

Implications of Life Sciences R&D for Global Health Security

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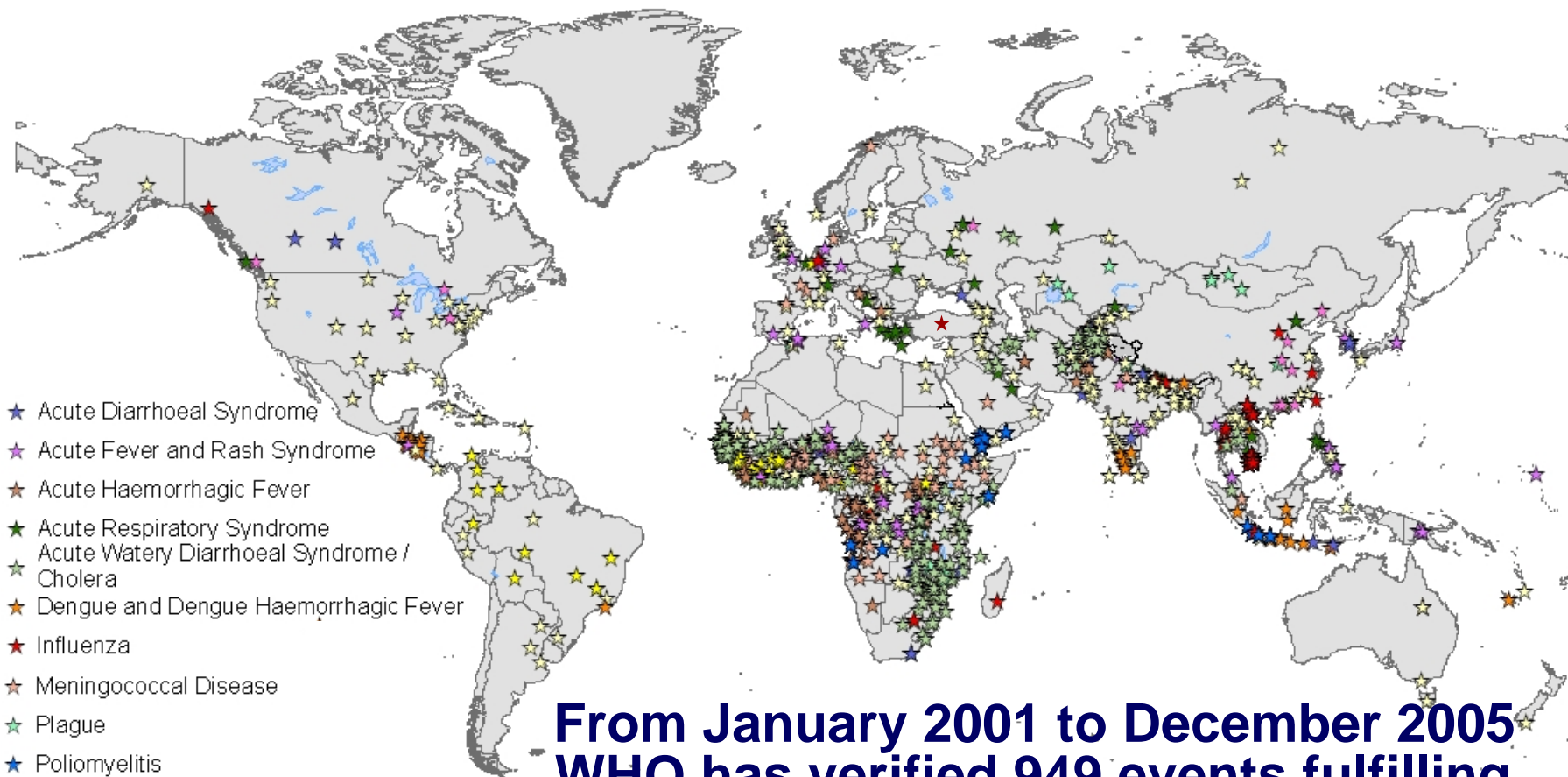


WHO's Public Health Mandate

- **WHO Constitution of 1948**
- **International Health Regulations (2005)**
 - “*public health emergency of international concern*”
- **World Health Assembly resolution 55.16 (2002)**
 - “Global public health response to natural occurrence, accidental release or deliberate use of biological and chemical agents or radionuclear material that affect health”
- **World Health Assembly resolution 58.29 (2005)**
 - “Enhancement of laboratory biosafety”



Actions taken on Events



**From January 2001 to December 2005
WHO has verified 949 events fulfilling
the criteria of *Public Health Emergency
of International Concern***

Data Source: WHO
Map Production:
Public Health Mapping and GIS
Communicable Diseases
World Health Organization
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The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.



