

A report to congressional addressees

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**What GAO Found**

To understand, prevent, and treat infectious diseases, researchers study biological agents, such as bacteria and viruses. In the U.S., federal agencies have established guidelines to help ensure that U.S. biomedical research labs minimize biosafety and biosecurity risks. Certain principles or “key components” of biosafety and biosecurity may help reduce risks of all biological agents and research. GAO identified 10 key components that describe key steps a U.S. lab should take to mitigate the risks of biological agent research.

The comparability of the selected Group of Twenty (G20) members’ relevant guidance documents to the 10 U.S. key components varied widely. Nine of the 10 selected G20 members in GAO’s review had documents that were comparable to one or more of the U.S key components for all biological agents and research.

G20 Member	U.S. key components									
	Risk Assessments	Biosafety Program	Biosecurity Program	Occupational Health Program	Emergency and Incident Response	Institutional Policies	Research Review and Oversight	Personnel Training	Inventory Management	Material Transport
African Union	●	●	○	○	○	○	○	○	○	○
Australia	●	●	●	●	●	●	●	●	●	●
Canada	●	●	●	●	●	●	●	●	●	●
China	●	●	●	●	●	●	●	●	●	●
European Union	●	●	●	●	●	●	●	●	●	●
India	○	●	○	●	●	○	●	●	●	●
Japan	○	○	○	○	○	○	○	○	○	○
Mexico	●	●	○	●	○	●	●	●	●	○
South Africa	●	●	○	●	○	○	○	●	○	○
United Kingdom	●	●	○	●	●	○	●	●	○	●

● Comparable to the U.S.    ● Somewhat comparable to the U.S.    ○ Not comparable to the U.S./not present

Source: GAO analysis of G20 members’ relevant publicly-available documents. | GAO-26-107338

The U.S. key components include additional precautions for specified high-risk agents—such as Ebola virus—and research. Guidance documents from Australia, Canada, and China included comparable language to most of the additional precautions GAO identified for U.S. key components of biosafety and biosecurity.

National guidance documents addressing biosafety and biosecurity are important, but other factors might also influence a G20 member’s biosafety and biosecurity. For example, Australian officials told GAO that state and territory governments play a role in managing biosecurity, such as responding to animal disease outbreaks.

**Why GAO Did This Study**

Governments use laws, regulations, policies, and guidelines to help achieve goals, such as protecting public health and safety. Biosafety helps protect lab workers, the community, and the environment from accidental exposure to or release of biological agents. Biosecurity helps protect against the loss, theft, deliberate release, or misuse of biological agents.

The CARES Act includes a provision for GAO to monitor federal efforts in response to the COVID-19 pandemic. GAO was also asked to compare the biosafety and biosecurity standards of G20 members with U.S. standards. This report examines the extent to which selected G20 members’ publicly available guidance documents reflect (1) selected key components of U.S. biosafety and biosecurity for all biological agents and research and (2) additional precautions of the U.S. biosafety and biosecurity key components specific to high-risk biological agents and research.

GAO analyzed core U.S. biosafety and biosecurity documents to identify 10 selected key components of U.S. biosafety and biosecurity for biomedical research labs. For each key component, GAO identified subcomponents or additional precautions for high-risk agents and research.

GAO analyzed selected G20 members’ publicly available guidance documents, such as national laws, regulations, policies, and guidelines. GAO examined whether members’ documents had components that were comparable, somewhat comparable, or not comparable to the 10 U.S. key components. GAO did not evaluate the extent to which each member implements or enforces these documents.