

# Report: Boom in labs handling dangerous pathogens not matched by biosafety and biosecurity regulation

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Quadrant scatter plot of national context percentiles against biorisk management score percentage (out of maximum possible score) for all countries with operational or planned BSL4 labs. Credit: *Global BioLabs Report 2023* (2023).

The number of labs handling dangerous pathogens has risen to more than 100 around the world but has not been accompanied by sufficient oversight, raising biosafety and biosecurity concerns, a new report by King's College London warns.

The Global BioLabs Report 2023 found the number of BSL4 labs in operation, under construction or planned has grown by 10 in two years, from 59 across 23 countries in 2021 to 69 across 27 countries. Three quarters of these are in urbanized areas exacerbating the impact of any accidental releases of pathogens.

"We're seeing rapid expansion of max containment labs in Asia but many of these countries score poorly on biorisk management. We found biosafety governance to be stronger than biosecurity, while the weakest component is management of dual-use research of concern," says report author Dr. Filippa Lentzos.

The report also highlights the rise in use of a new type of high-containment lab, known as "BSL3+" or "BSL3-enhanced" of which there are 57 around the world—mainly in Europe and most in urban centers. These labs adopt additional precautions when carrying out especially risky research, but there are few guidelines for what constitutes a BSL3+ lab and no evidence that the measures being taken in these facilities are adequate for the research they carry out.

"We urgently need coordinated international action to address increasing biorisks," says Dr. Gregory Koblenz of the Schar School of Policy and Government at George Mason University, project co-lead.

To address these risks, the report calls for:

- Labs conducting high-consequence work with pathogens to adopt the international standard for biorisk management (ISO 35001).

- Countries to incorporate current international biorisk management standards into their national legislation and guidance.
- The World Health Organization (WHO) to develop criteria and guidance for BSL3+ labs as well as guidance on field biosafety, and to establish collaborating centers for biorisk management for every region.
- Countries to better leverage existing international biorisk management organizations to strengthen global biorisk management.

"There has been a global boom in construction of labs handling [dangerous pathogens](#), but this has not been accompanied by sufficient biosafety and biosecurity oversight. Our new report documents for the first time the current picture around the world and sets out clear recommendations to help address current shortcomings that need to be implemented at the local, national and international level," says Lentzos

The Global Biolabs project based at King's College London began in 2021 and partners with George Mason University and the Bulletin of Atomic Scientists. Its new report scores the 27 countries with BSL4 labs on their biosafety, biosecurity, and dual-use research legislation and general implementation effectiveness.

It shows the rapid increase in the number of BSL4 labs and says most of the increase is in Asia including India, Kazakhstan and Singapore. It also identified trends around the size of the facilities and the level of personal protective equipment used in such labs.

For the first time the report also looked at "BSL3 enhanced" and "BSL3+" labs which it found are mainly used by public health institutions and universities, and tend to have a stronger focus on animal health research compared to BSL4 facilities.

The [report](#) also assessed biorisk management and governance at the international level and found that overall, biosafety governance was found to be much stronger than biosecurity. It highlighted how there are several informal multinational groups that emphasize biorisk management in their missions but lack authority and/or resources to mandate meaningful changes.

It also said that those [international organizations](#) that do have more resources, members and official mandates that could cover biorisk [management](#) place the issue lower down on their list of priorities and there are challenges achieving coordinated action and agreement.

**More information:** Report: [www.kcl.ac.uk/warstudies/asset...labs-report-2023.pdf](http://www.kcl.ac.uk/warstudies/asset...labs-report-2023.pdf)

Provided by King's College London

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