

# *Biological Weapons: Still a Security Threat*

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# Past State Programs

- During the past 100 years, around two dozen countries believed to have had BW programs for some period of time
  - Most programs had a short duration. were small, and developed limited, unsophisticated capabilities: tactical military, sabotage, assassination
    - Small size made them difficult to discover: many identified only after they ended
  - Only two are known to have had sophisticated capabilities for large area coverage that could inflict mass casualty or extensive economic harm
  - One large program continued for more than 15 years after BWC came into force
  - All programs highly secret, even before BWC made them illegal, suggesting existence of a strong taboo against BW
- Limited past employment
  - First World War: covert use by Germany
  - Second World War: substantial attacks on China by Japan, some clandestine use in Europe against Germany
  - Very limited known use since 1945

# *Present State Programs*

- Very limited public information on possible illicit BW activity
- No public reporting that any country maintains a large BW program
- United States has expressed concern that insufficient clarification has been provided about the elimination of past illegal biological weapons activities
  - Bilateral discussions and CBMs have not clarified the situation
  - As a result, the U.S. cannot confirm that past programs have ended

# *Terrorist Threats*

- Relatively little evidence of past terrorist interest in biological agents
  - Few instances of intent to develop mass casualty capabilities
- Past examples:
  - Rajneeshees in United States, 750+ victims
  - Aum Shinrikyo in Japan, failed attempts to cause mass casualties
  - Al Qaeda in Afghanistan, initial research efforts only but interest in mass casualties
  - Amerithrax
- No public reporting that any current terrorist group has capabilities to inflict mass casualties using biological agents
  - However, the possibility that ISIL or similar groups could pursue BW should be taken seriously
- Concerns about the prospects for lone wolf bioterrorism
  - DIY biology may make lone bioterrorists more dangerous than previously



# Future Threats

- Changing character of security threats may create conditions favorable to BW
  - State programs remain a concern
  - Non-State actor use more likely
  - Fewer overt wars, more “gray zone” conflicts
  - Not necessarily mass destruction, but targeted attacks against individuals or small groups
  - Economic warfare may be more attractive, including attacks on agriculture
- Concerns that advances in biology could lead to new types of biological warfare
  - Gene editing tools, like CRISPR, might make it easier to create new pathogens with unique characteristics
  - Artificially recreate extinct or highly controlled pathogens (e.g., smallpox)
  - Production of toxins through biotechnology
- Future state BW programs likely to be small, although they may rely on legitimate activities for scientific and technical support