHR

# International Health Regulations

Subject	Current IHR(1969)	Revised IHR(2005)
<b>Mission</b>	Maximum security against international spread of infectious diseases, with minimum interference with world traffic	Security against international spread of infectious diseases, avoiding unnecessary interference with international traffic
<b>Types of illness covered</b>	Yellow fever, plague, cholera	Any "public health emergency of international concern including biological chemical, radiological
<b>Surveillance</b>	Nation reports	Surveillance through nation notification, unofficial sources and real-time events management
<b>National public health systems</b>	Limited hygiene measures on international carriers and at borders	Recommended health measures and national core capacities for surveillance and response
<b>Governance</b>	Not transparent	Verification of data, communication with countries, and public availability of reported data

Table adapted from:

L.O. Gostin, "International Infectious Disease Law: Revisions of the World Health Organization's International Health Regulations"

*JAMA* 2004; 291: 2623-2627



# ❖ Economic Consequences of Reporting Outbreaks

## ❑ 2004 -- Outbreak of the plague in Surat, India

- ❑ 52 deaths in total (US had 14 cases and Viet Nam had more than India – no sanctions)
- ❑ Before plague was confirmed, Bangladesh closed borders
- ❑ Travel advisories issued by countries advising citizens not to go to India
- ❑ Citizens of India put in quarantine or returned to country
- ❑ Economic loss from trade and travel restrictions \$2 Billion USD

## ❑ 1991-1995 – Outbreak of Cholera in Peru

- ❑ 9,642 deaths in total (0.9% fatality rate)
- ❑ Many countries (including EU) banned perishables, fish though little evidence that this is a means of transmission
- ❑ Travel and trade restrictions
- ❑ Economic loss was \$770 Million USD



## SARS Crisis



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- ❑ Occurred while IHR(1969) in effect
- ❑ Affected nations had no legal obligation to report SARS to WHO
- ❑ WHO exceeded legal authority
  - ❑ Acted on information from non-governmental source
  - ❑ Issued travel advisories
- ❑ High degree of compliance with WHO's management of crisis (i.e., nations did not stand on their sovereign rights)

## • SARS Crisis



[D]uring the SARS outbreak of 2003, all affected member states, with the exception of China, openly reported outbreaks and cooperated with WHO despite having no legal obligation to do so. This remarkable situation signified that a fundamental change had take place in global public health governance—the shift in the political, economic, and technological climate had brought about new ways of thinking for public health

(The Lancet)





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