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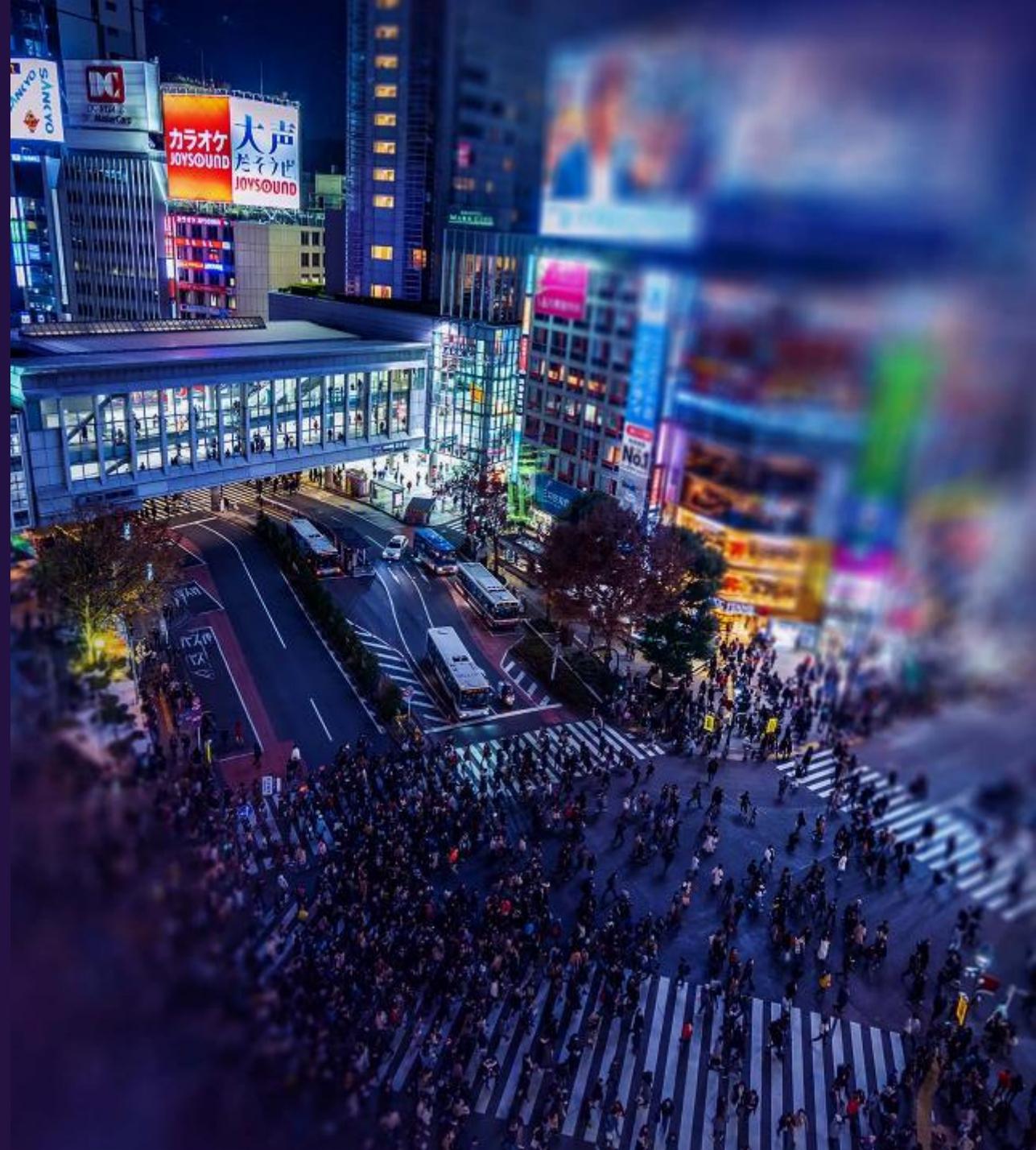
The State of the Biopharmaceutical Industry 2025:

Key Trends and Issues Impacting Pharma Industry

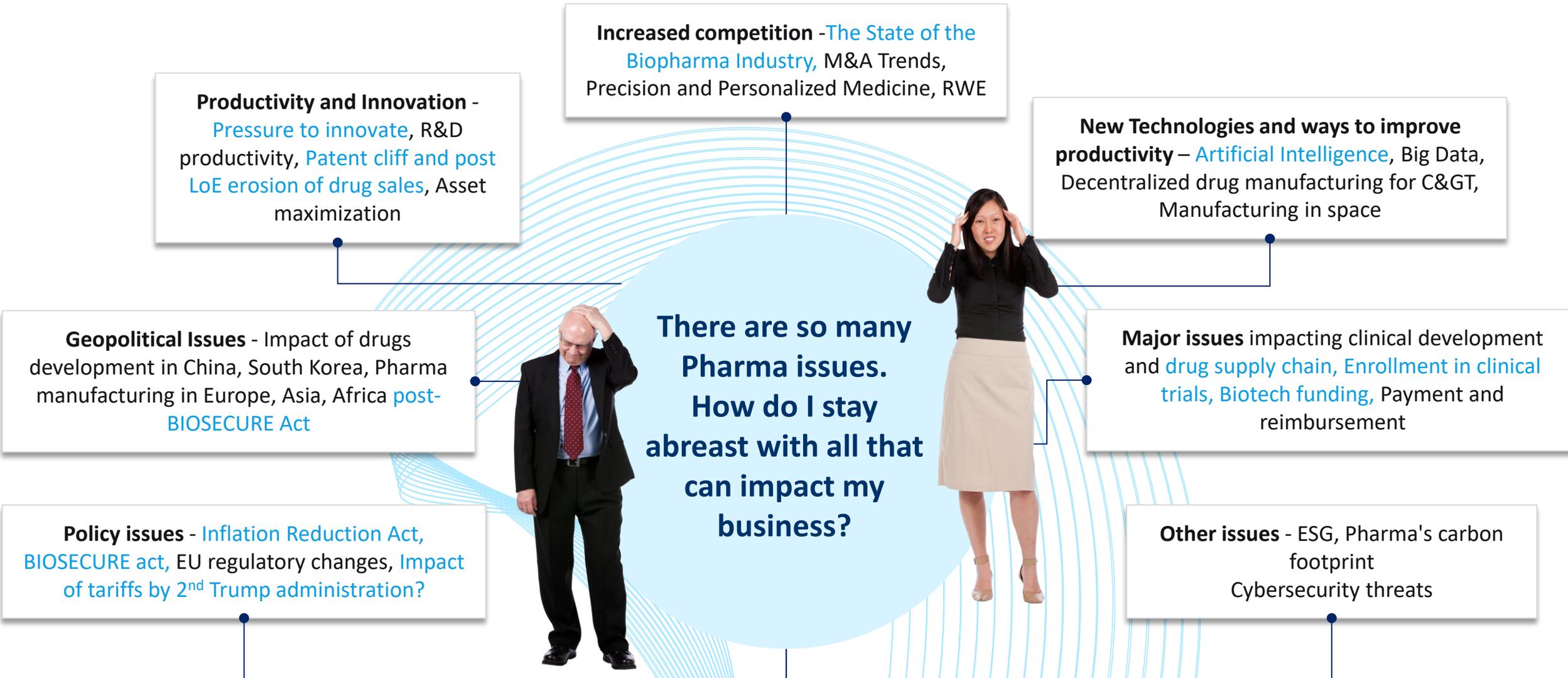
Revati Tatake, PhD

Global Head, Pharma R&A and Competitive
Intelligence

February 2025



BioPharma Industry is facing a range of industry-specific as well as macroeconomic and geopolitical issues and trends that can impact the industry



Objective of the presentation: Inform the biopharma industry and suppliers

- 1** The State of the Biopharmaceutical Industry and the most impactful emerging industry trends, key themes and technologies impacting advancements in biopharma
- 2** Spotlight on clinical trials – Challenges and use of emerging trends for drug development
- 3** Key takeaways - Outlook for 2025 and beyond

Methodology Overview



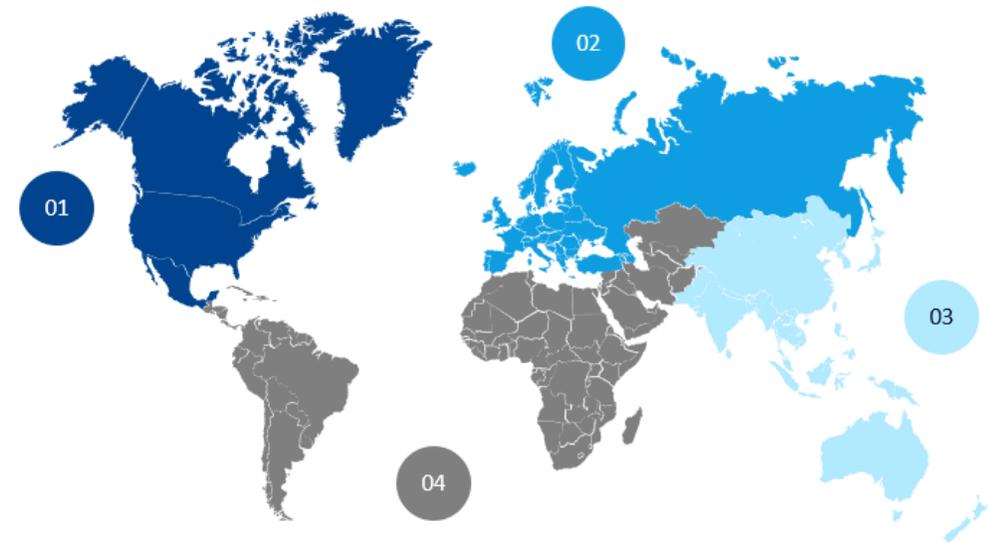
GlobalData **conducted online B2B surveys** to understand current attitudes of pharmaceutical professionals about our industry and assess the top trends that are set to impact the pharmaceutical industry in coming years

