

# From Scratch to the Establishment of the Center of Excellence for Training of Biosafety and Biosecurity in Pakistan: Things Can Be Done



**Dr. Saeed Khan**

Ph.D. (Microbiology), Postdoc (Molecular Virology, UW Seattle , USA)

Associate Professor

Director of HSP-DUHS Center of Excellence (CEO),

Head of Molecular Pathology Department,

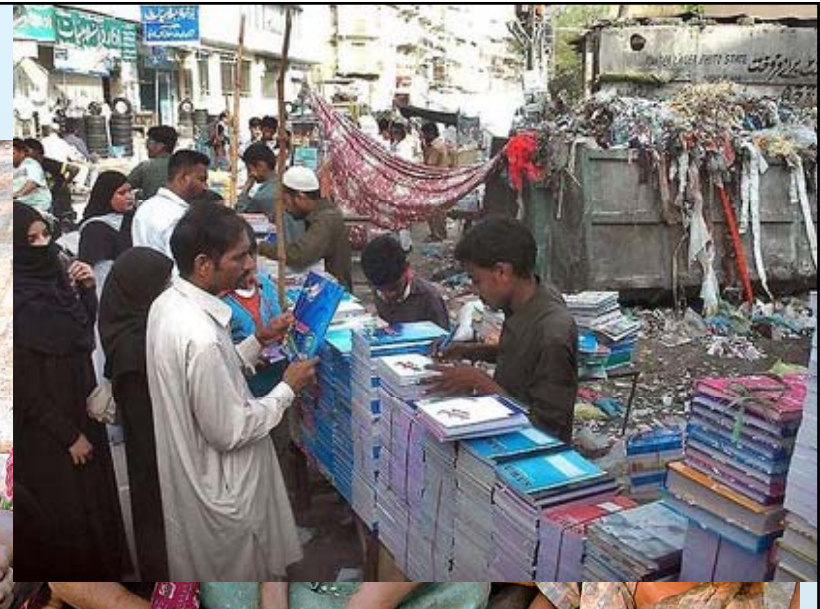
Dow University of Health Sciences,

Karachi, Pakistan

[saeed.khan@duhs.edu.pk](mailto:saeed.khan@duhs.edu.pk)







# Dow Diagnostic Reference and Research Laboratory Dow University of Health Sciences

- Established in 2007, working on No Profit No Loss basis in public sector.
- Provide reliable, high quality diagnostic services at very economical rates.
- ISO 15189 accredited.
- Recognized by (CAP) 89764-25-01.



**2013**



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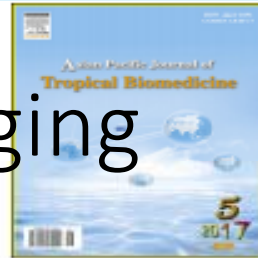


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# Laboratory Biosafety for Handling Emerging Infections

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## Laboratory biosafety for handling emerging viruses

I. Made Artika<sup>1</sup>, Galih Nita Mulya<sup>2</sup>

<sup>1</sup>Biosafety Level 3 Unit, Eijkman Institute for Molecular Biology, Jalan Diponegoro 69, Jakarta 10430, Indonesia

<sup>2</sup>Department of Biochemistry, Faculty of Mathematics and Natural Sciences, Bogor Agricultural University, Darmaga Campus, Bogor 16680, Indonesia

<sup>3</sup>Emerging Virus Research Unit, Eijkman Institute for Molecular Biology, Jalan Diponegoro 69, Jakarta 10430, Indonesia

- In spite of greater awareness of safety and containment procedures, the handling of pathogenic viruses remains a likely source of infection among laboratory workers.

- There is a steady increase in both the number of laboratories and scientists handling emerging infections for diagnostics and research.

### ARTICLE INFO

### ABSTRACT

#### Article history:

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#### Keywords:

Emerging viruses are viruses whose occurrence has risen within the past twenty years, or whose presence is likely to increase in the near future. Diseases caused by emerging viruses are a major threat to global public health. In spite of greater awareness of safety and containment procedures, the handling of pathogenic viruses remains a likely source of infection, and mortality, among laboratory workers. There is a steady increase in both the number of laboratories and scientist handling emerging viruses for diagnostics and research. The potential for harm associated to work with these infectious agents can be minimized through the application of sound biosafety concepts and practices. The main

- The risk associated with working with these infectious agents can be minimized through the application of sound biosafety concepts and practices.



Even with all the sophisticated SOPs many safety and security incidents occurred over the past years at so called advanced facilities.

