Dr. Edith Sangalang Tria, FPSP
Chairperson, Technical Working Group, Ministry of Health, Chairperson, National Lab. Biosafety & Biosecurity Program/ Institutional Biosafety Committee, SLH
Head, Laboratory Dept, SLH-National Infectious Disease Center of MOH
Associate Professor, University Perpetual College of Medicine
EXCO Board Member, Asia Pacific Biosafety Association Inc.
Board of Governors, Philippine Society of Pathologists
Awardee, Biosafety Hero 2012, by International Federation Biosafety Association
Founding President, Philippine Biosafety & Biosecurity Association
Goal: To ensure a safe and secure environment by adhering to international standards in the handling, use, storage and transport of pathogens

Scope: All clinical laboratories, government or private, which handle, processes, uses, store and transport select agents, pathogens and toxins. (exemptions: pharmaceutical and industrial lab, and research labs)

Part I: Biosafety Standards and Guidelines
Part II: Biosecurity Standards and Guidelines
Introduction/ Background:
The Philippine Biosafety & Biosecurity Association (PhBBA)

**TIMELINE**

**May 2005:** (SLH & RITM, BAI) Philippines delegates attended WHO funded Biosafety Enhancement WS Singapore, training cascaded down to Philippine 120 delegates by BEP Sandia-DOH NCHFD

**April 2006:** National Lab Biosafety and Biosecurity Task Force to develop NLBBP (Administrative Policy, Manual of Standards and Guidelines)

**Task Working Group** members of Lab Biosafety Task Force of the Dept. of Health, in our preparation of Manual of Standards on the National Laboratory Biosafety and Biosecurity

**November 2008:** Birth of the PhBBA, Inc.

**Present:** PHBBA plays a major role to harmonize the needs and requirement of the concerned stakeholders regarding Biosafety / Biosecurity discipline

**Current Membership:** >800 Nationwide (with 5 local chapters)
**Majority:** >70% academes/students
Biosafety Associations

- Network of individuals with interests in biosafety
  - Promote biosafety
  - Share biosafety knowledge
  - Develop and exchange resources and guidance material
  - Training and workshops
Disaster Risk Management in Biorisk Spectrum: Philippine Experience
BEP- PhBBA ADVOCACY SYMPOSIA conducted nationwide 2010-2012 Biosafety and Biosecurity: Highlights:

- Currents issues, radical situationers on biothreat
- Action planning
  - a. re-echo what they will learn and
  - b. will enhanced the culture of biosafety and biosecurity in their institution,
  - c. developed a framework on Biosafety and Biosecurity Action Plan
  - d. work to establish Biosafety Committee/Program in their offices.
- Response and biopreparedness
- Network- future collaboration towards Building local and National Partnerships for Biosafety and Biosecurity.
Entails a close collaboration between health & defense sectors, which is slow work in progress;
Total # Participants = 1200
Zamboanga, CDO, Davao, Cebu, Palawan, Baguio, Manila, General Santos, Cotabato City, : 9 regions nationwide

<table>
<thead>
<tr>
<th>Health/Medical /Allied</th>
<th>Others Government</th>
<th>Defense/ Security Sectors</th>
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<tbody>
<tr>
<td>• health workers, students, teachers,</td>
<td>• Department of Agriculture (DA), the Department of Environment and Natural Resources (DENR), the Department of Health (DOH), the Local Government Units (LGUs), Fire Dept</td>
<td>• defense sectors (police, military, coastguards),</td>
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<tr>
<td>• scientists, researchers</td>
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<td>• and other professional societies.</td>
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<tr>
<td>• Pharmaceuticals</td>
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<td>• Others concerned</td>
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<tr>
<td>• Diagnostics</td>
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<td>• stakeholders</td>
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<tr>
<td>• Industrial Companies</td>
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Outcome: Initiate Building Partnerships on Biosafety & Biosecurity in the Philippines (need follow thru) activities
Table-top exercise for pandemic preparedness

ASEAN Regional Forum Cross-Sectoral Security Cooperation on Bio-Preparedness and Disaster Response
April-June 2014
Manila, Philippines