Objectives

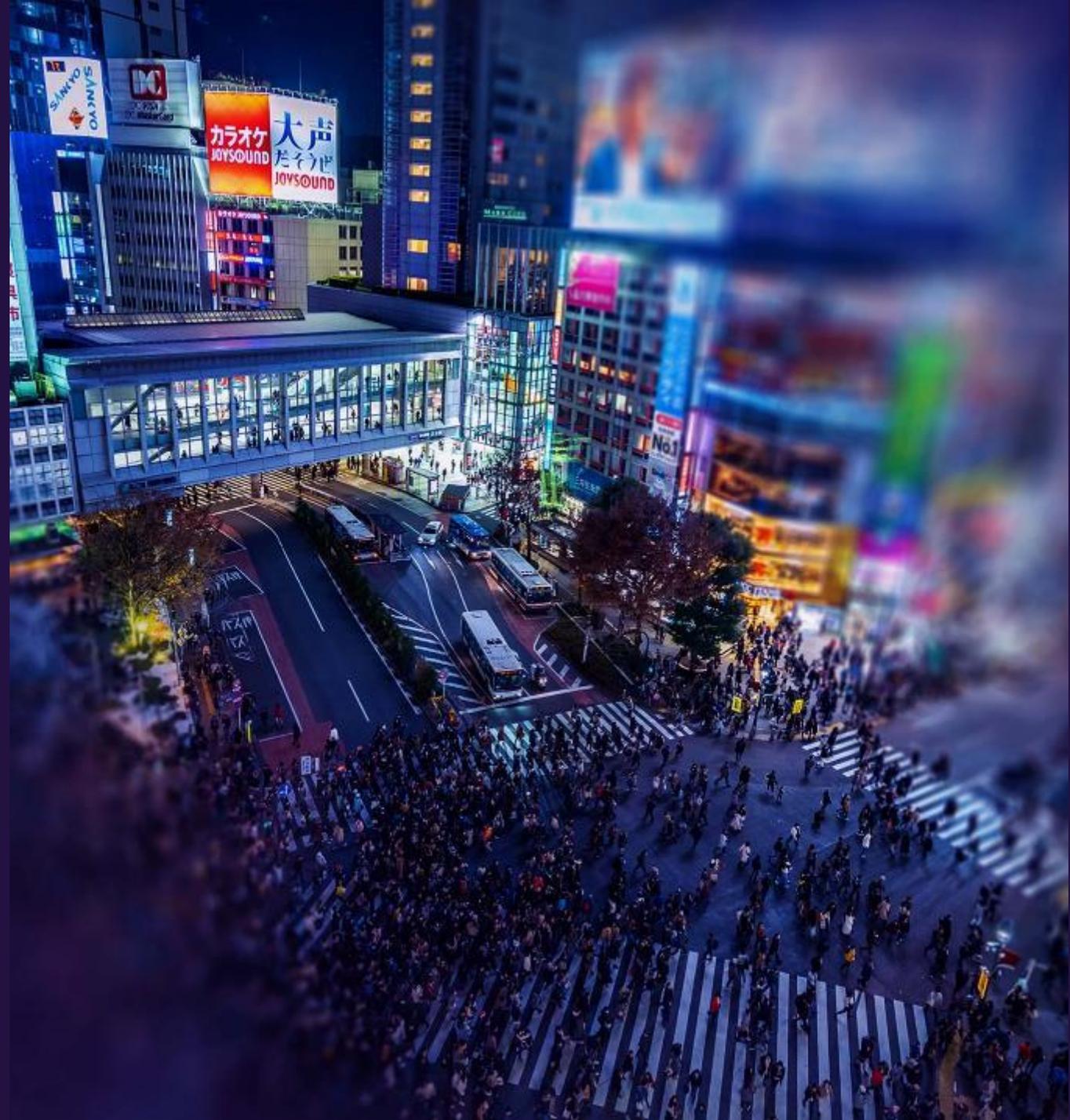
- Benchmark the impact of major themes on the biopharmaceutical industry in 2024/2025, including:
 - Emerging technologies
 - Regulatory trends
 - Macroeconomic trends
 - Industry trends
- Identify themes that will have the greatest positive or negative impact in 2024/2025
- Evaluate levels of investment in technologies and to identify current and future investment priorities

Design

Over 400 global pharmaceutical business industry professionals participated in web-based surveys that were completed from September 2023 to December 2024.



Pharma Industry Key Trends

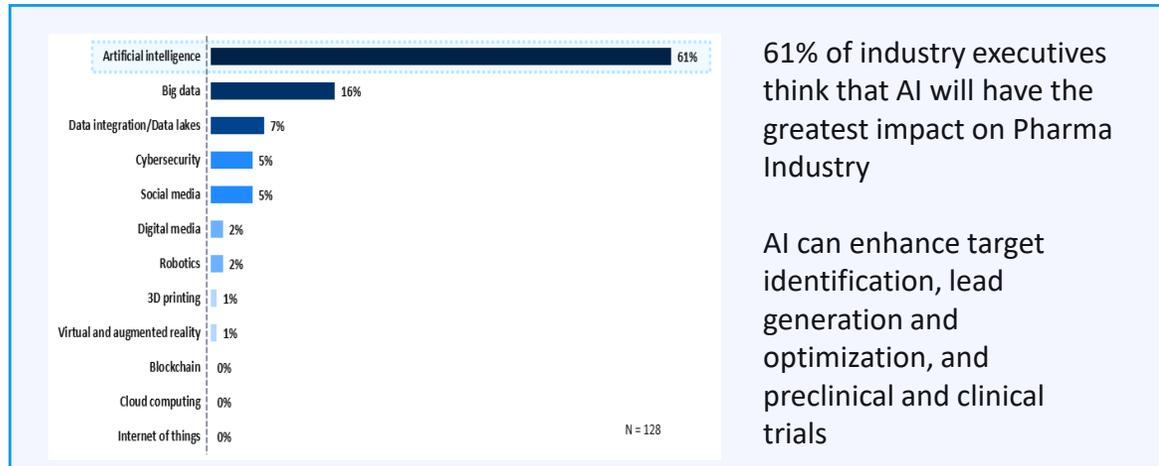




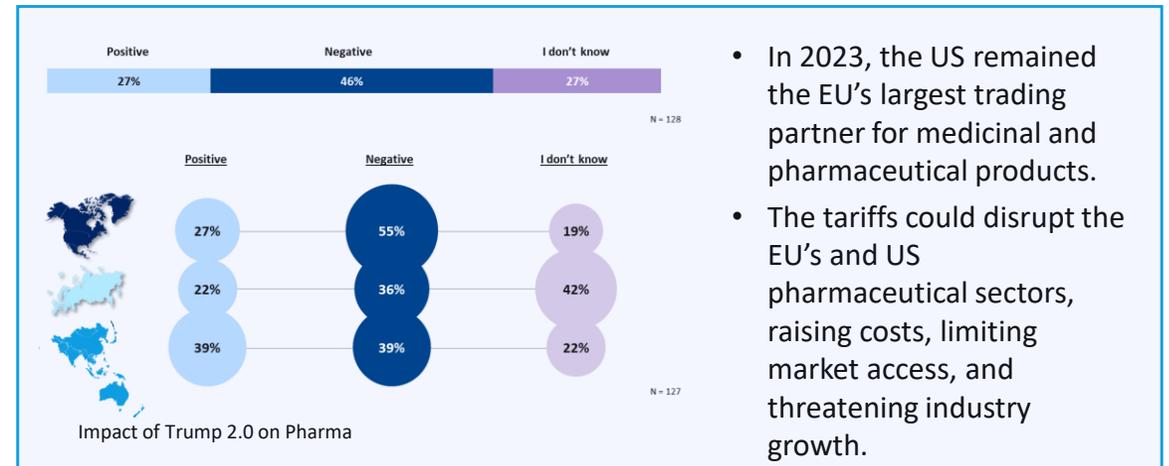
Key Industry Trends

Our experts attend all major industry events, conduct primary research interviews & surveys, and work very closely with hundreds of biopharma companies, suppliers and financial institutions investing in life sciences. These are a few of the key topics we are monitoring...

➤ Artificial Intelligence (AI)



➤ Impact of US politics and Tariffs



➤ Regulations – IRA, EU Pharma Reform, BIOSECURE act

Inflation Reduction Act:

Requires select drugs/companies covered by Medicare to conduct pricing negotiations, pay steep task or risk losing CMS coverage - **Second list of 15 drugs revealed**

EU Pharma Reform:

Proposed legislation in April 2023 to make medicines more available & affordable – approval timelines, exclusivity reduction, etc.

BIOSECURE act:

In January 2024, the US introduced the bill called the BIOSECURE Act, which aims to prevent Chinese manufacturers from accessing US federal funding.

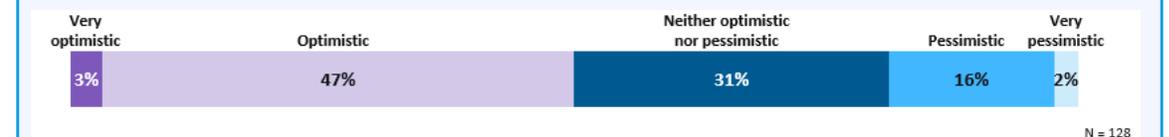
All could have extreme impacts to pharma revenue & innovation

➤ Biotech Funding

Biotech funding has suffered the past 2 years

- 2023 = 65% of 2021

50% of survey respondents are optimistic about funding recovery





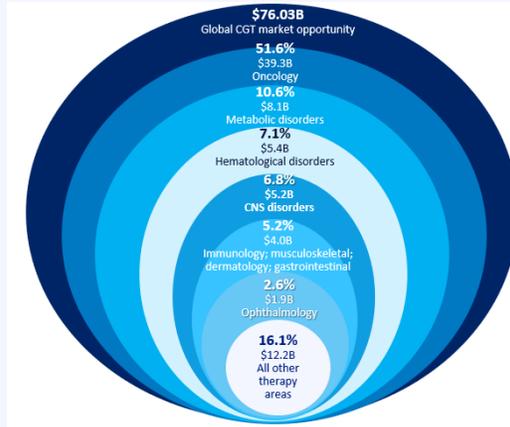
Key Industry Trends

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➤ Anti-Obesity Medications

- GLP-1 agonists are transforming obesity treatments prompting increased investment in research and development in the field.
- The need for anti-obesity medications will be growing in the next 10 years, and frontrunners Novo Nordisk and Eli Lilly are already struggling to meet the market demand.
- GlobalData anticipates that the GLP-1R agonists market will reach \$125.3 billion sales by 2033, 90% of which will be from obesity drugs sales.

