



Background

- Biorisk management is a new concept in Tunisia.
- Laboratory workers in the military health institutions are not trained in biosafety or biosecurity.
- These laboratories each process upwards of 200,000 samples per year a number of which contain high risk pathogens.
- This project will increase biorisk management awareness; therefore, increasing safety and security in the laboratories.

Objectives

- This project will assess both the laboratory environments and the current awareness of staff.
- Staff from 15 Tunisian military health institutions laboratories will be trained in basic biorisk management.
- Overall goal is to increase biorisk management awareness as shown by pre and post assessment.

Methodology and Resources

Drenere on Assessment Teal to use in all the Laboratorias

Prepare an Assessment Tool to use in all the Laboratories			
Organization/Institution Information and Address			
(Please provide address where laboratory is located)		
Organization Name:			
Laboratory responsible (first & last name):			
Department:			
Laboratory Address:		City:	
Country:			
Phone Number:			
A. Laboratory & Laboratory Design	YES	NO	N/A
B. Safety Equipment	YES	NO	N/A
C. Agents/Special Practices/SOP	YES	NO	N/A
D. Decontamination and Waste Management	YES	NO	N/A
E. Hazard Communication and Training	YES	NO	N/A
F. Security	YES	NO	N/A
G. Accident/Incident Investigation	YES	NO	N/A
H. Workier Health Surveillance Programme	YES	NO	N/A

Laboratory Biorisk Management Assessments

Visit 15 Medical Laboratories:

- Military Hospital of Tunis (5 Labs)
- Military Hospital of Bizerte (1 Lab)
- Military Hospital of Gabès (1 Lab)
- Military Center for Blood Transfusion (1 Lab)
- The Aeromedical Center of Expertise (1 Lab)
- Military Laboratory for Food Analysis (1 Lab)
- Military Policlinics in Kef, Tunis, Kairouan, Gafsa and Tataouine (5 Labs)

Biorisk Management Training

 Deliver training to the laboratory staff in the military hospitals of Tunis and measure awareness post training.



Laboratory Assessment Results



Training +++

Establishing Biorisk Management in the Tunisian Military Laboratories

Ben Moussa Mohamed, Republic of Tunisia, Ministry of National Defence, General Direction of the Military Health Melissa Ann Morland, University of Maryland, Baltimore







Confirmed the need for training and identified subject areas

Training Program République Tunisienne Ministère de la Défense Nationale ital Militaire Principal d'Instruction de Tunis



Opening Ceremony



Pre-Assessment Test - First Day

Ministère de la Défense Nationale Direction Générale de la Santé Militaire Hôpital Militaire Principal d'Instruction de Tunis	1
Gestion Des Risques Biologiques Aux Laboratoires 8-9 Septembre 2017	
<u>Test d'évaluation</u>	
Nom :Prénom ;	
<u>Remarque préliminaire</u> : certaines questions admettent plusieurs réponses	
1. Parmi les affirmations suivantes portant sur l'évaluation des risques biologiques, laquelle	
 ou lesqueiles est ou sont VRAIE(S)? a) L'évaluation des risques biologiques tient compte seulem ent des agents biologiques b) L'évaluation des risques biologiques s'occupe des risques pour les salariés et la communauté c) L'évaluation des risques biologiques ne concerne que les activités normales, pas les accidents d) Les compétences du personnel n'ont pas besoin d'être pris en compte dans l'évaluation des risques 	toire, laquelle idures qui nfinement
 2. Pour mettre en œuvre des mesures d'atténuation des risques biologiques, quelle est la première méthode à prendre en compte pour réduire les biorisques au laboratoire? a) Travailler dans un cabinet de prévention des risques biotechnologiques b) Porter un respirateur, car l'inhatation d'aérosol est le mode d'exposition le plus courant au Lab. c) Exécution de bonnes pratiques universelles de laboratoire d) Éliminer ou substituer le risque 	des risques s risques éviter les risqu
 3. A quel moment vous désinfectez votre zone de travail (paillasse) ? a) Entre chaque deux procédures b) Seulement à la fin du travail au laboratoire b) Seulement à la fin du travail au laboratoire 	a surveillance icaux
 d) Seulement si vous contaminez la paillasse 	on d'un
 4. Lequel des comportements suivants est acceptable dans un laboratoire de microbiologie? a) Manger, boire ou fumer b) Déversement des désinfectants sur le bureau c) Placer un carnet de laboratoire sur le bureau d) Ramasser le verre cassé avec tes doigts 	s les bactérie imandées. urs de
 5. Les blouses de laboratoire, les gants, la protection des yeux et les chaussures à bout- crayon sont des exemples de a) EPI standards au niveau de sécurité 1 (BSL-1) b) EPI standards au niveau de sécurité 2 (BSL-2) c) EPI standards pour l'utilisation de l'autoclave d) Tout ce qui précède 	1



Pre-Assessment Results

- Participants least familiar with:
- Biosafety, Biosecurity, Standard Operating Procedures, Health Surveillance, Personal Protective Equipment
- Participants most familiar with:
- Hanwashing and Waste Management





Risk Assessments Tools and Scenario



Training Photos - Second Day - Sept. 9, 2017























Training Photos - First Day - Sept. 8, 2017-









Containment and Personal Protective Equipment (PPE)





Donning and Doffing PPE





Methodology and Resources (continued)

Training Program

- Number of participants: 13 laboratory health workers (out of 200 lab workers)
- Trainers: Ben Moussa, Anissa, Habiba
- Participating laboratories: Microbiology, Parasitologigy, Immunology, Hematology, Biochemistry, Pathology and Environnement and Hygiène
- Pre and post-assessment: 10 questions
- Training evaluation: 6 questions



Training Assessment



Conclusions

- Biorisk management (BRM) is key to global health and security.
- pathogens.

Lessons Learned

- Top level support was necessary.
- Time management is important.
- Add enough extra time in your schedule.
- Even the best laid plans will need adjustments.

Future

- regulations, guidelines, and procedures is highly recommended.

Acknowledgements

- Sandia National Laboratories (Eric Cook, William Pinard, Kevin McMahon, Karen Hopkins)
- Directorate General of Military Health
- Military Hospital of Tunis Directorate
- U.S. Department of State, Biosecurity Engagement Program
- Anissa, Habiba, Faida, Najla





NUMBER OF GOOD RESPONSE IN PRE AND POST ASSESSMENT

Training Assessment Results



Taux de satisfaction après la formation (Très Bon/Bon)

• This project introduced BRM in the laboratories and increased the understanding of biosafety and biosecurity concepts and practices among laboratory workers handling high risk

• Without the approval of the Directorate General access to hospitals would be limited.

• Additional advanced training workshops are necessery to enhance skills and knowledge. Training for all laboratory personnel (~200) through a multi-trainer approach is being planned. • Developing a legal framework in Tunisia for effective controls, including national biosecurity