Outcome: Template towards National Biopreparedness and Disaster Response for members countries in ASEAN
**BEP ADVANCED BIORISK OFFICER TRAINING (ABOT) – PILOT CERTIFICATE PROGRAM IN THE PHILIPPINES**

<table>
<thead>
<tr>
<th>One-year staggered program build human capacity in best practices of laboratory biorisk management</th>
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<tbody>
<tr>
<td>1st batch (Jan – Dec. 2012)</td>
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<td>2nd batch July 2013 – June 2014</td>
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<td>3rd batch 2015 and 4th batch 2016</td>
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| 20 candidates are being trained to become institutional Biorisk Officers (BSO) at key bioscience institutions in the Philippines |

| Training of a cadre of biorisk professionals to serve as a resource of the Philippines Biosafety & Biosecurity Association (PhBBA) for the country and the region |

**Outcome:** 60 -80 ABOT - Biosafety Experts in the country
A joint project of several Philippine government agencies, thru the Office of the President-Office of Special Envoy & Transnational Crime

The Department of Health as one of the major stakeholders, and representative from PhBBA

The participants and resource persons of the Curriculum Development for WMDs: Commodity Identification Training
Weapons of Mass Destruction: Commodity Identification Training (WMD-CIT)

- **Focused on:**
  - Curriculum Development for Commodity Identification Training (CIT)
  - Pilot Training Courses for police, army, airforce, coast guards /navy, Customs forces
  - Aimed at equipping staff in knowledge on identifying commodities that can be used as materials or sources of WMDs, including BIOLOGICAL AGENTS and TOXINS

- **Outcome:** To support the newly approved: 
  Philippine Strategic Trade and Management Act
Commodity Identification Training

Biological Weapons Development and Export Control

Biological Weapons Development and Export Controls

INOCULUM → PRODUCTION → RECOVERY → STABILIZATION → AEROSOL TESTING → DELIVERY SYSTEMS
Conducted this year in 10 regions to augment the level of awareness and knowledge of top management (chiefs of hospital) in becoming more committed, to support their ABOT trained graduates and staff trained in BEP SANDIA Biosafety Enhancement workshop in NCR and Region 6.

A collaborative/joint efforts of BEP/CRDF, PhBBA and LGUS, & Department of Health Regional Offices in the Philippines
Biorisk Management Workshop (BRM)

- 3 day facilitated discussion, detailed lectures
- Interactive and hands-on activities with case scenarios

**Focused on: To become an Expert Biorisk Assessors**

**TOPICS and ACTIVITIES:**
- Assessment of Participants: Pre- and Post- tests
- Risk assessment (Biosafety & Biosecurity)
- Mitigation measures
- Performance measures
- Case Scenarios on current ERID
- Safety Culture concept in the workplace
- Dual Use Dillemma in Life Science / Research
- Bioethics
- Action Planning
Biorisk Management = Assessment, Mitigation, Performance

- Risk identification
- Hazard/threat identification
- Likelihood evaluation
- Consequences evaluation

Elimination or Substitution
- Engineering Controls
- Administrative Control
- Practices and Procedures
- Personal Protective Equipment

Control Assurance Improvement

Performance:

- The implementation of the entire biorisk management system, including evaluating and ensuring that the system is working the way it was designed. Another aspect of performance is the process of continually improving the system.
LA SALLE Health Institute College of Arts & Science
BRM workshop for Dept. Heads/ Faculties
DECEMBER 2014
**Action Planning:** Highlights of Workshop

- **a.** Re-echoing of the BRM workshop.
- **b.** Creation of BRM core group, (LGUs) or IBC (School), or Patient Quality Safety Committee/ ICC (Hospitals)
- **c.** Conduct of risk assessment in their own workplace as a first step, to be followed up with risk mitigation;
- **d.** To review existing institutional policies and SOPs to check whether there are still lacking ones
- **e.** To revise current policies and SOPs on biosafety and to incorporate “biosecurity”
- **f.** To train key personnel or staff to become more knowledgeable on laboratory biosafety & biosecurity

**Challenges:**
Rotary Manila Foundation & PHBBA Medical Equipment Training, on Biological Safety Cabinet BATCH 1 & 2: 2011-2012, participated by 110 engineers and biomedical technicians nationwide.
PHILIPPINE SOCIETY OF PATHOLOGISTS, INC.
A Specialty Division of the Philippine Medical Association

