The Biosafety and Laboratory Biosecurity programme at the World Health Organization

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Biosafety is not new

New is the way people look at biosafety.
**Laboratory biosafety** describes containment principles, technologies and practices implemented to **prevent unintentional exposure** to pathogens and toxins, or their accidental release.


'Protect people from pathogens'

**Prevention of accidental or 'deliberate' release from labs**

**Laboratory biosecurity** describes the protection, control and accountability for valuable biological materials (VBM) within laboratories, in order to **prevent** their unauthorized access, loss, theft, misuse, diversion or intentional release.


'Protect pathogens from people'
A sad trigger for safety awareness: Laboratory Acquired Infections (LAIs): the risk of sparking an epidemic...

The SARS outbreak was over, the Region was coming out of a huge economic crisis

The viruses were still available in laboratories...

**SARS**
- Singapore, 2003
- Taipei, 2003
- Beijing, 2004

It should not have happened, even in these extraordinary circumstances and it must not happen again

Hilary Benn
Environment Secretary

Strengthen BIOSAFETY!
Reduce RISKS of infection!
WHO’s public health mandate for biosafety and laboratory biosecurity

• WHO Constitution of 1948
  – "Attainment by all people of highest possible levels of health"

• 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"

• International Health Regulations, resolution 58.3 (2005)
  – "Prevention and control of the international spread of disease and public health risks"

• World Health Assembly resolution 58.29 (2005)
  – "Enhancement of laboratory biosafety"
International Health Regulations – IHR (2005)

• Legally binding for all 193 WHO Member States, international law

• Purpose:
"prevent, protect against, control and provide a public health response to the international spread of disease"

• Requires countries to develop minimum core national and international surveillance and reporting capacities

May 2005

Laboratory support to outbreak response – key messages

- **Laboratory services** are essential to identify and confirm the causes of outbreaks.

Optimal working conditions include:
- communication
- specimen collection and transport
- financial resources
- biorisk management
- trained staff
- suitable infrastructure
- functioning equipment
- appropriate reagents
- reliable results

**WHA 2006: immediate and voluntary compliance with IHR (2005):**
- WHO is requested to "expand and accelerate training efforts in the areas of laboratory capacity, including regional networking of laboratories, biosafety, and quality control..."
Enhancement of laboratory biosafety

May 2005

**Member States** to:
- review safety of labs, follow WHO guidance
- implement safety progs, follow WHO guidance
- enhance compliance with bs guidelines
- mobilize human and financial resources
- cooperate with other MS to facilitate access to PPE
- encourage dev of bs training progs and competency stds

**WHO** to:
- play an active role
- support other programmes and partners
- update relevant guidelines
- report to EB
Biosafety and Laboratory Biosecurity

CWA 15793:2008
Laboratory Biorisk Management Standard
16 points action plan

WHO publications

Implementation
Five years later: Where are we now?

Enhancement of laboratory biosafety

May 2005

Through engagement, communication, meetings, workshops, consultations, coordination of global efforts by various stakeholders:

2010:

1. development / revision of legislation (e.g. Singapore / China / Canada)
2. construction / renovation of laboratories (e.g. Brazil: 12 new BSL3)
3. growing commitment to implement BRM systems (CWA15793)
4. role of laboratory managers for biosafety: shift in responsibilities
5. need for education and competency based training
How do biosafety and laboratory biosecurity translate into practice?
Strengthening biosafety and lab biosecurity programmes: 'CWA 15793: Laboratory Biorisk Management Standard'

Scope of CWA 15793:
To set requirements necessary to control risks associated with the handling or storage and disposal of biological agents and toxins in laboratories and facilities.
WHO's contributions to global biosafety, 2010

- **Regional Biosafety Awareness Raising Meetings**
  for animal health and public health communities 3 days
  identify needs; develop regional action plan for follow up

- **Strengthen biosafety interface between animal and human health (OIE/FAO/WHO)**
  strengthen collaboration as biosafety is of mutual concern

- **CWA 15793 Laboratory Biorisk Management Awareness Training** 2 days
  help countries adopt and implement the standard

- **WHO Biorisk Management Advanced Trainer Programme** 10 days
  combine technical knowledge and techniques to change behaviours
WHO's contributions to global biosafety, 2010 (cont'd)

• **WHO Infectious Substances Shipping Training** 2 days (developed in collaboration with ICAO and IATA)
  Help develop the regulations, support their compliance

• **Biosafety training for disease-specific programmes** 5 days
  Provide hands-on BSL3 training

• **CEN CWA 53 Biosafety Professional Competence** ongoing
  Education: introduce biosafety into undergraduate curriculum

• **CEN CWA 55 Guidance document to CWA 15793** ongoing
  Guide laboratories to the implementation of the standard

• **Extended WHO Biosafety Advisory Group (BAG) meeting** 3 days
  '193 ways to implement biosafety' …
There are many players, many initiatives, many projects and outreach activities, worldwide

Time is right for global coordination of efforts

WHO's 5-year strategic collaborative plan:

Presented early Sept 2010 to:

- WHO Regional Offices, WHO biosafety CCs, OIE, FAO, International Biosafety Associations, partners, donor agencies

Covers:

- Look at the past: what has been the impact of our initiatives
- Construct the future: ……. 
2011-2015: a five-year strategic plan

'193 ways to implement biosafety' (cont'd)

Outcomes:

- **4 areas of work:**
  - Promote development of regulatory frameworks
  - Develop evidence based information platforms
  - Enhanced sustainable competencies in bs/bsec
  - Appropriate facilities for appropriate activities

- **Develop global/regional approaches**
  - Address identified priorities, gaps and needs

- **Identify global/regional/local support**
  - Engage partners and donors, commit to support WHO
  - Assign clear roles and responsibilities to partners,
    - Limit duplication of efforts, connect projects and activities

- **Develop timeline, monitor and show progress**

- **Identify areas where investment (human and financial) can have most impact**

Contribute to the development of a global 'biosafety culture'
Thank you

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