➤ Cell and Gene Therapies (CGTs)



Global CGT Market is Projected to Reach **\$79 Billion by 2030.**

Oncology is expected to account for 44% of the CGT market by 2030 and will dominate as the leading area of major development for cell and gene therapies.

➤ Immuno-Oncology (IO)

- IO remains one of the fastest growing segments in oncology, with over 89 therapies across five drug classes either approved or in pre-registration as of December 2024.
- *“Immuno-oncology has advanced the cancer treatment for more than a decade and continue to have high impact and drive the oncology market.” – North America VP/SVP/EVP*

➤ Supply Chain Challenges

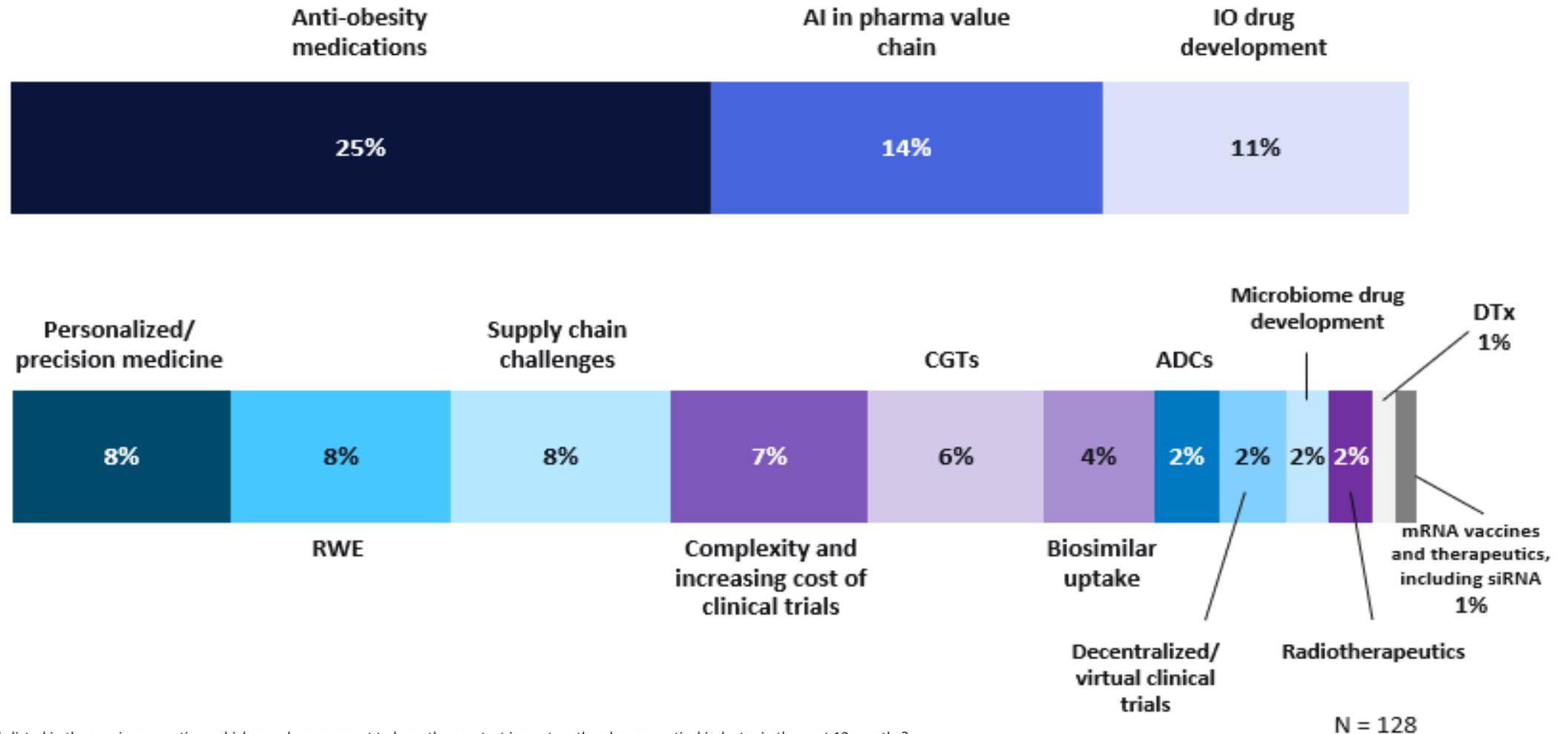
- Drug shortages are worsening globally, leaving patients without essential medications, and healthcare providers scrambling for alternatives.
- Shortages are impacting both high and low value drugs (such as antibiotics) alike.
- Demand is especially high for anesthetics and oncology drugs. The drug shortages are now impacting pricing and reimbursement policies in various countries.

The Most Impactful Emerging Industry Trends



Anti-obesity medications are expected to have the greatest impact on the pharmaceutical industry

Survey fielded November 15, 2024, to December 4, 2024



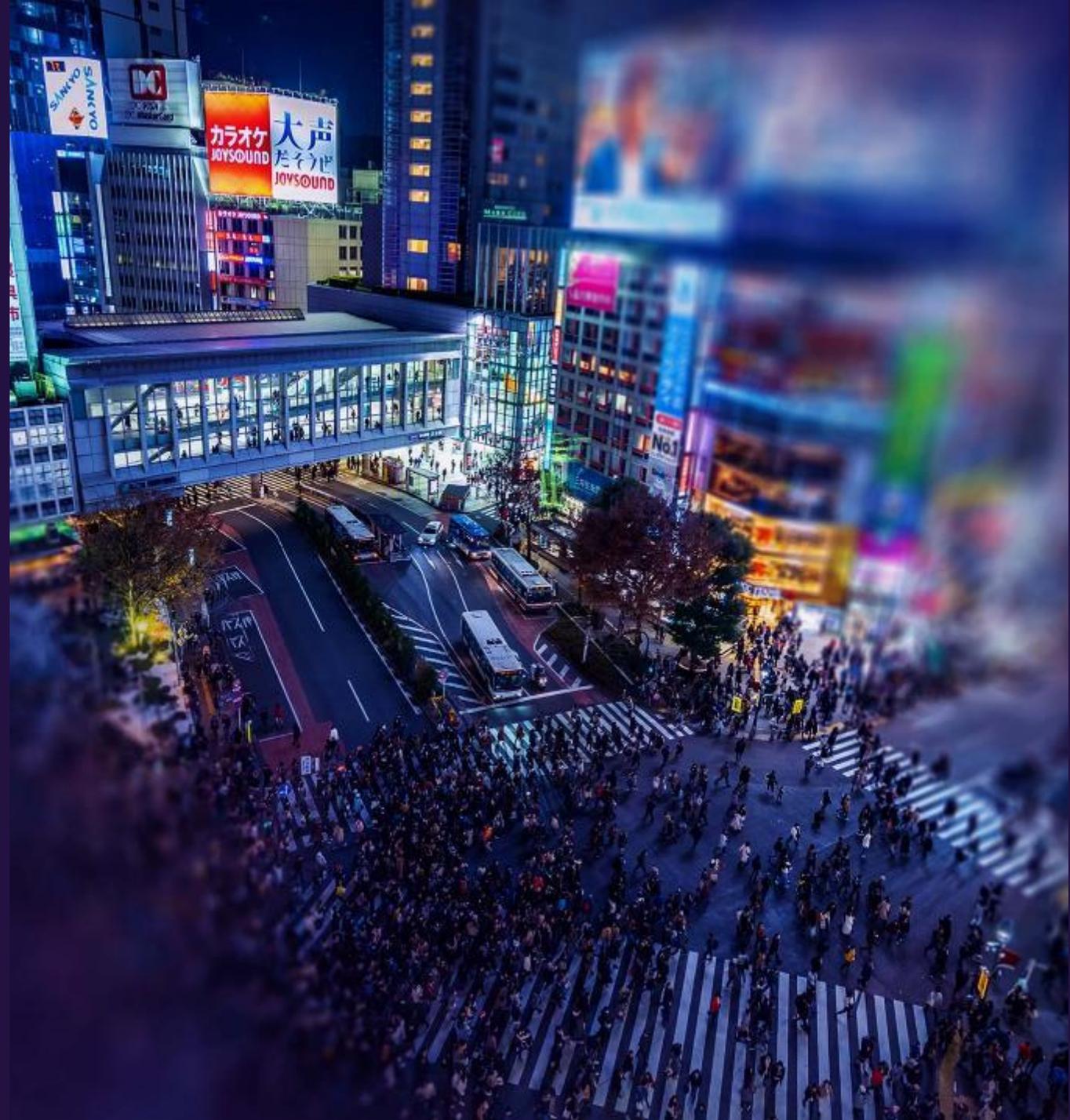
Q: Of the industry trends listed in the previous question, which one do you expect to have the greatest impact on the pharmaceutical industry in the next 12 months?

