PUBLIC COMMENT: FOUNDATION FOR DEFENSE OF DEMOCRACIES

Department of Commerce
Bureau of Industry and Security

Notice of Request for Public Comments on Section 232 National Security Investigation of Imports of Pharmaceuticals and Pharmaceutical Ingredients

Docket No. 250414-0065
XRIN 0694-XC120

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Washington, DC
May 6, 2025

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Introduction

China has aggressively grown its pharmaceutical sector, threatening to undermine American economic strength and military prowess. Having identified biotechnology and pharmacology as future engines of economic growth, the Chinese Communist Party (CCP) has devoted significant resources to driving innovation and moving up global value chains.[1]

These efforts have been intimately coupled with China's unprecedented military build-up, as Beijing has sought to merge the People's Liberation Army (PLA) with the Chinese private medical sector under the auspices of its military-civil fusion (MCF) strategy.[2] Beyond offering a form of indirect fiscal stimulus, MCF has become a key avenue for the PLA to weaponize civilian technologies, particularly genetic engineering techniques that may eventually be used to augment soldiers' physiological features.[3]

Beijing's strategy to harness the country's pharmaceutical sector in pursuit of economic growth and military dominance poses a direct threat to U.S. national security, both at home and abroad. Chinese pharmaceutical firms are increasingly capable of weaponizing their growing role within global supply chains — slowly eroding American firms' advantages while preparing to cut off access to a broad spectrum of ingredients, medications, and manufacturing capacity in the event of a crisis. Even more troubling, China's growing pharmaceutical base may complicate efforts to rebuild or expand America's national strategic stockpile, harming U.S. public health preparedness, while advances in Chinese biotechnologies may threaten America's deterrence capacity.

In pursuing its investigation, BIS should address the national security implications of Chinese pharmaceutical imports, ensuring that the United States can protect its most crucial supply chains from Chinese interference while strengthening the domestic pharmaceutical industry.
This comment will provide further detail into the threat posed by Chinese involvement in the U.S. pharmaceutical sector.

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[1] State Council of the People's Republic of China, "中华人民共和国国民经济和社会发展第十四个五年规划和2035年远景目标纲要 [Outline of the People's Republic of China 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035]," March 12, 2021. (https://perma.cc/73AK-BUW2)
[2] Emily de La Bruyère and Nathan Picarsic, "Defusing Military-Civil Fusion," *Foundation for Defense of Democracies*, May 27, 2021. (https://www.fdd.org/analysis/2021/05/26/defusing-military-civil-fusion); Jack Burnham and Johanna Yang, "U.S. at Risk of Falling Behind China in Biotechnology," *Foundation for Defense of Democracies*, April 15, 2025. (https://www.fdd.org/analysis/policy_briefs/2025/04/15/u-s-at-risk-of-falling-behind-china-in-biotechnology)
[3] Ibid.

Overview of the Threat From Pharmaceutical Imports Sourced From Foreign Adversaries (the People's Republic of China)

Having outlined a desire to supplant the United States as a global leader in science and technology over the coming decade, China relies on all its facets of national power to degrade Washington's global standing — particularly its growing expertise in pharmaceuticals and biotechnology.

While Beijing has long been a key player within the global pharmaceutical sector, particularly as a producer of generic medicines, the CCP has in recent years poured both political support and investment into the country's biotechnology sector. Both the 14th Five Year Plan and 'Made in China 2025,' Beijing's premier industrial policy, position pharmaceutical development as a key pillar of the country's future economic growth and call for greater investment into the commercial life sciences sector.[4] Along with sinking funds into emerging biotechnologies, the CCP has also offered regulatory support to the Chinese pharmaceutical industry, having adopted several measures over the past decade to streamline the approval process for clinical trials and promote the introduction of novel treatments.[5]