Bio-Risks from laboratory accidents

- **SARS, Singapore, 2003**
- **SARS, Taiwan, 2003**
- **SARS, China, 2004**
- **Tularaemia, USA, 2004**
- **Ebola, Russian Federation, 2004**



Bio-Risks from deliberate use

- *Low probability, high consequence*
- *New technology* (biotechnology and genetic engineering)
- The *Biological Weapons Convention* has provisions for assistance in case of attack or threat of attack, but there are no organization/capacities



Bio-Risk Reduction



Bio-Risk Reduction



Outbreak alert and response operations



**Epidemic
Intelligence**



**Epidemiological
Verification**

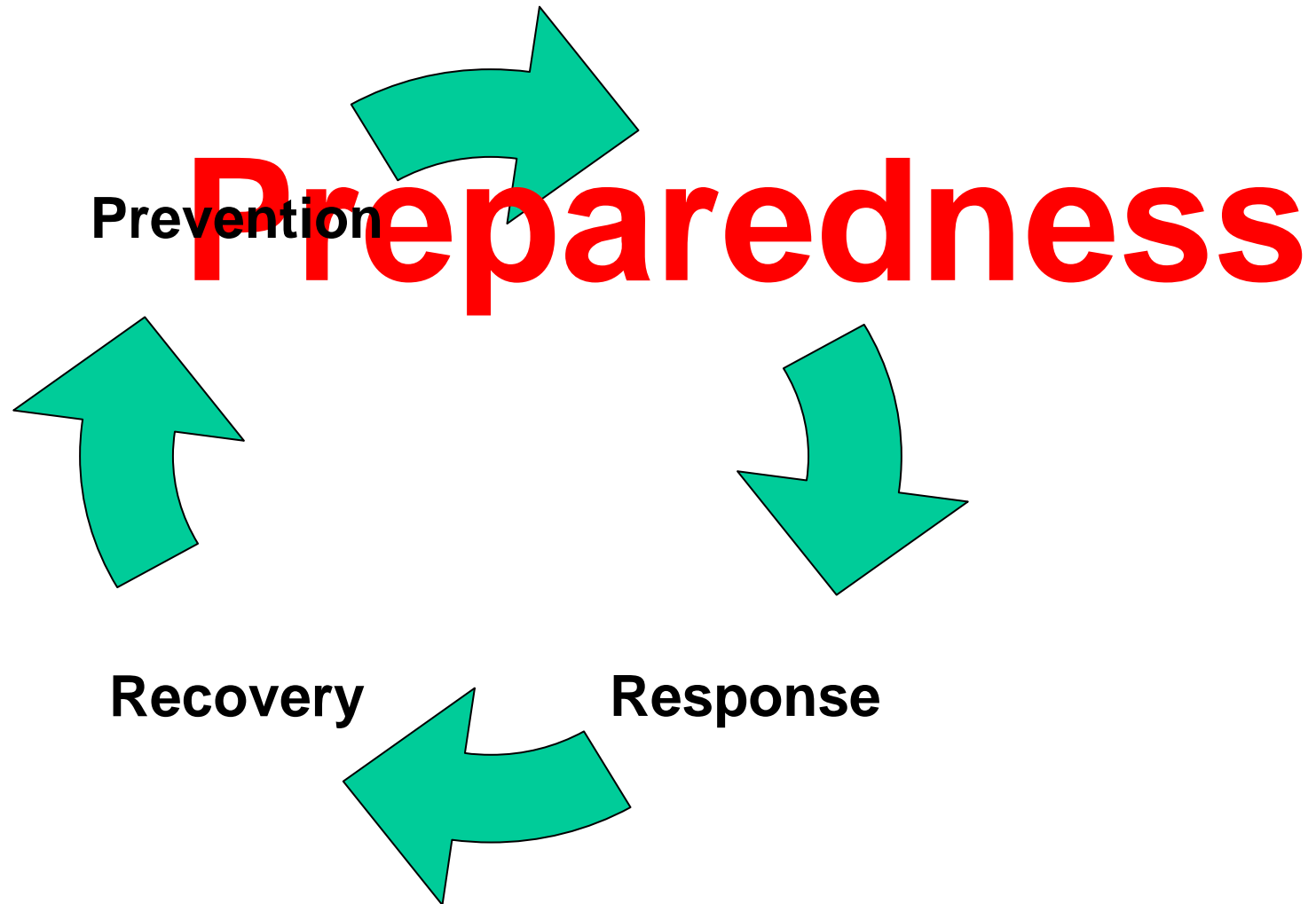


**Public Health
Response**

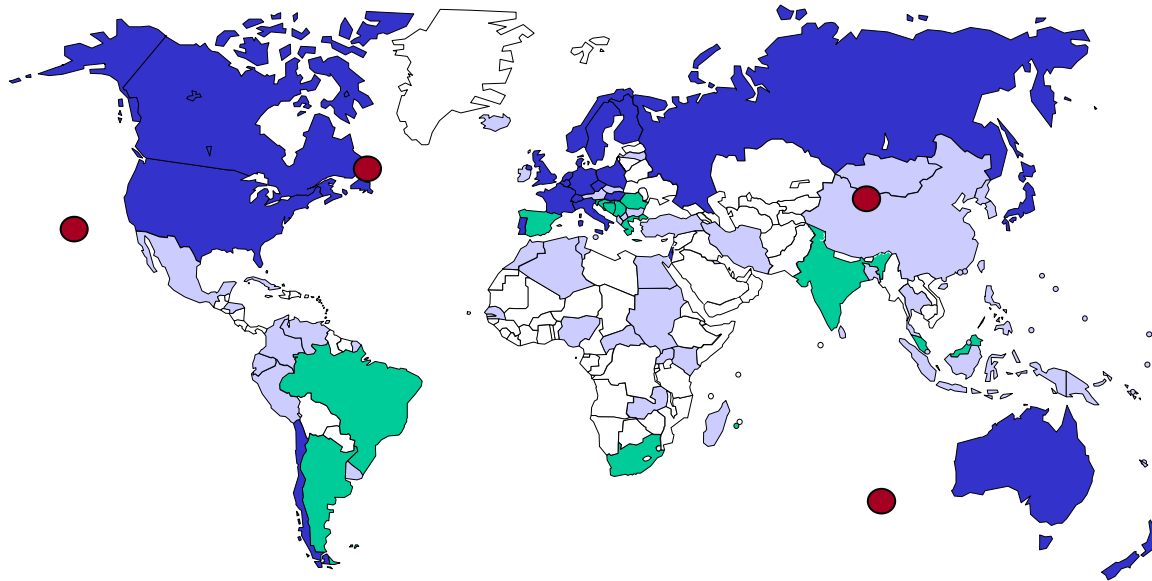





Follow-up

Bio-Risk Reduction



WHO Global Surveillance System for Human Influenza



-  1 laboratory
-  >1 laboratory
-  national network

Annual output

- ~175 000–220 000 samples
- 15 000–40 000 isolates
- 2 000–10 000 viruses characterized

WHO guidance for public health preparedness

- ***Health aspects of chemical and biological weapons. Report of a WHO group of consultants (1970)***
- ***Public health response to biological and chemical weapons: WHO guidance (2004)***
- ***Managing the health risks of the deliberate use of biological and chemical agents or radioactive material: guidance on capacity assessment (being finalized)***



Managing risks to public health posed by the deliberate use of biological agents



WHO Biosafety Programme

- *Laboratory Biosafety Manual, 3rd Edition (2004)*