Source: GlobalData, The State of the Biopharmaceutical Industry, 2025 Edition

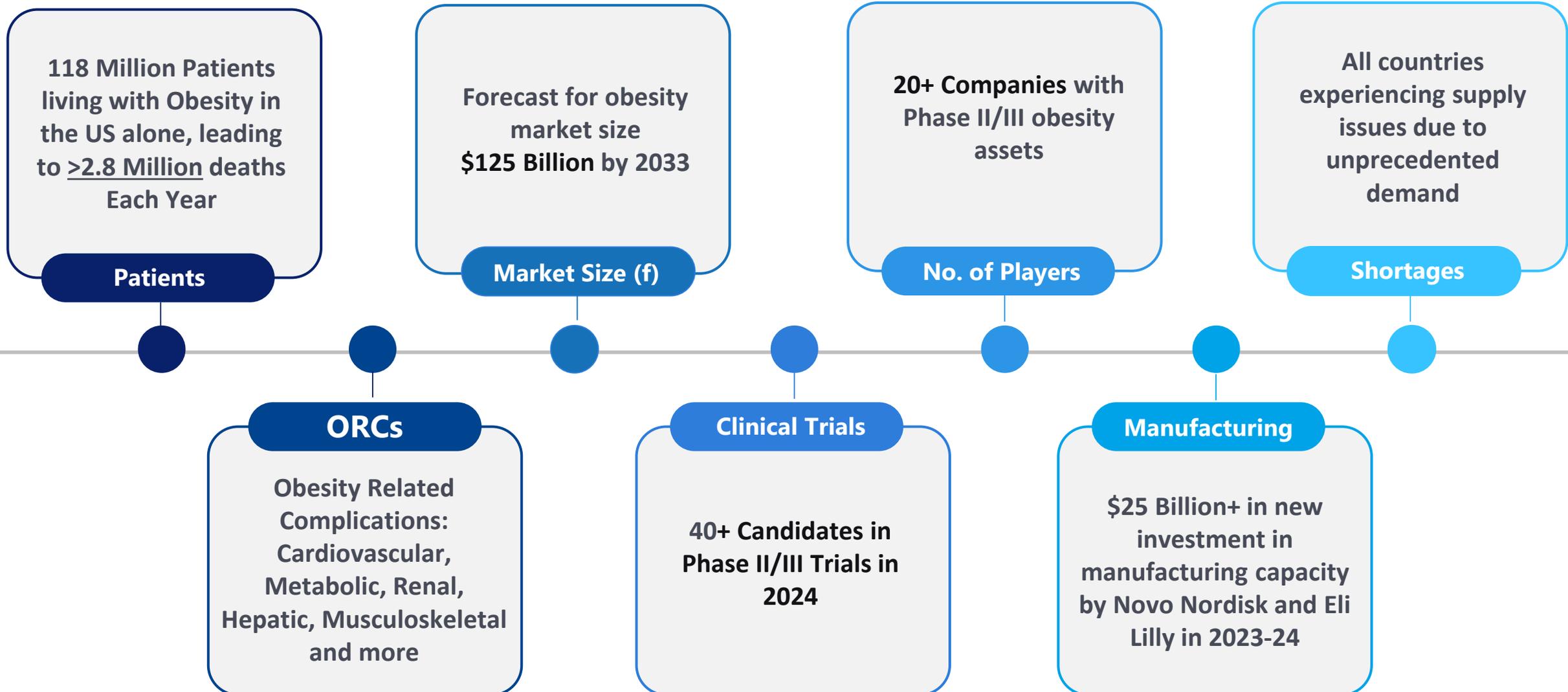
Note: The percentages are rounded to the nearest whole number.

Source: GlobalData

The Impact of Obesity



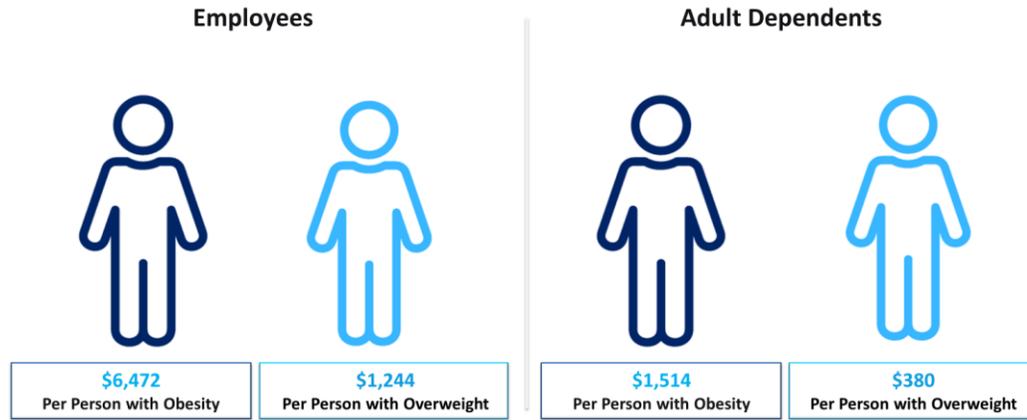
Obesity Key Fact and Figures



Socioeconomic burden, race for developing anti-obesity therapies and supply chain challenges



Annual Average Cost of Obesity or Overweight



10

Costs per Organization with 10,000 Employees (Plus Dependents)



1

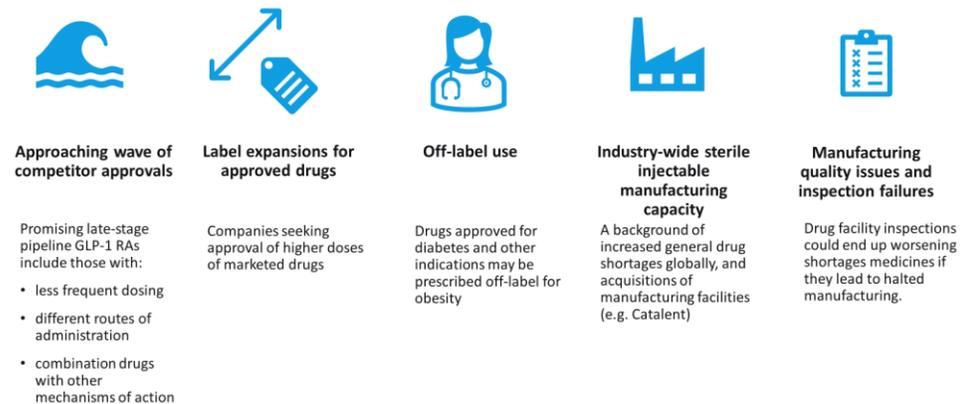
A Crowded and Competitive Field



30

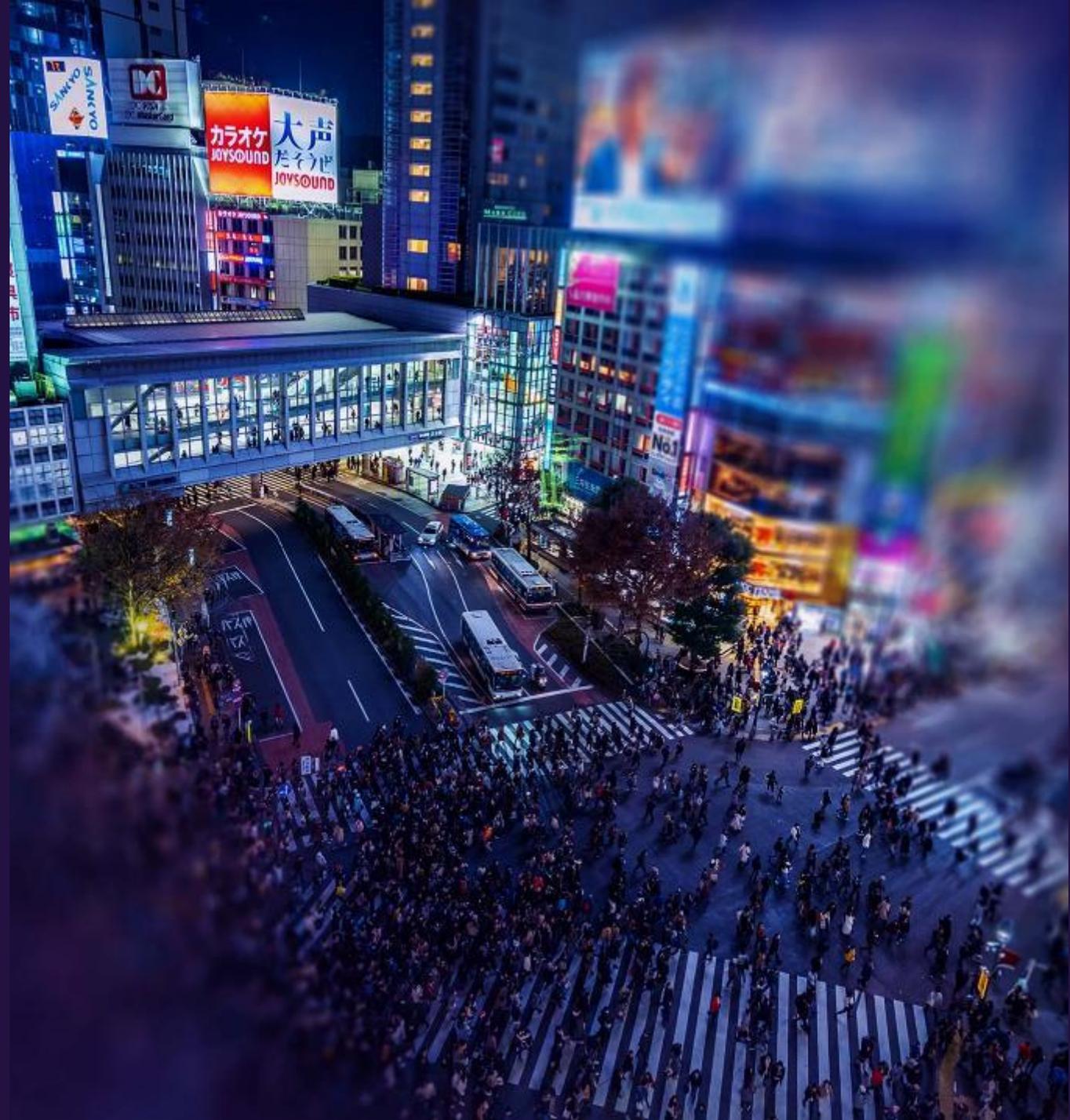
Contributors to GLP-1 scarcity over the coming year

High demand meets constricted manufacturing capacity



34

Supply Chain Challenges and Outsourcing



Spotlight on Supply Chain Challenges



11% of survey respondents identified widespread drug shortages as the emerging industry trend likely to have the greatest impact on the industry in the next 12 months.

