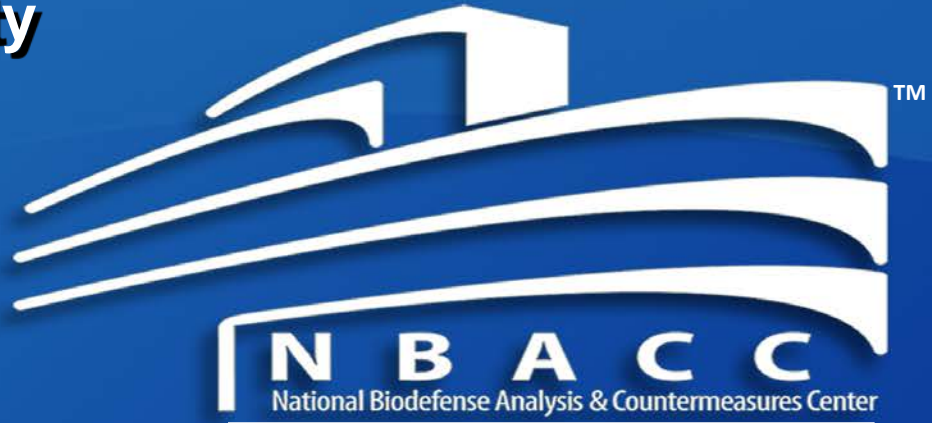


Occupational Health and Medical Surveillance Program at NBACC

**American Biological Safety
Association Conference
Kansas City, Missouri**

23 October 2013



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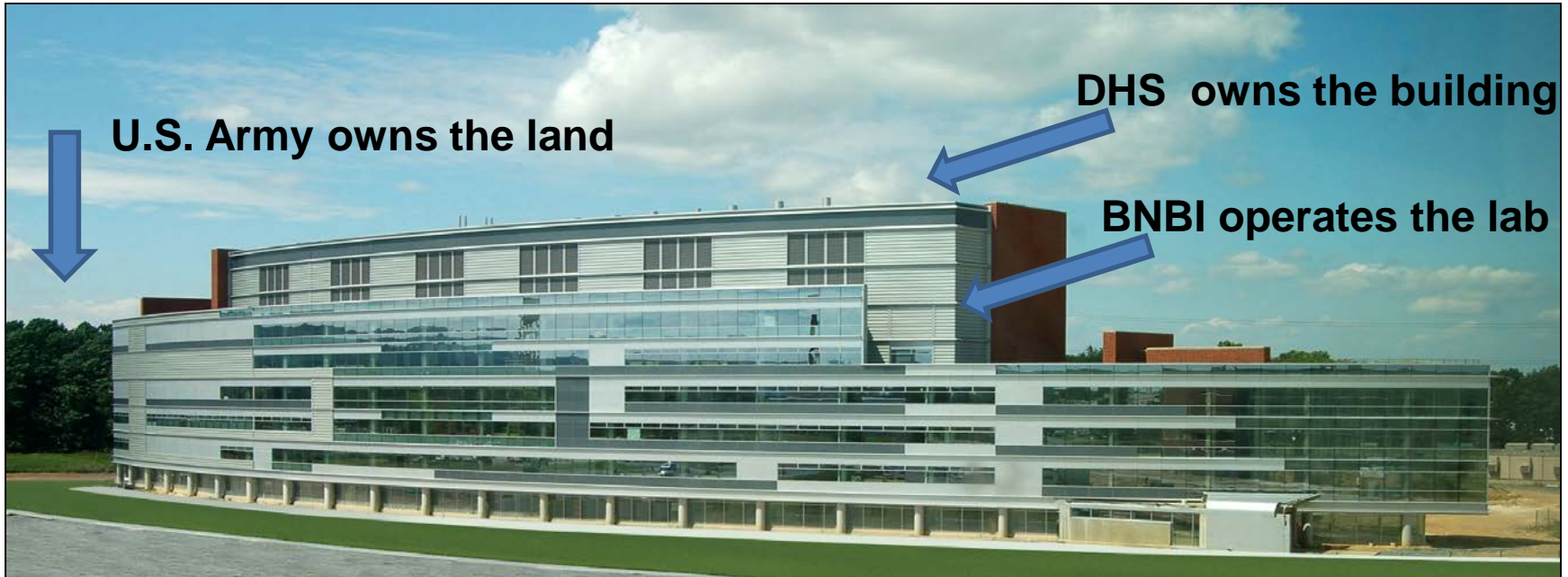
Science and Technology