This indicates that the conventional biosafety and biosecurity systems alone are not sufficient.



Gaining knowledge and  
getting trained

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Disseminating  
Knowledge and  
trainings



**Laboratory Coat Functions:**

- Provide protection of skin and personal clothing from incidental contact and small splashes.
- Prevent the spread of contamination outside the lab (provided they are not worn outside the lab).
- Provide a removable barrier in the event of an incident involving a spill or splash of hazardous substances.



**Neglected but laboratory:**  
Session for workers

**Personal Protective Equipment**







11-January 2016

## Training workshop on bio-safety, bio-security held

Staff Report

**KARACHI:** Dow Center of Excellence (COE), Dow University of Health Sciences, in collaboration with Health Security Partners (USA) organized hands-on training workshop on Biosafety and Biosecurity at Ojha Campus.

The aim of the workshop was to introduce the clinical laboratory workers to basic concepts and principles of biosafety and biosecurity -- a neglected but crucial aspect of laboratory for laboratory workers.

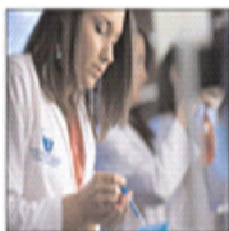
During the workshop hands on training was given to the participants belonging to different laboratories from Karachi and Hyderabad including Dow Diagnostic Reference and Research laboratory, Indus Hospital laboratory, Liaquat National

Hospital, Chughtai Lab, Jinnah Post Graduate Medical Center, Dr. Punjwani Center for Molecular Medicine and Drug Research, Liaquat University of Health and Medical Science (LUMS), Isra University Hospital etc.

Dr. Saeed Khan, Associate Professor and Biosafety Professional and Master

Trainer, delivered an informative and interactive lecture on "Introduction to Laboratory Biosafety and Biosecurity".

Then hands on training was given to the participants on proper Donning and Doffing of Personal Protective Equipments, Spill Management, and response to Needle stick Injury and eye splash in which each of the participant was presented with real-time scenarios and trained to manage the incident during the bench work in laboratory.



## DUHS organises Chikungunya awareness session

Karachi 12 HOURS AGO BY PPI

Dow Centre of Excellence, Dow University of Health Sciences (DUHS) and Health Security Partners (HSP) jointly organised an informative CME session on Chikungunya and a workshop on "Biological Waste Management and Disposal for Clinical and Research Laboratories" on Tuesday at Ojha Campus.

The event was a joint venture of Dow Center of Excellence (COE) for Biosafety and Biosecurity and Health Security Partners, USA. The objective of the CME was to increase the understating of laboratory staff and doctors about Chikungunya infection and its prevention.

During the CME session, Dr Saeed Khan PhD, Associate Professor and Additional Director of DDRRL delivered a very informative lecture on "Chikungunya Virus". He explained the source of infection, symptoms, treatment, prevention and control of this infection. He also highlighted the importance of health hygiene and protection from mosquito's bite which was the main source of Chikungunya Virus infection.

The aim of this workshop and training was to enhance the skills of the healthcare workers how to manage and properly dispose the biological waste. Participants from well-reputed hospitals and universities including Dow Lab, Indus Hospital, Liaquat National Hospital, Jinnah Hospital, Liaquat University of Jamshoro, Chughtai Laboratory, Memon Hospital, Hamdard University, University of Karachi and other institutions attended this event.

During the session, Prof Dr Rana Qamar, Prof Dr Shaheen Sharafat and Dr Yahya Noori also shared their views about this event.





Participated in a 4-days workshop on  
**“Workshop on Preparing Biological  
Laboratories for Certification in  
Biorisk Management”**