“Supply chain issues are concerning due to an increasing request for anti-obesity, type 2 diabetes medication, and immunological modulators.”

– Europe Director

“Very unstable geopolitical environment threatening trades and cooperation.”

– North America VP/SVP/EVP

“Supply issues will continue to impact patients and drive uncertainty and volatility in the markets.”

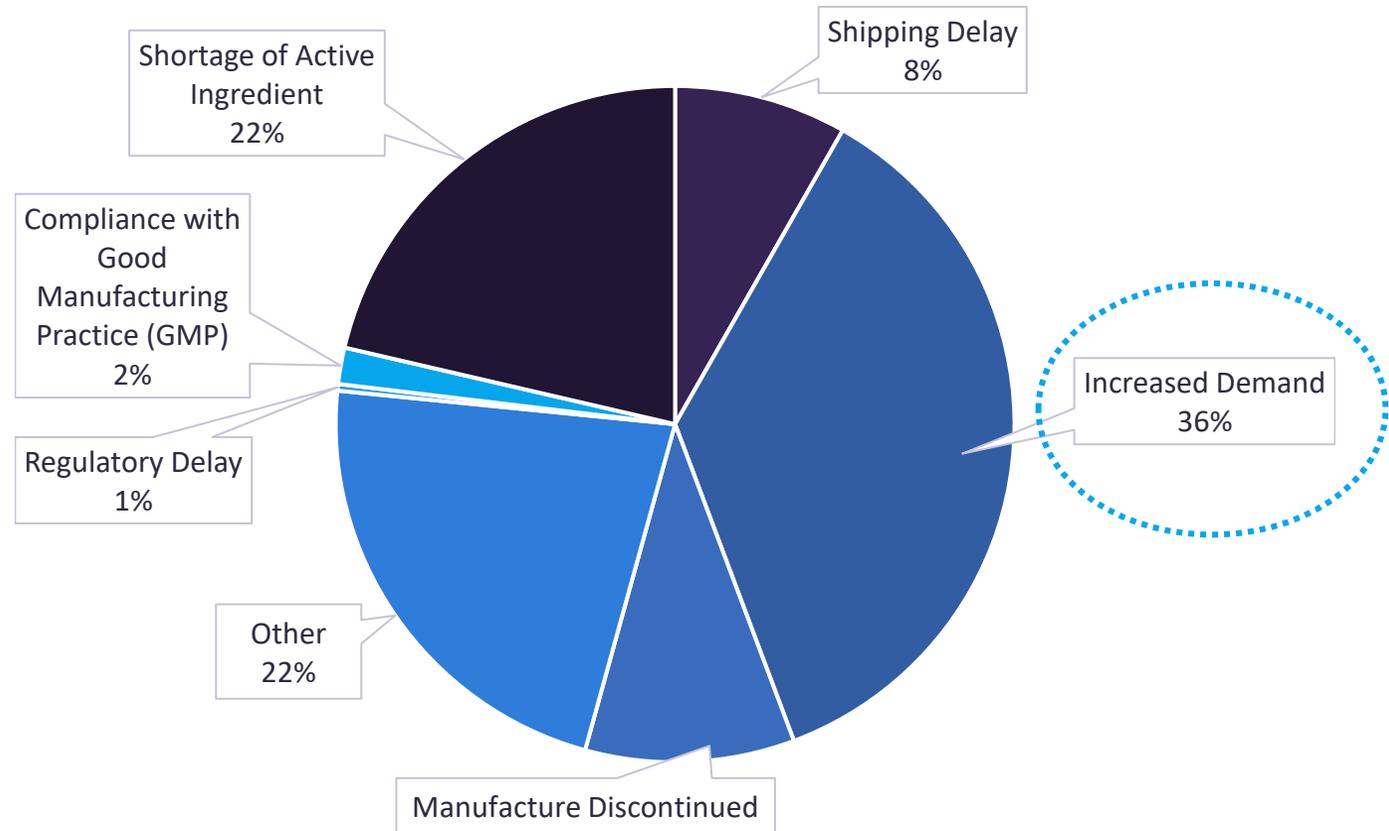
– Europe Director

“The BIOSECURE act has everyone nervous about China.”

