At a glance: Biosecurity and young scientists at work

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Philippines:

- 7,641 islands
- 3 major island groups: Luzon, Visayas, Mindanao
- 18 regions
- Capital city: Manila
- Total population (2017): ~105 million
Anthrax 2017
Chikungunya 2016
Zika 2017
Henipavirus 2014

New Castle Disease 2017
Norovirus 2017

TB
HIV
Dengue
Neglected tropical diseases
National Institutes of Health UP Manila

- NIH was established as a national health research center by the Philippine Government during the term of President Fidel V. Ramos. The creation was made through the "Health Research and Development Act of 1998" (Republic Act 8503) on 13 February 1998
- 14 institutes (3 of which are centers)
National Institutes of Health UP Manila

Institute of Molecular Biology and Biotechnology

- Dengue
- HIV
- Hepatitis B
- Hepatitis C
- Japanese Encephalitis
- Chikungunya
- Zika
- Clostridium difficile
- Swine Enteric viruses
The creation of the National Training Center for Biosafety and Biosecurity (NTCBB) under the National Institutes of Health was approved by the UP Board of Regents on February 22, 2018. National Biosafety Framework that covers aspects of both biosafety and biosecurity.
National Training Center for Biosafety and Biosecurity

Flagship Programs

• Advanced Biorisk Officers Training and Certification Program
• Curriculum Integration and eLearning Programs
• Short skill-set training
• International Fellowship Program
• Biological Safety Cabinet Evaluation and Certification Program
National Training Center for Biosafety and Biosecurity

Development of the National Framework for Biosafety and Biosecurity
Methodology

• Policy analysis
• Consultative conference
• Engagement with policy-making bodies (ongoing)
• Drafting of legal instruments, statutes as needed
Policy analysis: retrieved documents

- Laws and Policies database and websites searched

- Documents retrieved
  - 22 Administrative Orders
  - 6 Republic Acts
  - 7 guidelines
  - 2 Department Circulars
  - 2 Executive Orders
  - 1 manual
  - 1 UN Resolution
Policy analysis: entities covered

Animal facilities
- Animal facilities
- Veterinary clinics and hospitals
- Veterinary diagnostic laboratories
- Veterinary drugs, products, biologics, medicinal preparation and their establishments and outlets
- Animals

Indigenous, exotic, and genetically modified arthropods

Non-indigenous or exotic organisms

GMOs
- GMO plant and plant products

Foreign rendering plants
- Tissue culture laboratories
- Human stem cell and cell-based or cellular therapy facility

Inspection, testing and certifying bodies, and other bodies offering conformity assessment services
- Clinical laboratory
- HIV testing laboratory
- Specimens for confirmation testing of HFMD
- Specimens for EVD testing
- Specimens for Leptospira spp
- Specimens for MERS-COV and novel influenza viruses
- Specimens for TB testing
- All health products
- Medical devices

Disease outbreaks
- Quarantine
- Weapons

Animal science
- Laboratories

Entomology, plant science

Biotechnology

Security
Policy analysis: framework

Nine categories for developing sustainable capacity in biosafety and biosecurity in low-resource countries.
(Heckert et al., 2011)

<table>
<thead>
<tr>
<th>Regulatory framework, guidelines/standards</th>
<th>Equipment, reagents, and services</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosafety awareness</td>
<td>Management processes and administrative controls</td>
<td>Biosafety associations, professional competency, and credentialing</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Biosafety curricula</td>
<td>Individual mentoring and organizational twinning</td>
</tr>
</tbody>
</table>
Policy analysis: results

Regulatory framework, guidelines/standards
- 17/27 entities are guided by a framework or follow standards
- Framework/standards are determined by a government agency, committee, or follow international guidelines

Biosafety awareness
- Only 3/27 entities are provided with biosafety awareness guidelines (Biosafety policies, measures, and guidelines; disease outbreaks)

Infrastructure
- 17/27 entities follow infrastructure guidelines
- Level of detail varies between entities
**Policy analysis: results**

1. **Equipment, reagents, and services**
   - 17/27 are provided with guidelines for equipment, reagents, and services
   - Includes minimum required for license to operate, preventive maintenance, contingency plans, and funding

2. **Management processes and administrative controls**
   - 20/27 entities are provided with governance mechanisms
   - A government agency or a committee created through an issuance oversees the implementation of the framework/standard

3. **Biosafety curricula**
   - No mandates found in initial analysis
Policy analysis: results

Training
- Only 8/27 follow training guidelines
- Includes capacity-building, continuing education, and specific skill requirements for staff

Biosafety associations, professional competency, and credentialing
- No mandates found in initial analysis

Individual mentoring and organizational twinning
- No mandates found in initial analysis
Consultative Conference

• 16-18 April 2018, attended by graduates of the Advanced Biorisk Officers Training Program and key partners

• Coincided with NTCBB launch
Consultative Conference: results

- Stakeholder identification

Professionals and Facilities
- PRC
- CHED
- DepEd
- UP NIH (and NTCBB)
- DOLE, CSC
- DOST
- DA

Accreditation
- Hospital/laboratory owners
- UP NIH (and NTCBB)
- DOLE, CSC
- DOST
- DA

Law enforcement
- NDRRMC
- Intelligence agencies
- DPC

Transport
- DOTr
- BID
- BOC
- DEA

Event response
- DILG
- Law enforcement agencies
- NDRRMC

Funding and investment
- NEDA
- DBM
- DOF agencies

LGUs
- DILG
- NDRRMC

Private Hospital Associations
- DOLE, CSC
Consultative Conference: results

- Policy outcome prioritization exercise (top 3)
  - Capacitating existing facilities to comply with proposed policies
  - Professionalization of biosafety officers/creation of plantilla
  - Enhancing the quality/outputs of laboratories
Ways forward

- Expectations: quality improvement, capacity-building of facilities, professionalization ↔ engagement with policy makers
- Success factors

Consistent and coherent policy that enforces biosafety, biosecurity and biorisk management

Regulation of facilities

Inclusion of funding for related activities in the national budget

Engagement of stakeholders
References


References


• Noun Project Creators of icons used: Ted Grajeda, Gregor Cresnar, sobinsergey, priyanka, Richard Slater, Royyan Razka, Michael Mellon, Martin Baudin, Gan Khoon Lay, Saeful Muslim, Souvik Bhattacharjee, Tomas Knopp, Becris, Aldric Rodriguez, rflor
Thank you.