In collaboration with
CRDF Global - BEP US State Department

BIOSAFETY CABINET (BSC) TRAINING COURSE - Its Proper Selection, Use, Operation, In House Certification and Decontamination

JULY 25-26, 2016
PSP BUILDING, 114 MALAKAS STREET, DILIMAN, QUEZON CITY

5 Workshops being conducted by the CME committee of Philippine Society of Pathologists Inc. (NCR, Region 1, II, VI and IX) (July – Aug and Sept, 2016)
STRIVE FOR A GOOD BALANCE WITH ALL RELEVANT DISCIPLINES

Biocontainment Facility

Biocontainment concepts: The principle of holding or be capable of holding or including within a fixed limit or area...
- Biocontainment: preventing the unintentional release of biological agents (Huge gap in our BWC implementation)

Multi-discipline Approach

Management (Administrative Controls, etc.)

Science (Risk Assessment, SOPs, etc.)

Engineering (Design, Engineering, etc.)
Biological Threat Awareness Seminar, Camp Crame Cubao, Quezon City, Sept 24-27, 2012
Attended by 80 Regional PNP chiefs nationwide – with follow thru training empowerment by EU projects
Biological Spill Drills Training- 2014, 2015
Waste Management Workshop organized by Philippine Society of Pathologists and Phil. Association of Medical Technologists Inc.

Outcome: Empowered stakeholders in conducting similar activities re BRM
### Objectives:

* Strengthen Epi & Surveillance units (coordinate surveillance & response activities)
* Strengthen capacity & networking of lab at all levels;
* To design and establish an integrated disease surveillance system that enhances the use of standard case definitions for notification and case based or event based reporting of priority diseases, syndromes, conditions or risks

### PHILIPPINE INTEGRATED DISEASE SURVEILLANCE AND RESPONSE (PIDSR)

#### Local Disease Surveillance and Response Module

- **Emerging Diseases**
  - Sensors
  - Hospitals
  - Clinics
  - Ports & Airports
  - Laboratory
  - Public Health Facilities
  - Community
  - Media
  - Others

- **Response Module**
  - Municipal/City Government
  - Other Sectors

- **National Disease Surveillance and Response Module**
  - National Government
  - Other Sectors

#### Disease Categories

<table>
<thead>
<tr>
<th>Epidemic Prone Diseases</th>
<th>Diseases Targeted for Eradication or Elimination</th>
<th>Other Diseases or Conditions of Public Health Importance</th>
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<tbody>
<tr>
<td>Acute Bloody Diarrhea</td>
<td>Poliomyelitis (Acute Flaccid Paralysis)</td>
<td>Adverse Events Following Immunization (AEFI)</td>
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<tr>
<td>Acute Encephalitis</td>
<td>Measles</td>
<td>Diphtheria</td>
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<td>Acute Hemorrhagic Fever Syndrome</td>
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<td>Non-Neonatal Tetanus</td>
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<tr>
<td>Acute Viral Hepatitis</td>
<td>Anthrax</td>
<td>Pertussis</td>
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<tr>
<td>Anthrax</td>
<td>Cholera</td>
<td>Rabies</td>
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<td>Dengue</td>
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<td>Human Avian Influenza</td>
<td>Influenza-like Illness</td>
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<td>Leptospirosis</td>
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<td>Malaria</td>
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<td>Meningococcal Disease</td>
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<td>Paralytic Shellfish</td>
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<tr>
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<td>Poisoning</td>
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<td>Severe Acute Respiratory Syndrome (SARS)</td>
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<td>Typhoid and Paratyphoid Fever</td>
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Source = Manual of Procedures for the Philippine Integrated Disease Surveillance and Response, 1st edition. By the Staff of the National Epidemiology Center of the DOH.
Application/ Implementation of Lessons Learned:

- Review and strengthen SOP/Guidelines on Biosafety & Biosecurity
- Conduct Research & Training on how to conduct research with DUR in mind
- Echo Sharing for all colleagues; Create Oversight and Monitoring/
- May encourage Background check of personnel
- Enhance Bioethics SOPs on Research/ Integrate DUR in school curriculum
- Vigilant, Uphold professional code of conduct
- Enhance Research Policy thru Oversight for Self Governance/
  How to monitor Self policing within, review & screening
- Conduct awareness training & risk assessment on DUR
- Risk communication
- Improved on GLP / Biosafety Practices practices
- Involve law enforcement and academese in Biosecurity training

Advocacy Symposium entitled, “Dual-Use Biosecurity Education beyond the Class Room: Continuing Professional Development for Life Scientists/Science Faculties
Objectives: engaged pax to prevent the misuse of their science through brainstorming, discussions and deliberation on dual use and biosecurity issues amidst the best practices of biosafety; instead of seeking pre-established position or standpoints.
43rd PSBMB Annual Convention and 25th FAOBMB International Conference
The Philippine Society of Biochemistry and Molecular Biology (PSBMB) is hosting the “25th Federation of Asian and Oceanian Biochemists and Molecular Biologists (FAOBMB) International Conference in conjunction with the 43rd PSBMB Annual Convention” on December 5-7, 2016 at Philippine International Convention Center.

PHBBA- PSP to present Dual Use Of Research Concern / BRM in Molecular Pathology / BWC

1st International Medical Technology Conference Sept 8-9, 2016 – PHBBA- PSP to give Advocacy lecture on Dual Use of Research Concern/BRM in Molecular Pathology/ BWC- Technology reducing barrier vis a vis bridging gaps bet. science and security & foster good working rel. between defense & health sectors to work on BW.

Venue: University of Santo Tomas
Matrix Assisted Laser Desorption Ionization Time of flight – Identify Microorganisms to its cellular compound profile via mass spectrometry of proteins

The Health Facilities Enhancement Program (HFEP) is one of the banner programs of the Aquino Administration for the upgrading of health facilities as well as providing training to health professionals to improve the access of people to quality health care.
Summary: Toward Way Forward

- Follow thru on Progress on Development of National Oversight re – CIT, DUR, STMA, and Lab BB practices
- To highlight some Lessons learned or Outcome from previous advocacy symposia, training workshops and mentioned activities – cooperation and Assistance from stakeholders

- Plans to Monitor of Plan of Actions of pax - towards Strengthening BWC implementation relevant articles and issues of Universality & Reviewing S&T,
- Sustained Gap analysis - SWOT toward delay in National Implementation & CBM system
- eg identify national focal contact points.
Research & Diagnostic Capabilities for STDs and HIV and HIV opportunistic infection

SAN LAZARO HOSPITAL: the National Medical Center for Infectious Diseases and the Public Health Laboratory at the national level, front line laboratory which respond to infectious disease outbreak detection,

NRL-SACCL
National Reference Laboratory (STD AIDS Cooperative Central Laboratory)
Manila, Philippines

former project of JICA-1996

11th APBA Annual Conference
May 31- June3, 2016
Siem Reap Cambodia
Participants of the BRM per Region

Baguio = 45, Cavite La Salle = 35, CDO (1 & 2) = 60, Cebu (1 & 2) = 73, CEU Manila = 77, Davao = 35, La Union = 32, Palawan = 35, Zamboanga = 55

N = 447
Participants of the Regional BRM-Profession Categories

- Medical Doctor: 32%
- Nurse: 11%
- Medical Technologist: 22%
- Academician: 10%
- Other Profession: 25%

MD=99, RN=43, RMT=113, Academe= 144, Other=48
N=447
Application/ Implementation of Lesson Learned

- Review and strengthen SOP/Guidelines on Biosafety
- Conduct Research with DUR in mind
- Echo Sharing for all colleagues
- Enhance Bioethics SOPs on Research
- Vigilant, Uphold professional code of conduct
- Enhance Research Policy
- Conduct awareness training on DUR
- Enhance SOP in Biosecurity
- Raise Awareness to all concerned stakeholders
- Training on how to conduct research
- Risk assessment on DUR
- More review and screening of researches
- **Integrate DUR and BB in training curriculum**
- **Oversight for Self Governance/ How to monitor Self policing within**
- **Integrate topics learned in risk communication**
- **Improved on GLP / Biosafety Practices practices**