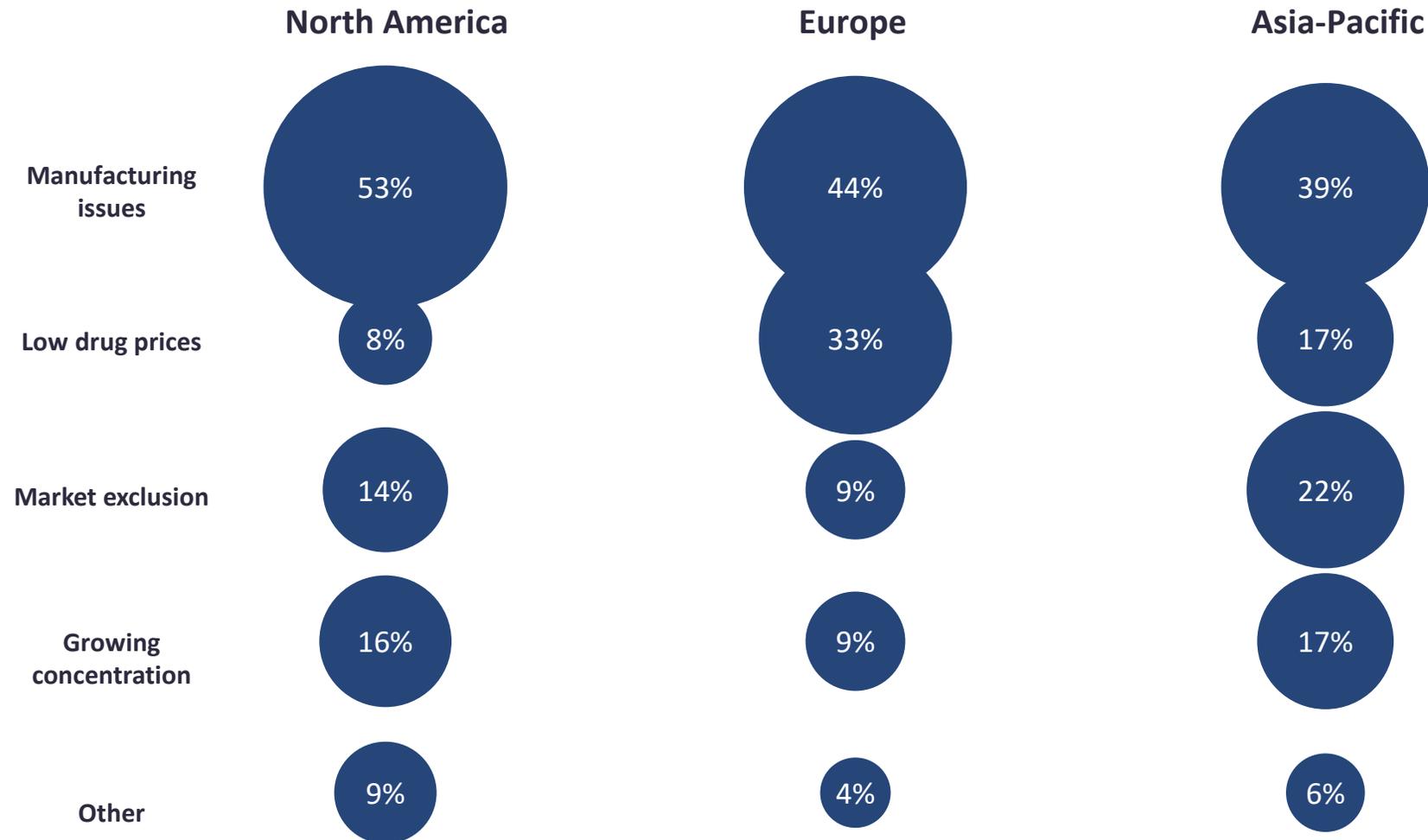
– North America VP/SVP/EVP

Reasons for current drug shortages in the US

Data as of May 16, 2024

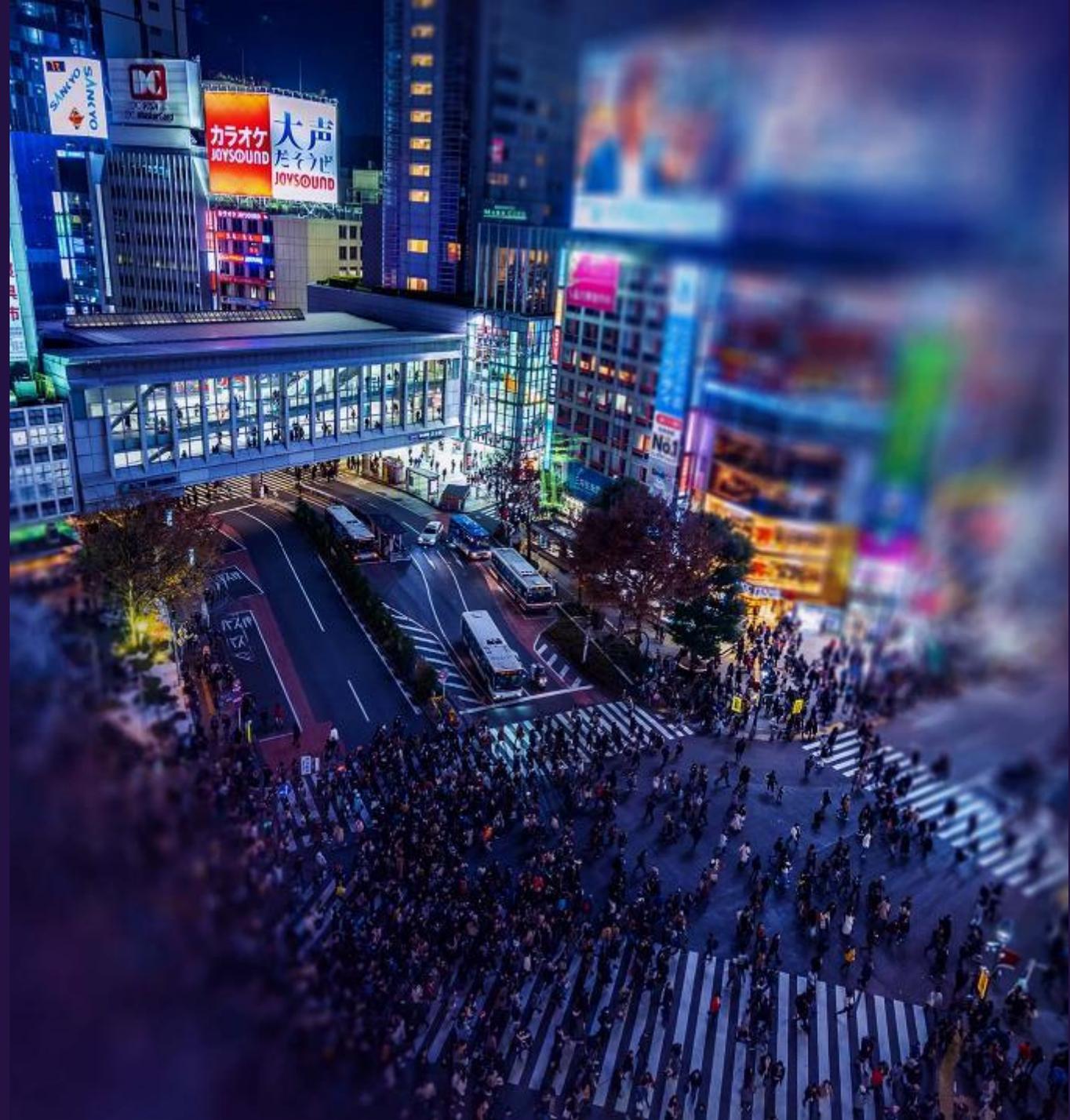


Manufacturing Issues is the Biggest Issue for Ongoing Drug Shortages



Q: In your opinion, what is the primary reason for ongoing drug shortages?
Source: GlobalData, The State of the Biopharmaceutical Industry, 2025 Edition

Biotech Funding



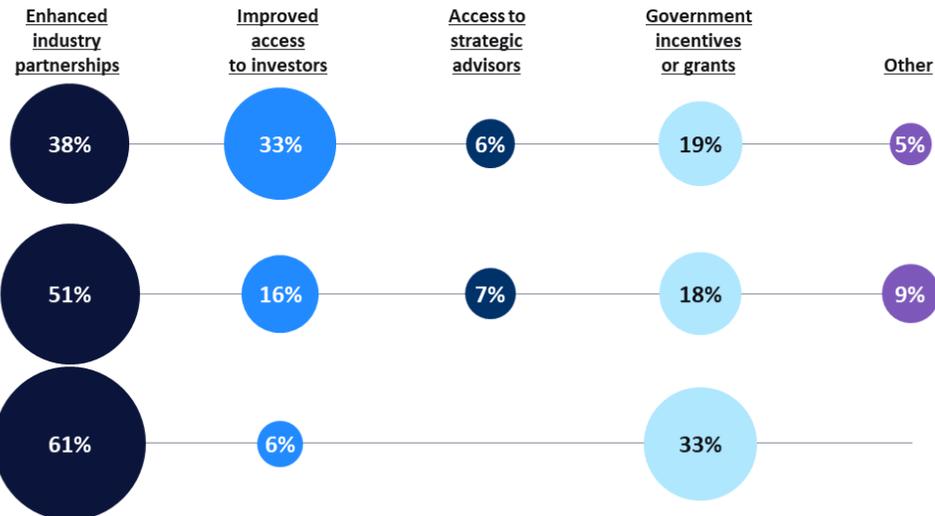
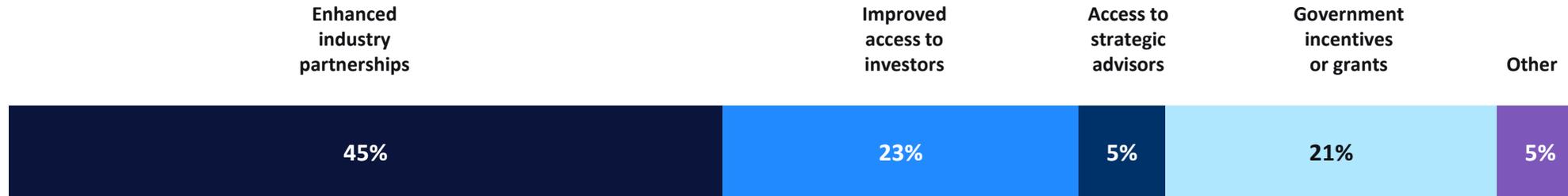
Downturn of Biotech Funding Has Led to Increased Industry Partnerships



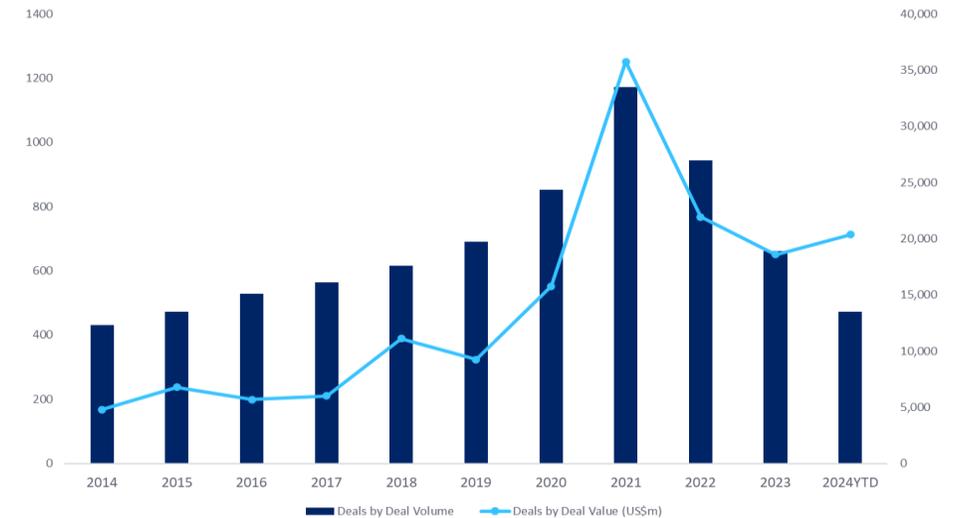
Survey fielded November 15, 2024, to December 4, 2024

Support measures to tackle the downturn in biotech funding

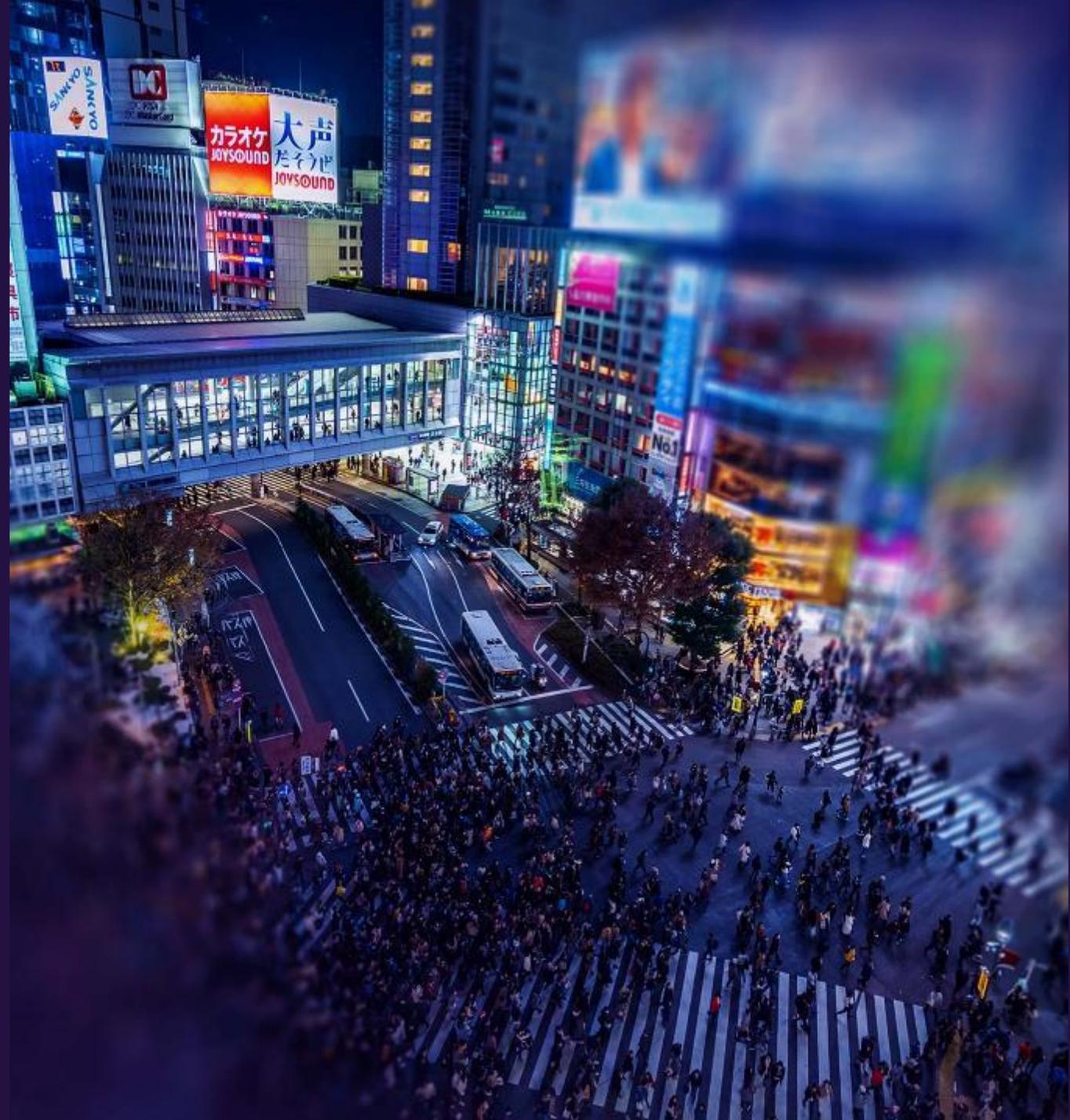
Survey fielded November 15, 2024, to December 4, 2024



