

Ensuring a Stable Supply Chain of Necessary Medicines in the US

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Driving National Health Security and Job Growth in Missouri

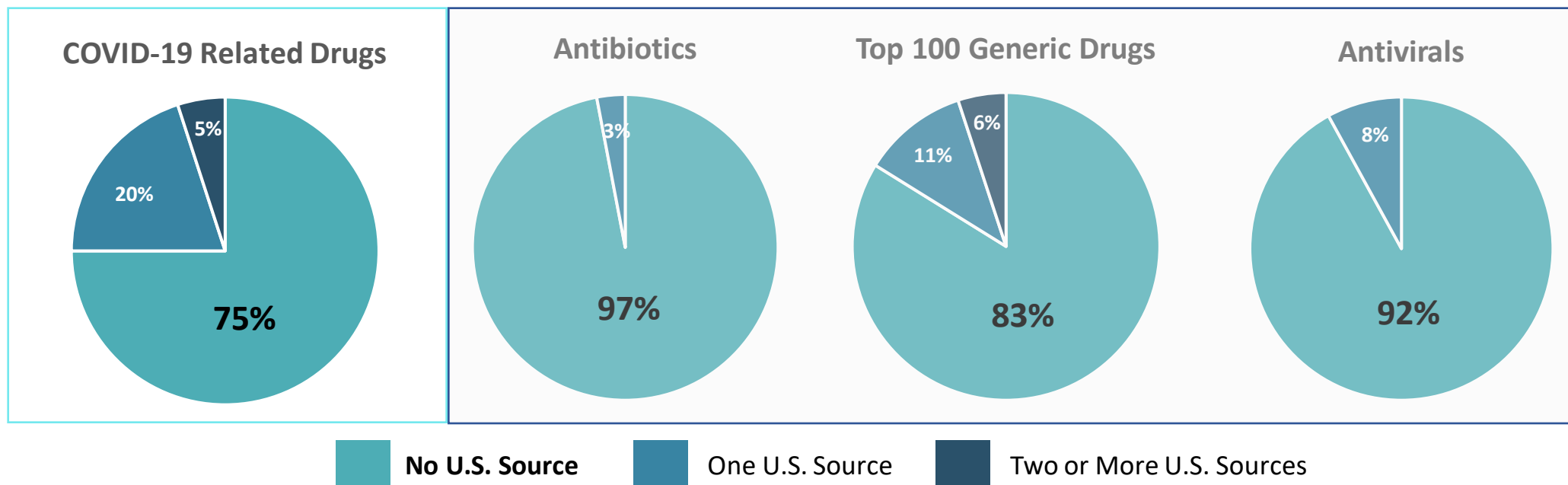
API Innovation Center @ CORTEX
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The U.S. Drug Supply Chain Is Vulnerable

We are over-reliant on foreign-sourced drug API

Our dependence on foreign countries for pharmaceuticals and API has created both a public health and national security risk.



Source: Sardella, A., "The US Active Pharmaceutical Ingredient Infrastructure: The Current State and Consideration to Increase US Healthcare Security." Olin Business School, Center for Analytics and Business Insights, Washington University, August 2021.

API = Active Pharmaceutical Ingredients



Federal Government: Supply Chain Security

“Keeping the nation’s drug supply chain secure, robust, and resilient is essential for the national security and economic prosperity of the United States.”

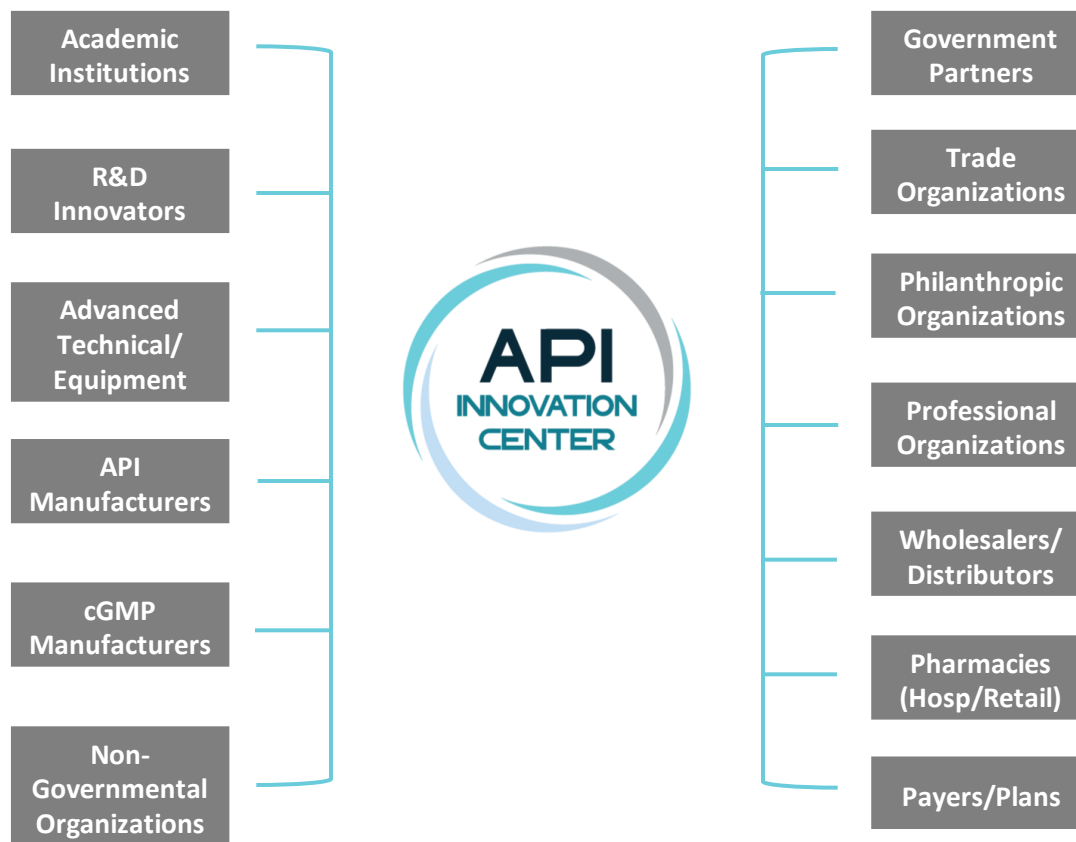
The White House
Report: Building Resilient Supply Chains
June 28, 2021

