



## Biosecurity Plan for ~~the University of Western Ontario~~ Western University

~~Review and approval by Biosafety Committee: June, 2010~~ Reviewed and Approved by: Biohazards Subcommittee, September 2012; Biosafety Committee, October 2012

### 1.0 Purpose:

There are a number of new rules and regulations that govern the use of certain biological agents and toxins.

In particular, Section 2.6 of the [Health Public Health Agency of Canada Laboratory Biosafety Guidelines \(Public Health Agency of Canada, 2004\)](#) requires ~~that the University of Western Ontario~~ Western University to have a biosecurity plan in place.

The University must assess the risk of an agent and determine the physical, personnel and pathogen controls required. The University must have a plan to address a biosecurity incident and emergency response.

Research groups must have a lawful purpose to possess, use and transport the agents and procedures to identify and characterize the agents held at any University facility.

The University Biosecurity Plan specifies security requirements ~~for for Western University UWO~~ laboratories using special agents. The University Biosafety Committee requires that all users of biological agents adopt the requirements outlined in this Biosecurity Plan.

### Definitions

#### 2.0

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**Biosafety** deals with all aspects of containment to prevent any exposure and accidental release of pathogens.

**Biosecurity** measures are implemented to prevent the theft, misuse or intentional release of pathogens.

**Biosecurity agents of concern** are biological agents that, if misused, are a risk to the Western [University](#) faculty, staff, students and/or the [cCommunity](#) as determined by the Biohazards Subcommittee.

**Toxins of biosecurity concern** are agents that originate from biological systems that are able to induce harm.

### 3.0 Identification of Biosecurity agents

All researchers must complete a Biological Agents Registry Form. This form may be found at: [www.uwo.ca/humanresources/biosafety](http://www.uwo.ca/humanresources/biosafety). This is the mechanism by which all protocols are reviewed for biosafety purposes by the Biohazards Subcommittee.

When deemed a possible biosecurity risk, protocols will be sent to the Biosafety Committee or the Biohazards Subcommittee for review. Because of the nature of biosecurity, each situation will be dealt with on a case by case basis. The Biosafety Committee and its Subcommittee has the right to restrict or prohibit the use and storage of agents at ~~the University of Western Ontario~~ [Western University](http://www.uwo.ca).

Where agents with biosecurity risk are handled or stored, Supervisors may need to meet some or all of the following conditions:

1. ~~4.~~—A safety, security and emergency response plan implemented (see Section 9)
2. ~~2.~~—Restriction or approval of individuals to have access to biosecurity agents of concern (see Section 6)
3. ~~3.~~—A process to immediately report any theft, loss or release of biosecurity agent of concern (see Section 9)
4. ~~4.~~—Detailed records of information necessary to give a complete accounting of all activities related to biosecurity agents of concern (see Section 7)
5. ~~5.~~—Medical surveillance for all workers, identified through the completion of the Hazard Communication Form from Workplace Health.
6. ~~6.~~—Training including the safe storage and use of the agent
7. ~~7.~~—Physical security measures such as locked facilities, fridges and/or freezers.

#### **4.0 Designation of a Responsible Officer**

The Biosafety Officer is the Responsible Official (RO). The Responsible Official, campus police and the HAZMAT team are responsible for the development, training and implementation of biosecurity and emergency response plans. As such, the RO is contacted as soon as possible in the event of any theft, loss or release of biosecurity agents of concern. This person is involved in the risk assessment process and the biosecurity measures taken such as inventory control, background checks and transfers of biological agents.

## 5.0 Assessment of Biosecurity Risk

When recognizing a possible biosecurity risk, the Biosafety Committee or the Biohazards Subcommittee will use the method set out by [Health Canada](#) [Public Health Agency of Canada's](#) Office of Laboratory Security(2), and implement a graded implementation approach to level of risk and necessary measures [\(Fiebig, 2004\)](#).