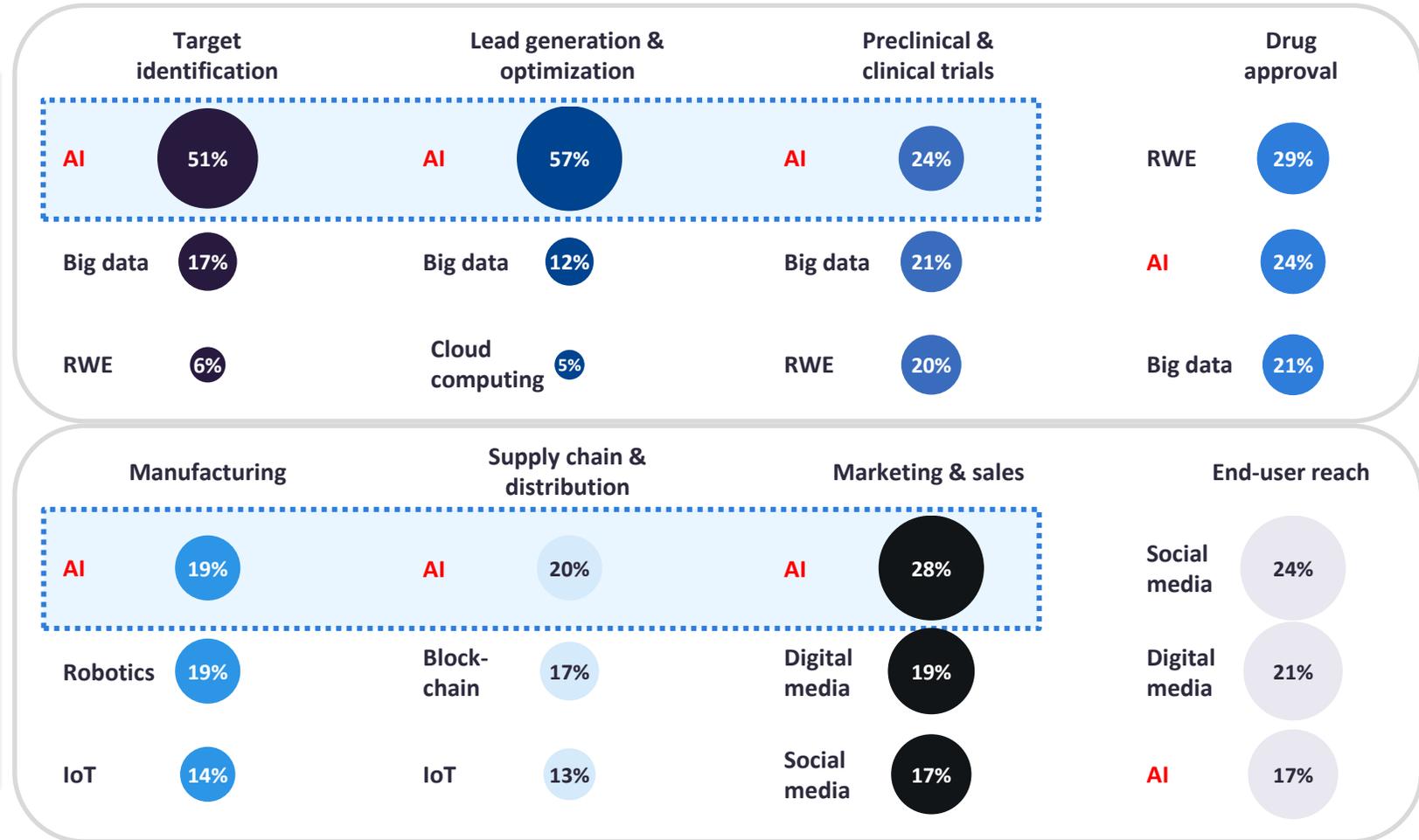
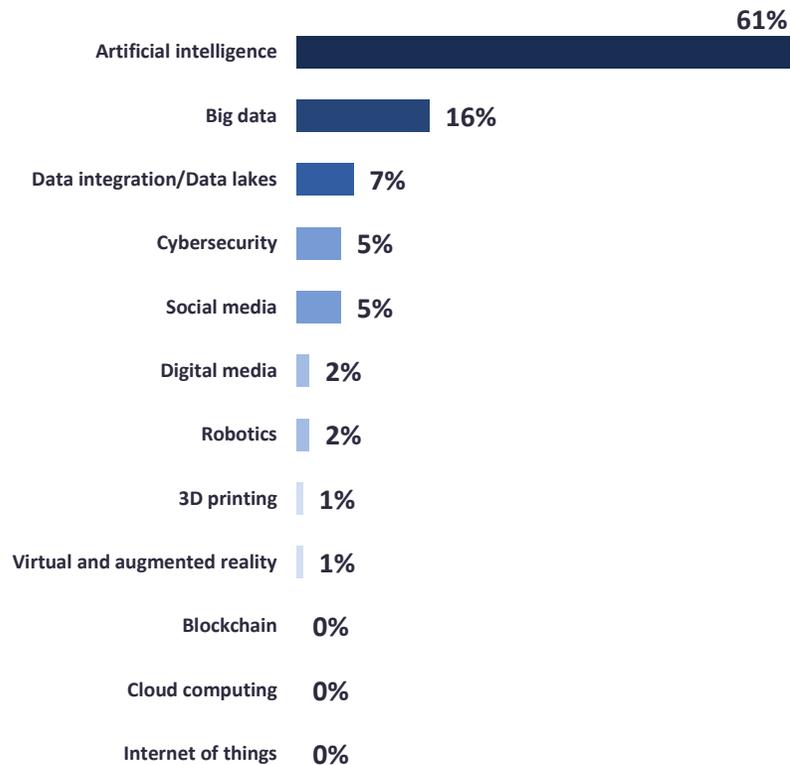
Promising signs of a rebound in Private Biotech Venture Financing



Emerging Technologies and AI in Biopharma



AI is the Dominant Technology to Enhance All Processes Within the Pharmaceutical Value Chain



Q: Of the technologies listed in the previous question, which one do you expect to have the greatest impact on the pharmaceutical industry in the next 12 months?

Source: GlobalData, The State of the Biopharmaceutical Industry, 2025 Edition

Q: Which top technologies are best positioned to improve each of the processes within pharmaceutical value chain?

Source: Digital Transformation and Emerging Technology in the Healthcare Industry, 2024 survey