These investments have targeted every aspect of the country's pharmacology supply chain — higher education, basic science funding, clinical trials, bio-banking, and artificial intelligence (AI) — allowing China to rapidly move up global value chains. While China once only produced select generics and active pharmaceutical ingredients (APIs), Chinese firms are increasingly becoming global industry leaders, attracting Western investment in joint ventures and clinical trials and developing first-in-class therapies.[6] Along with bolstering traditional drug discovery pipelines, Chinese firms have become increasingly capable of integrating novel technologies,

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[4] Emily de La Bruyère, "Made in China 2025—Who Is Winning?" *Foundation for Defense of Democracies*, February 6, 2025. (https://www.fdd.org/analysis/2025/02/06/made-in-china-2025-who-is-winning); State Council of the People's Republic of China, "中华人民共和国国民经济和社会发展第十四个五年规划和2035年远景目标纲要 [Outline of the People's Republic of China 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035]," March 12, 2021. (https://perma.cc/73AK-BUW2)

[5] Yue Chen, Jianing Song, Yihang Cui, and Liyun Zhou, "Five Trends of China's Pharmaceutical Industry in 2022," *Acta Pharmaceutica Sinica B*, April 12, 2023. (https://doi.org/10.1016/j.apsb.2023.04.004)

[6] "It's Not Just AI. China's Medicines Are Surprising the World, Too," *The Economist* (UK), February 16, 2025. (https://www.economist.com/business/2025/02/16/its-not-just-ai-chinas-medicines-are-surprising-the-world-too); Koh Ewe, "'Ineffective' Generic Drugs Fuel Rare Public Anger In China," *BBC* (UK), February 11, 2025. (https://www.bbc.com/news/articles/ceve1xpdjxro); Niels Graham, "The US Is Relying More on China for Pharmaceuticals — And Vice Versa," *Atlantic Council*, April 20, 2023. (https://www.atlanticcouncil.org/blogs/econographics/the-us-is-relying-more-on-china-for-pharmaceuticals-and-vice-versa); Zimeng Chen, Hui Zhong, Hongxi Hu, Fanpu Kong, Wannian Liang, and Guanqiao Li, "Chinese Innovative Drug R&D Trends in 2024," *Nature Reviews: Drug Discovery*, July 31, 2024. (https://www.nature.com/articles/d41573-024-00120-5)

such as artificial intelligence (AI), into their research platforms, further accelerating the pace of innovation.[7]

This growth has commensurately spurred the CCP's capacity to weaponize its position within the global pharmaceutical sector against the United States. Having extended its hold over multiple aspects of pharmaceutical supply chains, from active pharmaceutical ingredients to generic medications to more advanced treatments, Beijing is increasingly gaining the capacity to cut off American access to a broad spectrum of treatments. America's vulnerability is likely to expand due both to China's growing support for its domestic biotechnology sector — which threatens to outpace U.S. research spending — and Chinese firms' subsequent capacity to rapidly introduce first-in-class drugs at the expense of their American competitors.

China's efforts to develop its pharmacological sector are also directly tied to the CCP's efforts to bolster its military prowess in advance of a possible conflict with Washington. Seeking a qualitative military edge over the United States, China has embraced MCF, enlisting its leading biotechnology firms into the country's defense industrial base and blurring the lines between commercial and military research.[8] This effort has benefited both the private sector and the PLA — major Chinese biotechnology and pharmaceutical firms such BGI Group and MGI Tech have received crucial support from Chinese military hospitals and researchers to expand their market reach at the expense of American competitors, while the military has gained access to cutting-edge innovations.[9]

The PLA's role in China's pharmaceutical sector has primarily involved research in pharmacogenomics, genetic editing, and medical countermeasures. The PLA has been a key component in China's efforts — collecting millions of genetic samples for its gene banking program and having partnered with BGI Group to develop a prenatal test that analyzes patients' blood and genetic samples.[10] Once collected, BGI reportedly uses these samples to conduct further analysis in support of Chinese pharmaceutical firms, including sequencing technologies, target discovery, and molecular diagnostics.[11]