Acknowledgement



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The National Biodefense Analysis and Countermeasures Center at Fort Detrick, Maryland

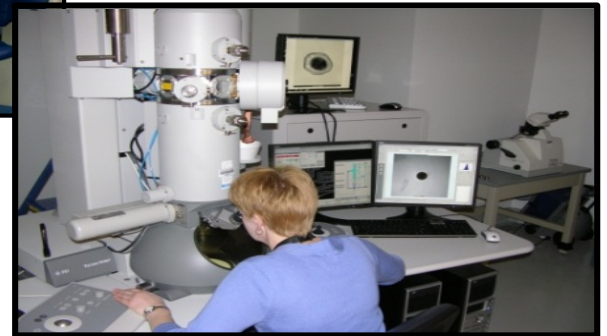


The NBACC is a national resource used to understand the scientific basis of the risk posed by biological threats, and to attribute their use in bioterror or biocrime events. The NBACC is managed and operated by the Battelle National Biodefense Institute, LLC. for DHS

The National Biodefense Analysis and Countermeasures Center at Fort Detrick, Maryland



- NBACC at a glance
 - BSL-2
 - BSL-3
 - BSL-4 Suit Labs
 - BSL-4 Cabinet Labs
 - Electron Microscopy
 - Animal Vivarium



National Interagency Confederation for Biological Research (NICBR) Agencies



- U.S. Army Medical Research and Materiel Command
- National Institute of Allergy and Infectious Diseases
- National Cancer Institute
- U.S. Department of Agriculture, Agricultural Research Service
- **Department of Homeland Security**
- Centers for Disease Control and Prevention
- Naval Medical Research Center
- Food and Drug Administration

Vision

- Federal research partners working in synergy to achieve a healthier and more secure nation.

Mission

- The mission of the NICBR is to develop unique knowledge, tools, and products by leveraging advanced technologies and innovative discoveries to secure and defend the health of the American people.

Values

- Trust and Teamwork

Securing Support



- Established Interagency Agreement (IAA) with Fort Detrick Army Garrison for Ft. Detrick Fire Department (FDFD) to be first responders for fire, injuries and acute illnesses.
- Established Memorandum Of Understanding (MOU) with Frederick Memorial Hospital (FMH) for acute injuries.
- Established MOU with National Institutes of Health Special Clinical Studies Unit (NIH SCSU) for triage and care of potentially exposed BSL-3/4 workers.
- Established IAA with United States Army Medical Research Institute of Infectious Disease (USAMRIID) and U.S. Army Medical Materiel Development Activity (USAMMDA) Special Immunization Program (SIP) for Investigational New Drug (IND) vaccines (i.e., Rift Valley Fever, Venezuelan Equine Encephalitis, *Francisella tularensis*)

Initiation of Occupational Health Clinic Operations

- Established subcontract with Occupational Health Clinic, (off site but within City of Frederick) Corporate Occupational Health Solutions, LLC
- Programmatic requirements:

Human Resources Needs

- Pre-placement physicals
- Pre-placement and random urine drug screens
- Return to work examinations following extended illness, accident or injury
- Worker's Compensation document review and adjudication

BSAT Medical Surveillance Program

- Fitness for duty examinations
- Pre-placement and annual medical surveillance examinations
- Other examinations, as necessary, per regulatory requirements (i.e., RPP exams, hearing conservation program surveillance, etc.)
- Immunizations (FDA licensed vaccines only)
- Injury and illness/potential exposure examinations
- Termination examinations

Initiation of Occupational Health Clinic Operations

▪ **Competent Medical Authority (CMA)**

- Nurse Practitioner/Occupational Health Nurse, and the alternate CMA is a physician board certified in Occupational Medicine
- 24/7/365 coverage in person and by phone
- Provides medical evaluation and treatment for work-related injury and/or illnesses
- Is an advocate for the employee providing medical advice and/or treatment for acute personal injury and/or illness
- Works with the NBACC Health and Safety team as well as other infectious disease specialists in the evaluation and final disposition of employees who experience a potential exposure to infectious agents or toxins
- Determines whether an employee is medically qualified to work with or without medical restrictions (PRP)