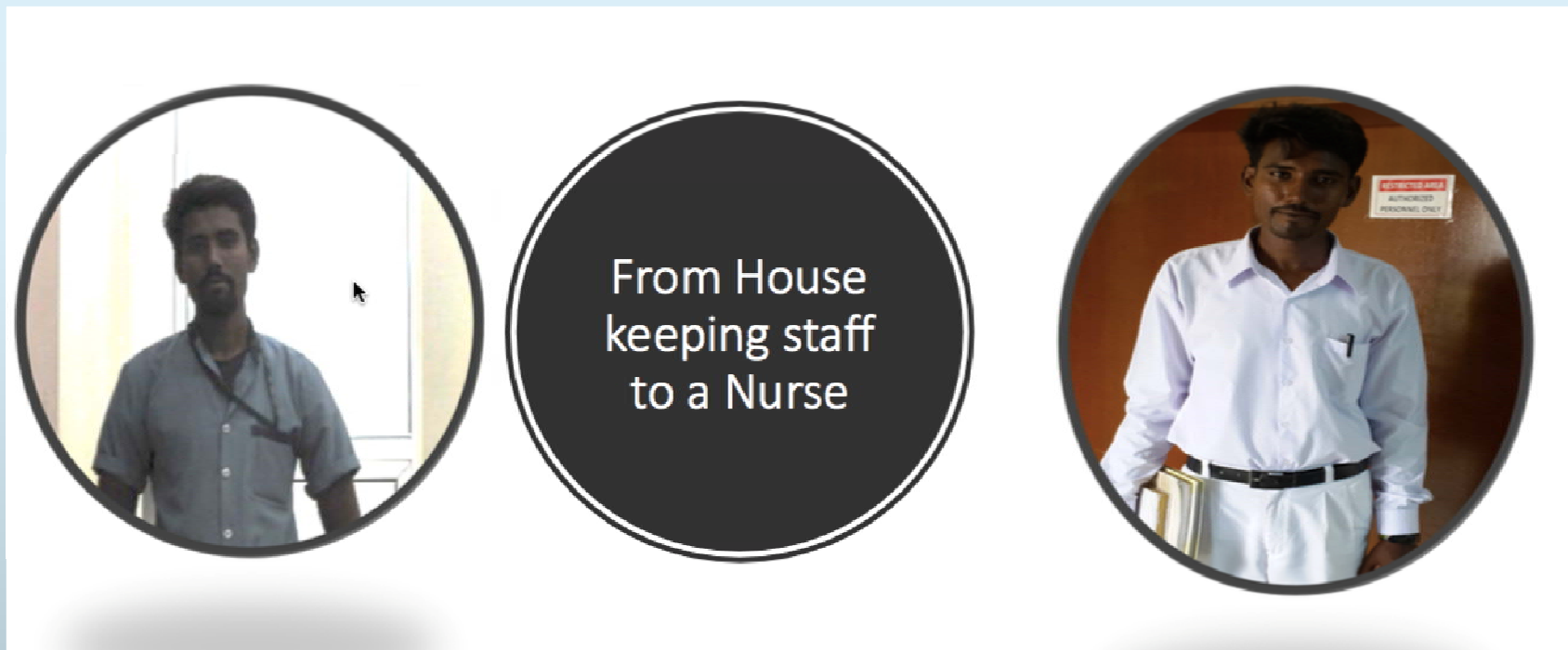


We also trained our house keeping staff!!!



Housekeeping staff giving presentation on proper waste management

# Encouraging and supporting the workforce





To provide training in  
Biosecurity to the staff,  
members of our own uni  
developed in collaboration  
with Health Security Partners in  
(HSP-DUHS CoE)



HEALTH SECURITY PARTNERS

July 1, 2016

Dr. Saeed Khan  
Dow University of Health Sciences  
Mission Rd, Karachi 74200  
Pakistan

Dear Dr. Khan,

On behalf of Health Security Partners (HSP), I am pleased to inform you that Dow University of Health Sciences (DUHS) has been approved as an HSP Center of Excellence (COE). HSP will provide the DUHS COE financial and technical support for a series of workshops on biosafety and biosecurity for scientists and clinicians in Pakistan in 2016-2017.

The COE program supports the growth of organizations in Pakistan which are building local capacity in biosafety and biosecurity. As a COE program participant, DUHS will offer local scientists, faculty, and students access to up-to-date scientific resources, raise awareness on biorisk issues, and provide continuing education credits through symposia, workshops, and hands-on trainings.

HSP is proud to partner with DUHS to promote a safe environment for individuals working with biohazardous materials and to ensure the protection of the community and environment from exposure to biohazardous materials. We look forward to a long and productive partnership with DUHS. Should you have any questions, please contact Jessica McLean at [jessica@healthsecuritypartners.org](mailto:jessica@healthsecuritypartners.org).

Sincerely,

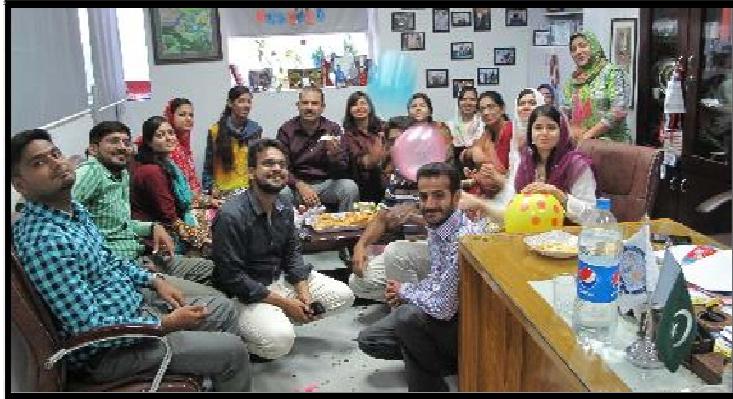
A handwritten signature in black ink that reads "Jason S. Rao".

