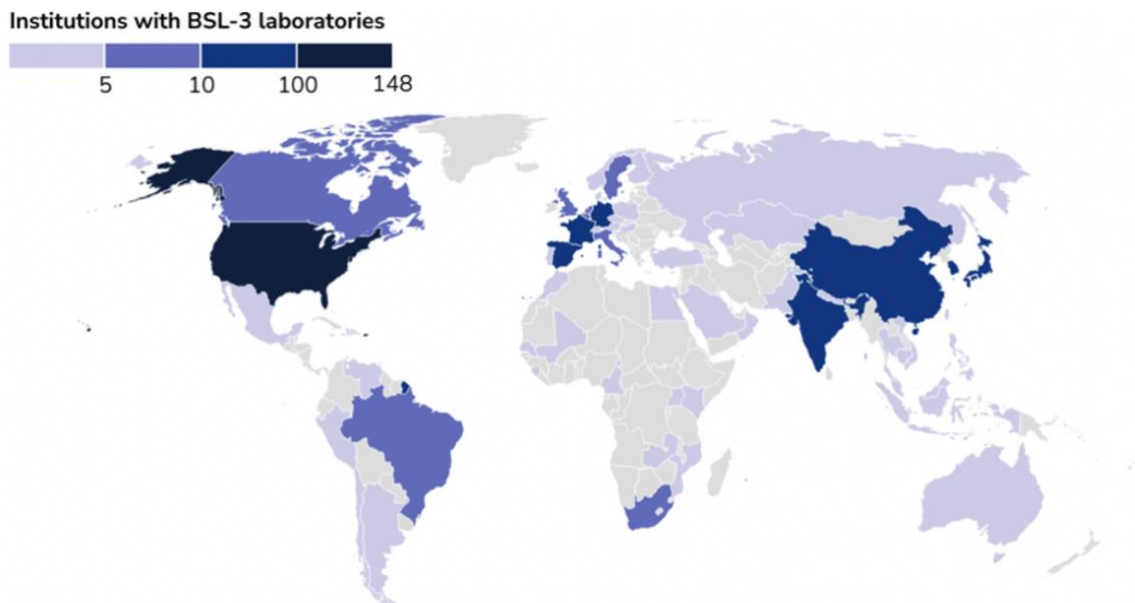


Summary of “Mapping Biosafety Level-3 Laboratories by Publications”

Biosafety Level-3 laboratories are a central part of the research infrastructure needed to understand and characterize high-containment infectious pathogens. BSL-3 laboratories are used to develop vaccines and therapies, as well as insights into host-pathogen interactions that may help prevent future pandemics. However, these facilities also pose a potential risk through lab accidents or misuse. Despite their importance, there is no comprehensive list of BSL-3 facilities, or the institutions in which they are housed. By systematically assessing PubMed articles published in English from 2006–2021, **this data brief maps institutions that host BSL-3 labs by their location, augmenting current knowledge of where high-containment research is conducted globally.** Future research will expand on this foundation by identifying labs that publish in Chinese, as well as labs that generally do not publish, including reference and clinical labs.

Figure 2: Location of BSL-3 Institutions Worldwide



Source: PubMed Central, CSET analysis.

The majority of identified BSL-3 institutions are concentrated in the United States and China, with Europe representing the next tier. The high number of BSL-3 publishing institutions in the United States is likely due to the federal grant requirement for researchers to publish their findings. These researchers are also oftentimes required to post their data and methodologies. China’s prioritization of biotechnology research and development may contribute to the country having the second largest number of BSL-3 institutions in this analysis. The U.S. BSL-3 institutions consist of a mixture of federal research centers,

universities, and companies, and reflect a decentralized R&D system. China's are state-controlled institutions, such as State Key Laboratories and People's Liberation Army military hospitals, as well as research universities that have close ties to the central government.

The European continent as a whole represents a quarter of BSL-3 publishing institutions, with frequent collaborations among European countries. Africa and Central Asia, where BSL-3 pathogens are endemic, do not have many BSL-3 institutions that publish. This may be because resources are diverted to Reference Laboratories or clinical diagnostics centers.

A comprehensive picture of BSL-3 research will help policymakers make informed decisions on facilitating and regulating high-containment research.

For more information:

- Download the report: <https://cset.georgetown.edu/publication/mapping-biosafety-level-3-laboratories-by-publications>
- Contact Us: Contact Us: Caroline Schuerger (cs2004@georegetown.edu), Sara Abdulla (sa1764@georgetown.edu), and Anna Puglisi (ap1703@georgetown.edu).