- **Inspector General Department of Defense**: *“A disruption of the supply of foreign-made API to domestic manufacturers could cause a drug shortage that affects every level of the U.S. health care system, which is a public health and national security risk.”*
- **President Biden Executive Order**: “Improve and expand domestic biomanufacturing production capacity.”
- **US Treasury’s Committee on Foreign Investment in the United States (CFIUS)**: blocks sale of Snapdragon to a Chinese pharmaceutical and research company.
- **US Congress**: Introducing legislation to support advanced manufacturing: Endless Frontiers Act; US COMPETES Act.
- **FDA Report**: Adoption of advanced manufacturing techniques would reduce production costs and increase resilience of US production.



APIIC: Accelerate Domestic Biomanufacturing

Center of Excellence Ecosystem: Commercialize Advanced Manufacturing Technologies



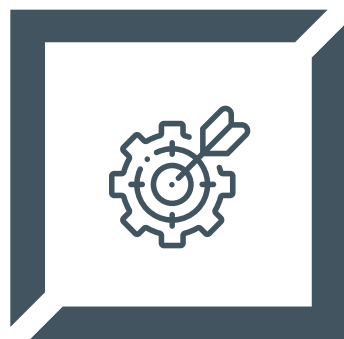


The API Innovation Center @ CORTEX: De-Risking the Innovation Process



PARTNERSHIPS

Fostering collaboration among a **network of companies, academic and research organizations, and startups** spanning the API advanced manufacturing supply chain.



INVESTMENTS

Collaborates with public entities to de-risk/fund investments assuring viability of US-made APIs



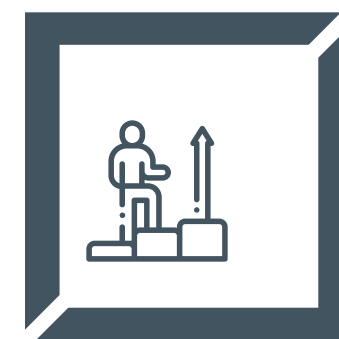
RESEARCH

Develop solutions for shared emergent challenges that leads to **new technologies and methods.**



INNOVATION

Through a coordinated approach, enable the commercialization of advanced manufacturing technologies in cGMP facilities to **produce essential and critical medicines** within 24 months.



WORKFORCE

Create a diverse talent pipeline by partnering with local educational and non-profits that **engage under-represented communities and support DEIA.**



APIIC Model: Begin with the End in Mind

OUR DECISION PROCESSES



**SECURE
PHARMACEUTICAL
END CUSTOMERS**

Demand/Volume
Regional Job Growth



**SELECT RIGHT
DRUG API TO
RESHORE**

No US Source
Profitable Profile
Technically Feasible
Patient Impact



**IDENTIFY THE BEST
ADVANCED
TECHNOLOGY**

Technical Readiness
Strategic Business Fit



**ENGAGE REGIONAL
MANUFACTURING
cGMP SITES**

Competency/Expertise
Excess Capacity
Matching Investment



What States Can Do

- **Invest in new technologies and advanced manufacturing**
 - De-risk investment for companies to expand manufacturing capabilities
 - Put idle manufacturing capacity to work
- **Workforce Development**
 - Advanced manufacturing \neq advanced degrees
 - Create accelerator hubs located in the communities (not the campus)
- **Medicaid reimbursement**
 - Increase Medicaid reimbursement, not to exceed federal upper limit
 - Establish a higher dispensing fee (to pharmacist) for US-sourced drugs (i.e. specialty drug)



Missouri – Funding Advanced Manufacturing

HOUSE BILL NO. 3007

101ST GENERAL ASSEMBLY

For the purpose of providing grants to state based organizations creating infrastructure for industries that are fundamental to the national security of the United States where the manufacturing of essential products have become reliant on production outside of the United States which potentially jeopardizes a reliable supply chain for domestic consumption. Furthermore, grants shall focus on such manufacturing where Missouri has an inherent connection or advantage creating an environment for significant growth in Missouri’s economy. Relevant investment sectors shall include but not be limited to advanced and innovative manufacturing of active pharmaceutical ingredients and semiconductors. Grants shall provide for investment and infrastructure focused on creating a hub of such industries in Missouri

From Missouri Technology Investment Fund (0172). 15,000,000



Gov. Parson (R-MO) HB3007 Bill Signing