- *Laboratory Biosecurity Guidelines (being finalized)*
- **Coordination of global Biosafety networks**
 - WHO Biosafety Advisory Group (BAG)
- **UN Model Regulations**
 - Transport of infectious substances
- **Visits to the smallpox repositories laboratories**



The implications of life science R&D for global health security

The Objective is to raise awareness

1. Importance of health research
2. Risks posed by misuse of valuable research and materials

The implications of life science R&D for global health security

Phase 1 (completed):

- background paper (available on the web)
- international network of individuals and institutions

The implications of life science R&D for global health security

Phase 2 (being started): milestones

- Study Group
- Web platform for project feedback
 - *Your view/advice is welcomed!*
- Regional Workshops
- Project report(s)

The need for a global partnership

- Global Outbreak Alert and Response Network
- More than 100 CBW experts from all WHO regions which have contributed to the 2nd edition of the *Public health response to biological and chemical weapons: WHO guidance*
- Informal network of individuals with expertise on CBW-related issues
- Biosafety Advisory Group (BAG)
- Disease specific laboratory and expert networks (anthrax, tularaemia, smallpox)
- Other International Organizations, e.g. FAO, IAEA, ICGEB, OIE, OPCW, UN, UNICRI, etc.
- *Last, but not least, we are grateful for the support of Sloan Foundation, Nuclear Threat Initiative (NTI) and Australian, Canadian, Italian, Swiss and US Governments, and others*