Introduction of a Personal Reliability Program (PRP)

- Serves as a tool for management to make risk-based assessment decisions to ensure that persons with access to BSAT materials meet high standards of reliability
- Maintains a safe and secure work environment for all employees
- Fosters a culture where staff members watch out for each other and take responsibility for their own performance and that of others
- Provides a safe reporting mechanism for staff to self-report and peer-report, relaying any concerns about other staff members

The CMA is central to medical management at NBACC for the medical aspects of the Personal Reliability Program. As staff provide the most personal types of information to the CMA, a bond of trust that privacy is maintained and respect becomes established.

Individual Enrollment in the NBACC BSAT Medical Surveillance Program



- **Occupational Health Risk Assessment Survey (OHRA) is completed**
 - Documents biological, chemical and physical hazards of an employee's job
 - Documents work in BSL-2, -3, and/or -4
 - Animal area access (allergies)
 - Requests for any FDA licensed or IND vaccines
 - Updated annually or when work changes
 - Drives all medical surveillance (PRP, RPP, HCP, USAMRIID SIP enrollment) and medical exams.
 - Signed by the employee, their supervisor, a health and safety officer, and the CMA

Incident Response and Reporting



- **Acute medical events:** Employees with acute injuries or medical conditions are immediately taken to Frederick Memorial Hospital.
- **Potential or Confirmed Biological Exposures:** The CMA is engaged in this process immediately, including medical triage of NBACC employees that have been potentially exposed to Risk Group 2, 3, or 4 agents.
 - Employees who are medically extracted from the containment suites undergo an acceptable level of disinfection.

Incident Response and Reporting



- **Procedure Summary:** The CMA, in cooperation with the Principal Investigator and a Health and Safety Officer, meet with the staff member immediately after the event to discuss the specifics of the exposure.
- **Procedure Summary:** “who, what, where, when, why” part of the investigation is to determine the likelihood that a person was exposed to an infectious agent or toxin through a percutaneous, oral, inhalational, or mucosal route.
 - The CMA conducts an onsite physical evaluation and takes a history of the patient.
 - The CMA is the only person that can categorize a potential exposure. The factors that go into this type of decision are: **the case fatality and infectivity rates, concentration, volume, route of exposure, and transmissibility of the agent in question as well as the adequacy of immediate first aid and any methods of disinfection.**
 - NIH-SCSU infectious disease specialists are consulted when necessary.

Determining Risk Levels of Exposure During Incident



- **No Risk**
- **Negligible Risk** – No discernible direct cutaneous or percutaneous contact with an agent or an infected animal. No break in respiratory protection while in an animal room.
- **Minimal Risk** – A break in respiratory protection while in an infected animals room, but the agent was contained in a BSC or the infected animals were not likely to be shedding organisms.
- **Moderate Risk** – Individual with a break in respiratory protection while in an environment with an agent or infected animals, but the individual's suit (BSL-4) maintained adequate air curtain or it is unlikely that the agent was aerosolized.
- **High Risk** – Percutaneous exposure from infected animal that is likely to be viremic or a cut from a sharp object which contains infected material. Spill of infectious material without appropriate respiratory protection.

Final Medical Decision Regarding Incident



- **Possible Outcomes Following CMA Evaluation:**

- The employee is cleared for work without treatment or restrictions;
- The employee is released with instructions to watch for specific and non-specific signs and symptoms of disease, including fever, and to immediately report any changes in health status to the CMA; or
- The employee is admitted to the NIH-SCSU for quarantine, evaluation, and treatment.

- **Admission to the SCSU involves the following:**

- The employee must sign an informed consent document to enroll in the clinical research study.
- The employee is transported to the SCSU by the FDFD.
- Although voluntary, admission to the SCSU is a serious matter. The length of stay may vary from days to weeks. Therefore, it is anticipated that employees will have to make plans with their immediate family for child care, and other day to day obligations.