Asset Identification

- Infectious disease risk
- Weaponization risk

Evaluation of consequence or loss

- High: Loss could result in a security event nationally or internationally resulting in a high number of casualties and/or economic damage
- Moderate: Loss could result in an event of somewhat lesser magnitude
- Low: Loss of asset could affect the local operations of an individual facility

Threat Identification

- Establishment of threat scenarios
- Definition of characteristics, motivations and capabilities of adversaries
- Evaluate the probability and consequences of scenarios

Assessment of Threat Scenarios

Source: Health Canada, Office of Laboratory Security, Marnie Fiebig, 2004

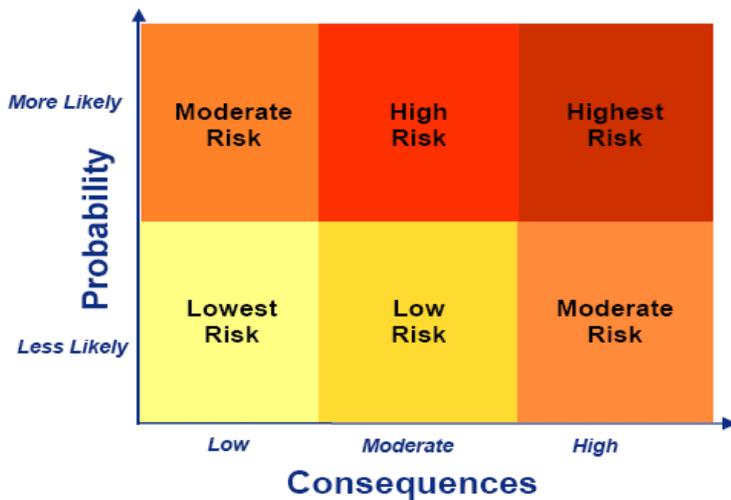


Figure 1. Assess Risk of Threat Scenarios. (Fiebig, 2004).

The University of Western Ontario Western University's Biosecurity Plan applies to lowest, low, moderate or high risk agents of concern through this biosecurity risk assessment process.

**6.06.0 Physical Protection**

| ~~The University of Western Ontario~~[Western University](#) implements graded protection based on the biosecurity risk of materials. Methods may include:

- Perimeter security such as fencing and gating
- Facility security such as security guards
- Laboratory security such as card access and locking of laboratories, fridges and freezers
- Agent specific security including locking of storage areas and freezers

#### **7.0 Personnel Accountability in the Facility**

Personnel access may be restricted to areas where biosecurity agents of concern are used, stored or otherwise present. Approval may be required to have access to the area or agent of concern (Appendix should include form). Approval may require:

- Personnel qualifications and training
- Background checks and security clearances where needed
- Periodic investigations
- Escorts and badges for non-approved personnel
- Identification such as badges

## 8.0 Pathogen Accountability

Cradle to grave record keeping may be required for pathogens with a biosecurity risk. These records may include:

- Detailed inventory including location, agent, sample type and quantity
- Record of transfers within and outside ~~the University of Western Ontario~~Western University
- Record of personnel access
- Disposal records including date and decontamination method
- Labelling of samples
- Notification of RO if there is a loss, theft, misuse of a pathogen with a biosecurity risk

## 9.0 Incident and Emergency Response

Each area with biosecurity agents of concern must have a plan to report and investigate security incidents. This plan is developed by consulting with the Biosafety Committee or the Biohazards Subcommittee. Examples of possible incidents include:

- Unauthorized personnel in restricted areas
- Unauthorized removal of pathogens
- Breach of containment

## 10.0 Biological Agents deemed Biosecurity Agents of Concern

Biological agents that are biosecurity agents of LOWEST RISK include:

- cell lines from plant, animal or human origins
- biological agents that must be ingested to cause pathogenicity or other harm
- rodents or other animals not known to be infectious
- level 1 microorganisms
- other level 1 biological agents
- other biological agents to be identified as lowest biosecurity risk
- human and animal source materials such as tissues and blood

Biological agents of concern deemed to be possible biosecurity threats:

- toxins of biological origin
- animals which may be infectious, including non-human primates
- other Level 2 or higher organisms or biological agents
- other biological agents to be identified as low, medium or high biosecurity risk

## 11.0 References

~~(1) Health Canada Laboratory Biosafety Guidelines, 3rd edition, 2004.~~

~~(1) Marnie Fiebig, Health Canada Office of Laboratory Security, 2004.~~

Fiebig, M. (2004). *Biosecurity Considerations at Facilities Handling Infectious Agents* [PowerPoint Slides].

Public Health Agency of Canada (2004). *Laboratory Biosafety Guidelines* (3<sup>rd</sup> ed.). Ottawa, ON: Author.

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