Early challenges during the development and implementation of BioPath, a University of Florida Biohazards Medical Monitoring Program

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Abstract
With an expansion of high containment laboratories at the University of Florida (UF), BioPath, a Medical Monitoring Program for employees, students, and affiliates with a potential for exposure to Risk Group 3 (RG3) and selected Risk Group 2 (RG2) agents was recently established. Here we outline development of the program as well as unexpected issues that surfaced during that process.

Introduction
Prior to BioPath, the Medical Surveillance Program at UF was less structured. It consisted of various individual programs each requiring separate forms, oversight costs, and visits to Student Health Care Center (SHCC) Occupational Medicine (OCMED) Services. Unexpected challenges, some of which are discussed here, had to overcome before implementing the all-inclusive program.

Methods/Implementation
To streamline occupational health oversight for persons working with RG3 and some RG2 agents, multiple meetings and conference calls took place between the UF Institutional Biosafety Committee (IBC), the OCMED section of the SHCC, and the Biosafety Office (BSO). It resulted in creation of an integrated BioPath Medical Monitoring Program which includes:
1. All pre-exposure medical services
2. Under current medical monitoring and treatment

BioPath:
- Individuals with increased risk of exposure to a wide variety of pathogens had to be identified.
- The individuals had to be medically monitored based on a consensus risk-assessment.
- A comprehensive form had to be drafted to cover various essential services.
- The cost for providing the services, and the entity responsible for covering the cost had to be identified.
- The program had to include on-campus and off-campus containment laboratories.
- The security related to Select Agent research had to be maintained.
- Various responsible parties involved in pre- and post-exposure management had to be identified and trained.
- Training drills reflecting various illness/exposure worst-case scenarios had to be developed and implemented.

Pre-exposure Monitoring
- Consolidate separate programs, separate forms.
- Development of a comprehensive "umbrella forms" developed.
- Developed Authorization form.
- Logistics of form submission (PI-BSO-SHCC) worked out.
- Delegated to the individual PI.

Periodic Medical Monitoring
- Frequency: Annual re-evaluation per OCMED health provider recommendation.
- Reminders when next assessment is due.
- Responsibility of the PI.
- Health Assessment Questionnaire form only, no face-to-face physician visit unless indicated by form info.
- No BSO authorization necessary.
- No SHCC appointment required.
- Lower cost if form review only.

Post-exposure Event
- How to identify BioPath participants?
- Developed BioPath Medical Alert wallet cards.
- Drafted exposure response plan; plan included in participant training program.
- Post-exposure prophylaxis.
- Agent-specific protocols for various laboratories finalized by OCMED medical provider.
- Information (training, protocols, contact information) placed in secure website for ED (Emergency Department) docs who may need to treat a BioPath exposure.

Identifying and training attending ED staff
- Ensuring availability of recommended drugs/vaccines.
- A few drugs/vaccines in stock. Complete verification in progress.
- Fire fighting of response.
- Involvement of first responders viz. 911, GFR (Gainesville Fire Rescue), Hatter, ACFR (Alachua County Fire Rescue), ED.
- Meetings with senior officials overseeing each of the groups.

Outline emergency response plan to transport an injured/exposed individual from on/off-campus sites.
- Plans are still evolving but remain a challenge.
- Classroom education/training of each of the groups.
- Hands-on drills to evaluate emergency response.

Results/Discussion

Pre-exposure BioPath Clearance
- BSO identifies employees requiring BioPath participation.
- Participant completes Medical Assessment Questionnaire form.
- BSO approves. Additional risk info.; Submits to SHCC.
- ED (Emergency Department) docs who may need to treat a BioPath exposure.
- Once reviewed entry made in secure myUFL website.
- Post-exposure prophylaxis offered per protocol.

Periodic Medical Monitoring
- Participant completes Medical Assessment Questionnaire form.
- BSO identifies employees requiring BioPath participation.
- Participant completes Medical Assessment Questionnaire form.
- BSO approves. Additional risk info.; Submits to SHCC.
- ED (Emergency Department) docs who may need to treat a BioPath exposure.
- Once reviewed entry made in secure myUFL website.
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Post-exposure event
- Exposed/ill person calls BioPath: "Hotline": Says it is a BioPath Alert.
- BSO identifies the Pathogen & Agent specific code indicated on the BioPath wallet Card.
- First responders: GFR (for decontamination), EMS (for transport) alerted, dispatched; Patient transported to ED.
- ED Staff/Docs take over; Victim decontaminated/isolated per protocol.
- IT EMS transportation required, SHCC/Nurse calls 911 with BioPath alert.

Conclusions
An inclusive and comprehensive BioPath program is now in place at UF. However, the program is still evolving. We keep facing new challenges which we continue to resolve these. Our goal remains to protect the health of individuals who have a potential for direct work-related exposures, the first responders, their colleagues and the community, and the environment.

Ongoing/Future Challenges
- Tracking BioPath clearance and reminds for annual renewal.
- Identifying a "team" of "key" first-responders and ED attending staff/docs, given the frequent staff turnover.
- Identifying the best access routes to the emergency site for first responders in various ISU 3 facilities.
- Developing post-exposure BioPath response for individuals living in off-campus locations e.g. in another county or city.
- Developing and instituting training and drills for laboratory and ED personnel.
- Policy issues:
  - Requirement for serum banking and vaccines.
  - Verifying that all essential/recommended post-exposure drug/vaccines are in stock in the ED.
  - Vaccines: Ability to decline.
  - Clean-up restrictions based on potential exposure (i.e. PI, active laboratory personnel, visitor, inspector, maintenance staff etc.)
  - Physician briefing on termination of employment.