**Jason Rao, PhD**  
Board Chair, Health Security Partners

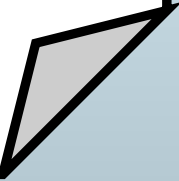








**We carried out survey in lab  
regarding the awareness of  
biosafety practices before and after  
each training**



# Methodology



Baseline survey based on questionnaire were filled by the laboratory personals in 2013.



After survey we conducted workshop/lectures on Biosafety and Biosecurity.



We conducted another survey in 2014 to check the level of awareness and impact of workshop and lectures.



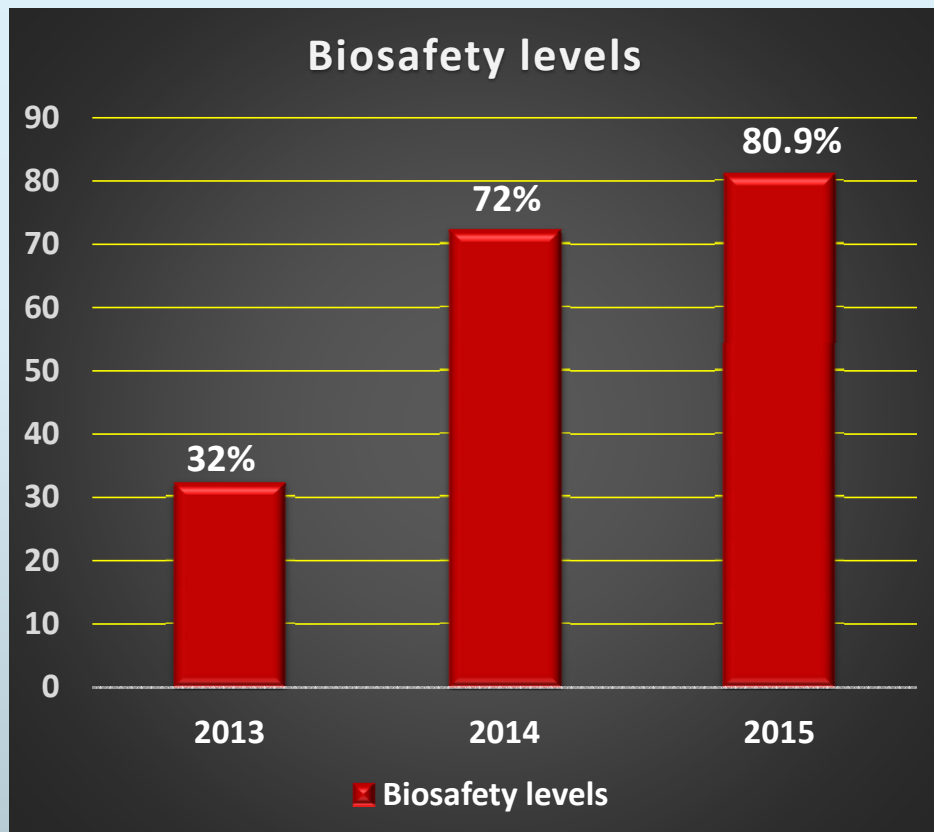
Continues sessions of drills, CME/lectures, and hands on training regarding biosafety and biosecurity.