Incident Response Close Out/ Return to Work



- **“Return to work”** or **“fitness for duty”** evaluations for workers who have been injured or ill due to non-occupational or occupational incidents.
 - The worker has to demonstrate that they are medically qualified to re-enter the containment laboratories, including intact skin, immunocompetence, and general physical and mental fitness for duty.
 - The NBACC PRP’s Certifying Official (CO) is informed of the results of the medical evaluations and any restrictions or suspensions.

Engaging the NICBR and Frederick Communities



- The two goals of any comprehensive occupational health program are to:
 - protect staff
 - protect the public
- The NICBR is a partnership of seven Federal agencies sharing a common vision, “Federal partners working in synergy to achieve a healthier and more secure nation.”
- NBACC and DHS are members of the Safety and Occupational Health Subcommittee and the Medical Directors Working Group.
 - All of the partner laboratories have shared their occupational health program descriptions, legal documents (such as informed consent), and medical forms.
 - All partners with BSL-4 containment labs have MOUs with NIH-SCSU.
 - All partners share lessons learned and success stories monthly.

The Way Ahead

- Build an on-site office/exam room in FY2013 within the NBACC
- Continue to participate with Safety and Occupational Health Subcommittee and the Medical Directors Working Group
- Draft journal article outlining process for publication



Acknowledgments



Marene Pearl, MSN, CRNP: Corporate Occupational Health Solutions

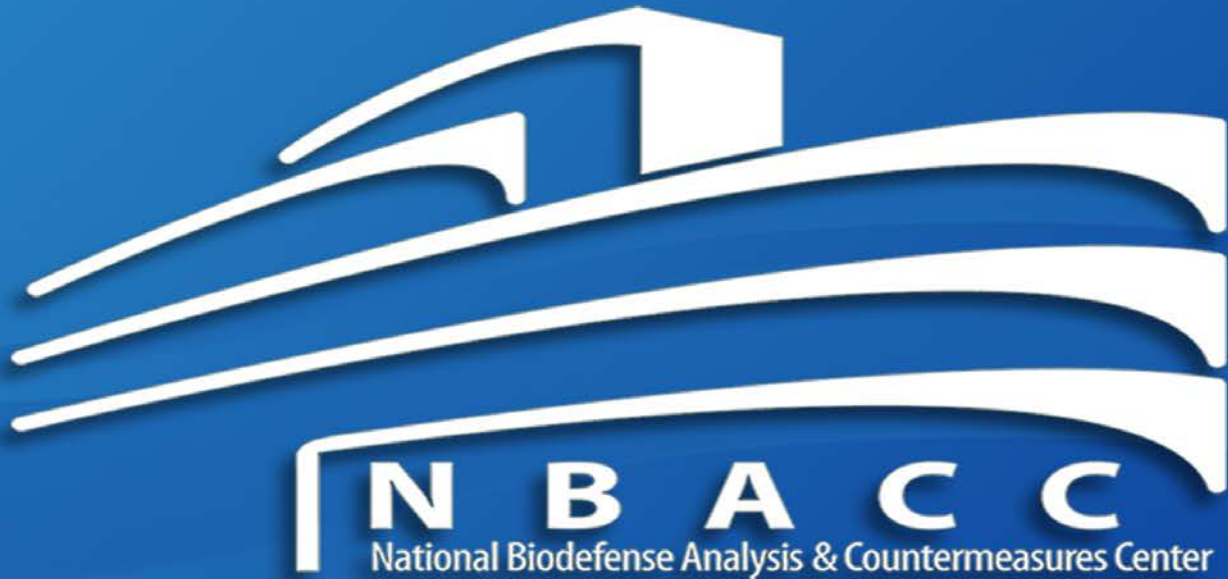
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This Document was prepared for the Department of Homeland Security (DHS) by the Battelle National Biodefense Institute, LLC (BNBI) as part of contract HSHQDC-07-C-00020 to manage and operate the National Biodefense Analysis and Countermeasures Center (NBACC), a Federally Funded Research and Development Center. In no event shall the DHS, BNBI or NBACC have any responsibility or liability for any use, misuse, inability to use, or reliance upon the information contained herein. **In addition, no warranty of fitness for a particular purpose, merchantability, accuracy or adequacy is provided regarding the contents of this document.**



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