Current and emerging threats posed by high consequence pathogens can have a devastating impact on public health, animal health, and global economies. Given that over 60% of emerging infectious diseases originate in animals before infecting humans, the need for a network that brings together animal health and public health laboratories was identified as a fundamental step towards enhancing preparedness against biological threats. Biosafety Level 4 Zoonotic Laboratory Network (BSL4ZNet) brings together 11 high consequence animal health and public health laboratories from Australia, Canada, Germany, the UK, and the USA to address this need. The Network strengthens partnerships between individual laboratories to achieve an integrated capacity to respond to high consequence bio-threats. The BSL4ZNet works on five strategic focus areas: knowledge sharing, institutional cooperation, international response, scientific excellence, and training.

### Strategic Focus Areas

- **Knowledge Sharing and Institutional Cooperation**
- **International Response**
- **Scientific Excellence**
- **Training World-Class Personnel**

### Network Achievements

- Working groups merged to cover institutional cooperation and knowledge sharing.
- Survey developed to assess operational capabilities and shareable resources.
- Buy-in from all Organizations.
- Invited guest speaker: Dr. Paul Langevin, Merrick & Co.

### Future Deliverables

- Benchmarking and best practice guidelines.
- Mapping best practices for material transfer.

### Future Directions

- **Anticipate and Prepare**
  - Global infrastructure sustainability.
  - Gap analyses and simulation exercises of BSL4ZNet responses to a multi-country outbreak.
- **Protect and Prevent**
  - Countermeasure research in priority high consequence pathogens.
  - Ongoing laboratory personnel capacity building.
- **Detect and Respond**
  - Diagnostics research.
  - Providing evidenced-informed advice to decision-makers.

### BSL4ZNet Activities by Focus Area

- **Knowledge Sharing and Institutional Cooperation**: Network achievements include:
  - Network-wide response communications plan.
  - Simulation exercise of Network’s capability to respond to an emerging threat.

- **International Response**: Network achievements include:
  - Template contracts shared by Public Health England.
  - 10+ invited guest speakers, topics covered Threat Risk Assessment, ERINHA, EMERGE, etc.
  - Institutional emergency response mechanisms presented and documents shared.

- **Scientific Excellence**: Network achievements include:
  - Four scientists hired at CFIA to strengthen research capacity in Ebola.
  - High consequence pathogen surveys.
  - Development of strategic scientific collaborations.

- **Training World-Class Personnel**: Network achievements include:
  - Catalogue of BSL4 international training opportunities compiled.
  - Training survey to assess gaps.
  - Coordination of laboratory exchanges.

### BSL4ZNet Members Organizations

- **AUSTRALIA**: Commonwealth Scientific and Industrial Research Organization.
- **GERMANY**: Friedrich-Loeffler-Institut, National Research Institute for Animal Health.
- **UNITED STATES**: United States Department of Agriculture, Center of Disease Control and Prevention, Department of Homeland Security.

### Future Deliverables

- >100 documents shared among network participants.
- BSL4ZNet received CFIA President’s National Award in Best Practices and Innovation (June 2017).