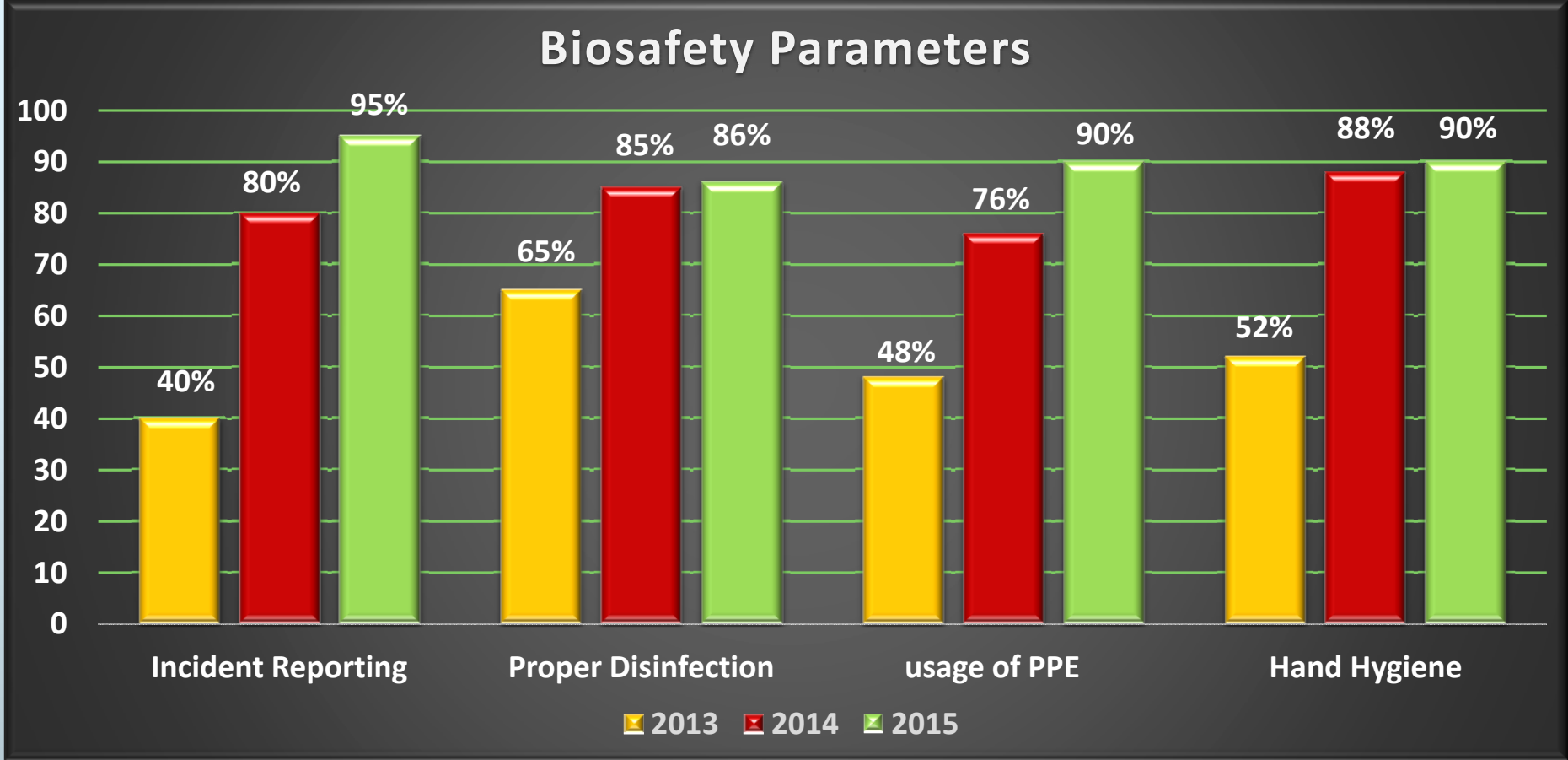
Recent study of the biosafety practices among lab staff was conducted in 2015.

We compare all the survey results.

# Results



# Results

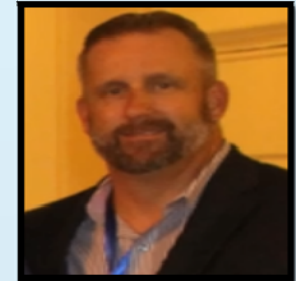
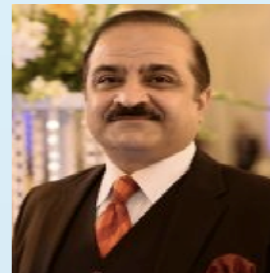


## Conclusion

- Significant changes in awareness level and attitude of the employees were observed after each training.
- Continuous and frequent workshops and trainings improved the quality of biosafety practices among the lab personals.
- This is the first step towards the implementation of Biorisk management system in our institution.
- Bringing **Change** in biosafety **culture** in collaboration with the Health Security Partners (HSP) and with the support of PBSA, FIC NIH and other local and international partners.
- Things can be done even with limited resources.

# Acknowledgment

- DUHS



- HSP

- PBSA



- FIC NIH

- All Team Members

# Thank you



[saeed.khan@duhs.edu.pk](mailto:saeed.khan@duhs.edu.pk)