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[7] Brian Yang, "DeepSeek Signals China's Rising Influence in AI — And AI Drug Development," *STAT News*, February 3, 2025. (https://www.statnews.com/2025/02/03/china-ai-drug-development-deepseek-pharma)
[8] Jack Burnham and Johanna Yang, "New U.S. Export Controls Seek to Prevent China From Weaponizing Biotech," *Foundation for Defense of Democracies*, January 21, 2025. (https://www.fdd.org/analysis/2025/01/21/new-u-s-export-controls-seek-to-prevent-china-from-weaponizing-biotech); Jack Burnham and Johanna Yang, "Chinese Leader Xi Jinping Calls for Greater Local Support for Military Modernization," *Foundation for Defense of Democracies*, March 13, 2025. (https://www.fdd.org/analysis/policy_briefs/2025/03/13/chinese-leader-xi-jinping-calls-for-greater-local-support-for-military-modernization)
[9] Craig Singleton, "Biotech Battlefield: Weaponizing Innovation in the Age of Genomics," *Foundation for Defense of Democracies*, January 15, 2025. (https://www.fdd.org/analysis/2025/01/15/biotech-battlefield)
[10] Kirsty Needham and Clare Baldwin, "China's Gene Giant Harvests Data from Millions of Women," *Reuters*, July 7, 2021. (https://www.reuters.com/investigates/special-report/health-china-bgi-dna)
[11] Ibid.

In addition to pursuing MCF, the PLA has also adopted several emerging biotechnologies into its future warfighting strategy, heightening the likelihood of Beijing weaponizing the country's pharmaceutical industry in the event of a crisis. Specifically, the PLA has reportedly demonstrated an interest in modifying soldiers' genomes to improve their physical strength and stamina and enhance their resistance to radioactive fallout.[12] Having experienced biological warfare during the Second World War, Beijing has also ramped up its efforts to prepare medical countermeasures in the case of another large-scale conflict, improving its dual-use public health infrastructure and investing in both its pharmaceutical and medical industrial base.[13]

These developments have profound implications for China's efforts to challenge U.S. national security across a host of domains, ranging from global conflicts to clinicians' offices. While the PLA's efforts to integrate biotechnology remain limited in practice, Beijing's continued pursuit of MCF will likely render Chinese forces ever more capable of using novel technologies in combat, whether to augment and improve current platforms or to pursue a revolution in military affairs. Advances in Chinese pharmacological products will also likely expand Beijing's backdoor access to the American healthcare system, introducing vulnerabilities into America's dual-use public health infrastructure such as national emergency stockpiles or the production of medical equipment.

Conclusion

China's pharmaceutical sector poses a growing threat to U.S. national security, increasingly capable of undermining American firms, introducing vulnerabilities into a broad web of crucial supply chains, and advancing the PLA's modernization efforts. BIS's investigation into the national security implications of pharmaceutical imports is timely and will provide a strong foundation for trade and non-trade-based remedies to protect the United States.

Thank you for considering our comments, and we look forward to seeing how our input is incorporated into these findings.

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[12] Stephen Chen, "Chinese Team Behind Extreme Animal Gene Experiment Says It May Lead to Super Soldiers Who Survive Nuclear Fallout," *South China Morning Post* (China), March 29, 2023. (https://www.scmp.com/news/china/science/article/3215286/chinese-team-behind-extreme-animal-gene-experiment-says-it-may-lead-super-soldiers-who-survive)

[13] Friedrich Frischknecht, "The History of Biological Warfare," *EMBO Reports*, June 2003. (https://pmc.ncbi.nlm.nih.gov/articles/PMC1326439); Jing-Bao Nie, "Japanese Doctors' Experimentation in Wartime China," *The Lancet*, December 2002. (https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(02)11797-1/fulltext); Jiyan Ma, Yang Yang and Yangmu Huang, "Research and Development of Medical Countermeasures for Emerging Infectious Diseases, China, 1990-2022," *Emerging Infectious Diseases*, January 2025. (https://doi.org/10.3201/eid3101.230638)