

**CHINA'S BIOSAFETY LEVEL 4
LABORATORIES AND THEIR
INTERNATIONAL LINKAGES
IN PATHOGEN RESEARCH**

Ryan CLARKE, LI Yao & LAM Peng Er

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Executive Summary

1. A fundamental trend in the origins and diffusion of high-risk virology research is clear. This frontier work began in key Western countries and gradually diffused to China with the most high-risk components being ‘outsourced’ to Chinese Biosafety Level 3 and 4 (BSL3/BSL4) labs.
2. This trend broadly mirrors other highly dangerous industrial processes that were shifted from their initial production zones in the West to China. In this context, high-risk bat coronavirus Gain of Function (GoF) research in China (while still highly dangerous) is not as unique or isolated as what it may initially appear.
3. Given the current COVID-19 outbreak, public attention regarding bat coronavirus GoF research is currently being paid to Dr Shi Zheng-Li and her team at the Wuhan Institute of Virology (WIV). However, this overly narrow focus misses the critical bigger strategic picture and inhibits current and future decision-making.
4. Under the radar of many responsible bodies and sometimes independent of national governments, a transnational high-risk pathogen research network has been architected under official civilian cover.
5. Whether wittingly or unwittingly, some international researchers have been engaging in dual-use bioengineering research and development with their Chinese counterparts. The line between pure scientific research for clear public health benefit and research and development for a whole different set of strategic applications was crossed years ago.
6. There is an apparent lack of strategic cooperation and research partnerships between China’s two BSL4-capable institutes, WIV and Harbin Veterinary Research Institute (HVRI), that handle some of the world’s most dangerous pathogens.
7. While WIV and HVRI do not appear to have extensive institutional linkages between them, both have extensive international linkages to institutions in the

United States, Canada, Australia, France, India and Holland amongst others. The drivers of the formation and sustainment of these international networks appear to be more oriented towards GoF experiments as opposed to conventional clinical/scientific tasks.

8. In the event that the COVID-19 virus is reliably assessed to have been engineered in a laboratory environment/s, this poses a series of challenges. The technologies, techniques, data and other tools that have ‘powered’ this research are now widely available through open-source publications.
9. As such, they are also likely to be diffused across multiple advanced / rapidly emerging laboratory environments, many of which are in the Asia Pacific (and China in particular). Mapping and understanding the core mechanics of these diffusion processes will be critical for developing, validating and maintaining a clear picture and enabling optimal critical strategic decisions to be made.
10. COVID-19 could also be determined to be natural in origin and to have possibly emerged from a live animal market that conducted its own natural evolutionary GoF experiment. This would pose another distinct set of challenges as China and multiple Southeast Asian countries are home to thousands (reliable and more precise estimates are difficult to obtain) of such markets.