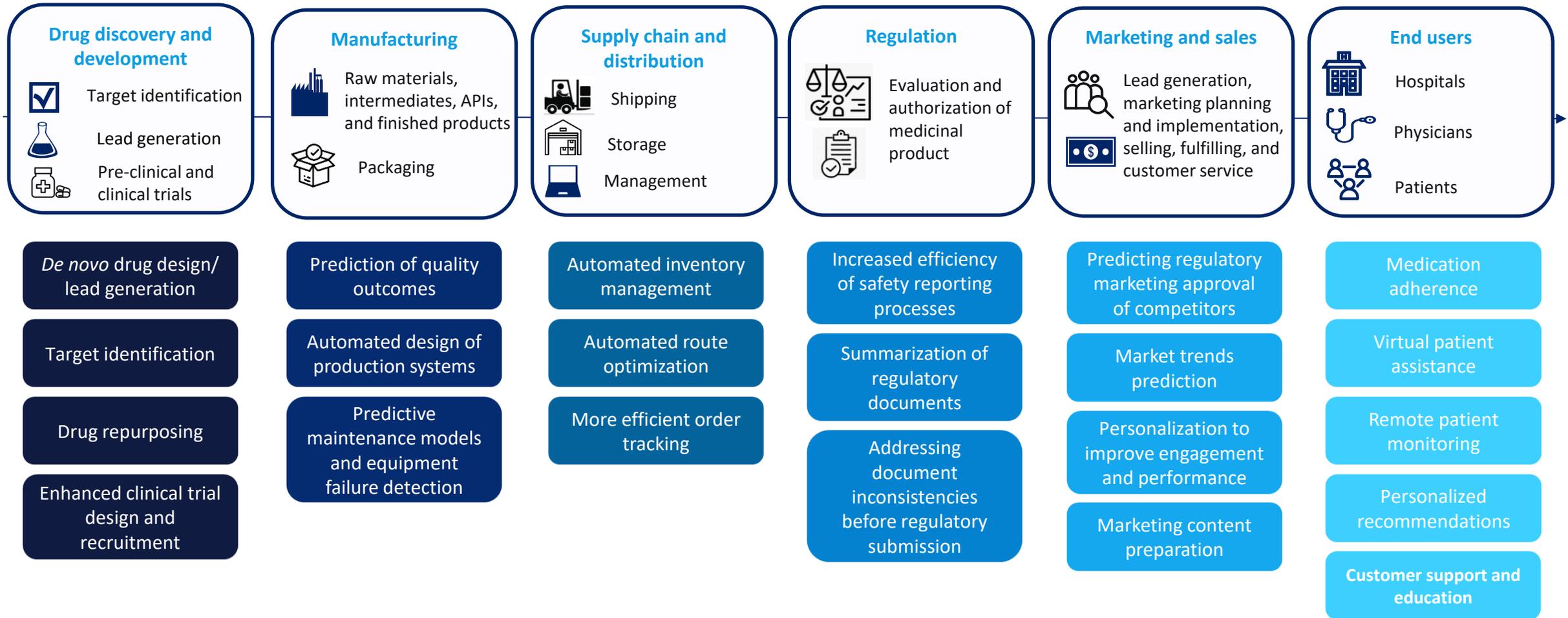
Source: GlobalData

Source: GlobalData, The State of the Biopharmaceutical Industry, 2025 Edition



AI ranked as the most disruptive technology for pharma – 84% of respondents

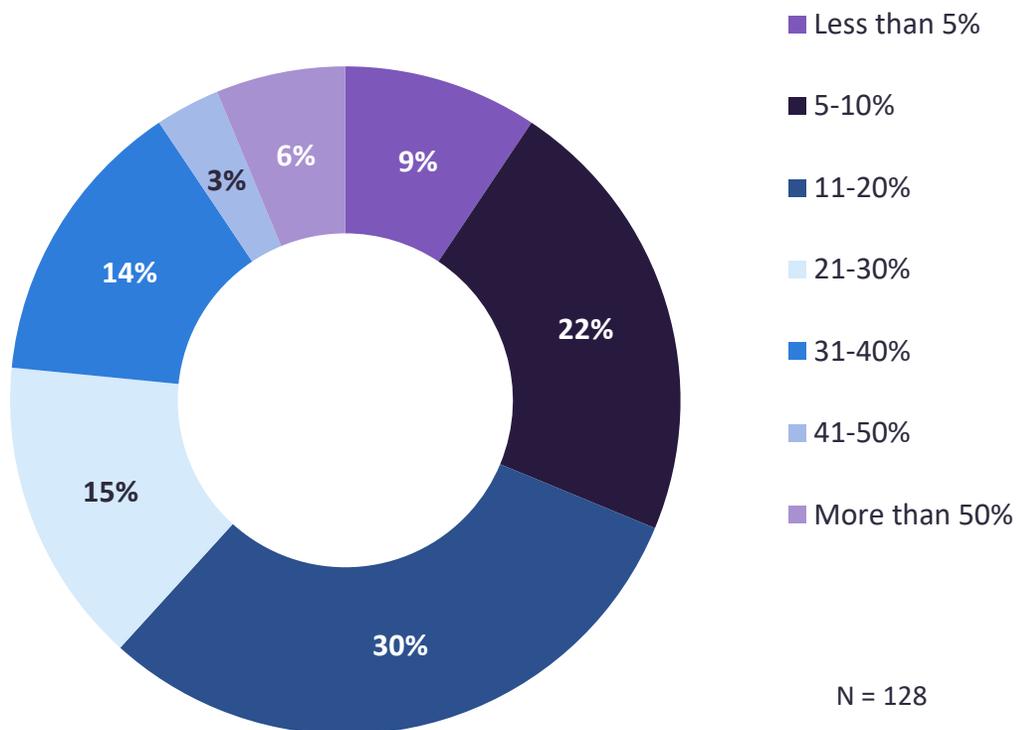
AI can accelerate drug discovery, enhance clinical trials and drug approval processes, optimize manufacturing and supply chains, boost marketing and sales efforts, and improve the patient experience.



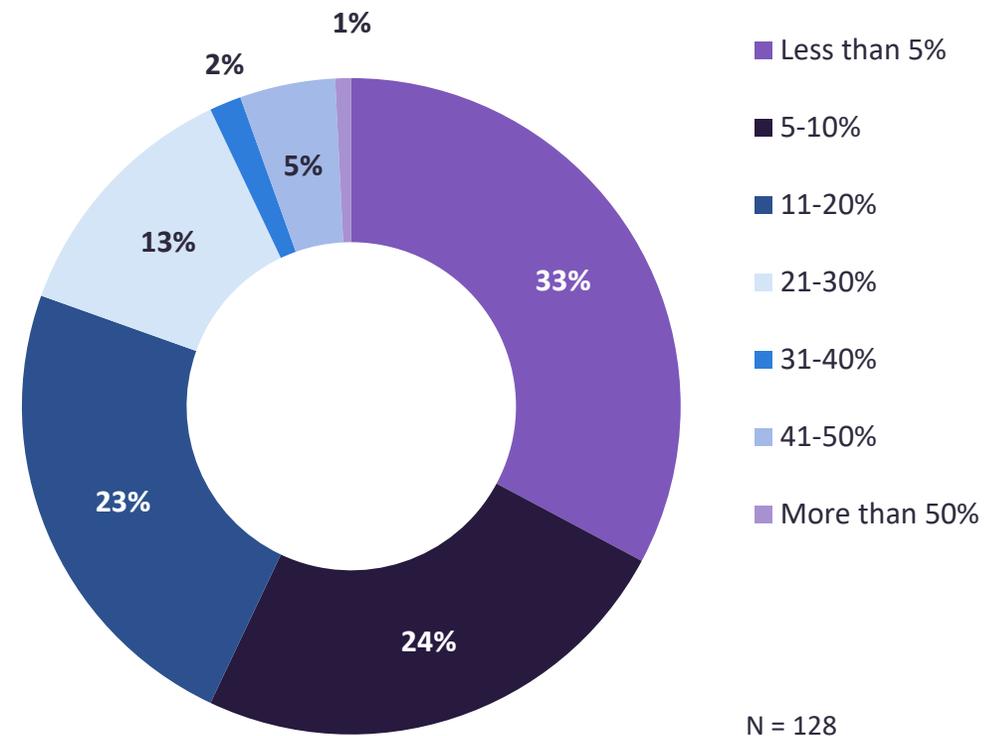
Higher Impact of AI on Enhancing R&D Productivity vs Lowering R&D Costs



Increase in R&D Productivity



Reduction in R&D costs



Q: By what percentage do you believe AI-driven platforms will increase productivity in R&D efforts over the next 12 months?

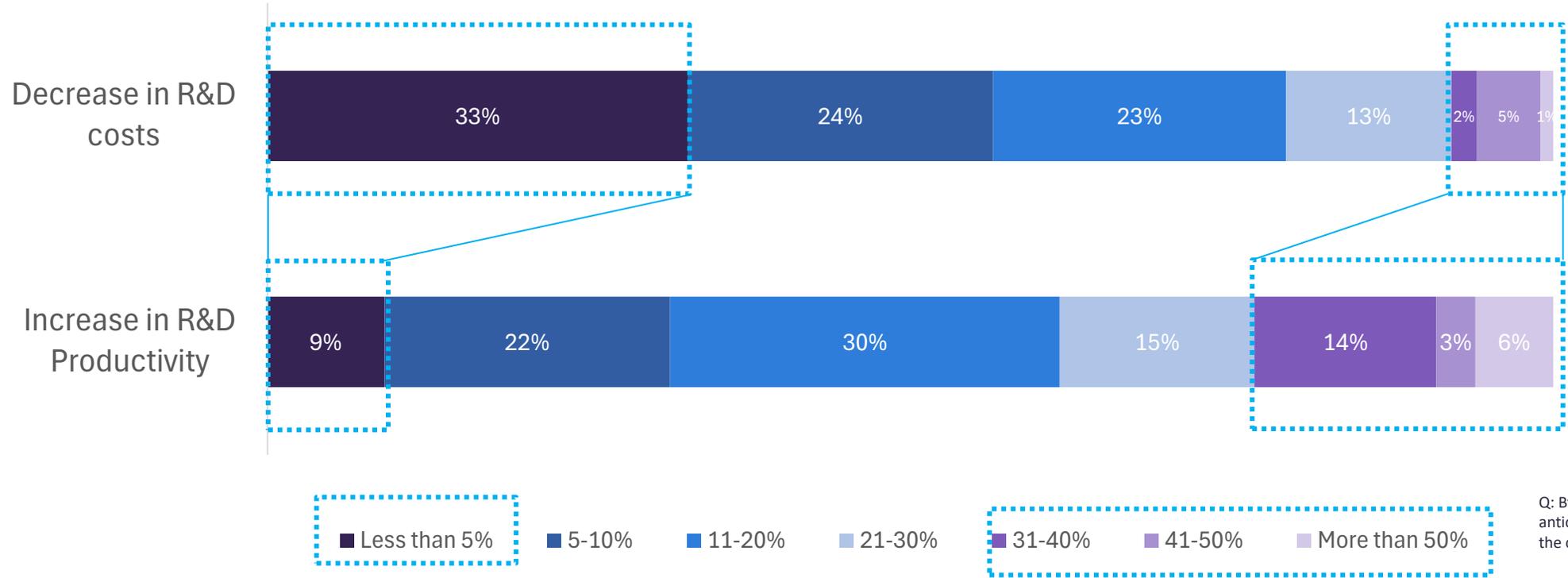
Q: By what percentage do you anticipate AI will lower R&D costs in the coming year?

Source: GlobalData, The State of the Biopharmaceutical Industry, 2025 Edition

Higher Impact of AI on Enhancing R&D Productivity vs Lowering R&D Costs



Impact of AI on Enhancing R&D Productivity vs Lowering R&D Costs



23% respondents thought AI will increase R&D productivity over 30%.

While only 8% thought it will lower R&D cost over 30%

Q: By what percentage do you anticipate AI will lower R&D costs in the coming year?

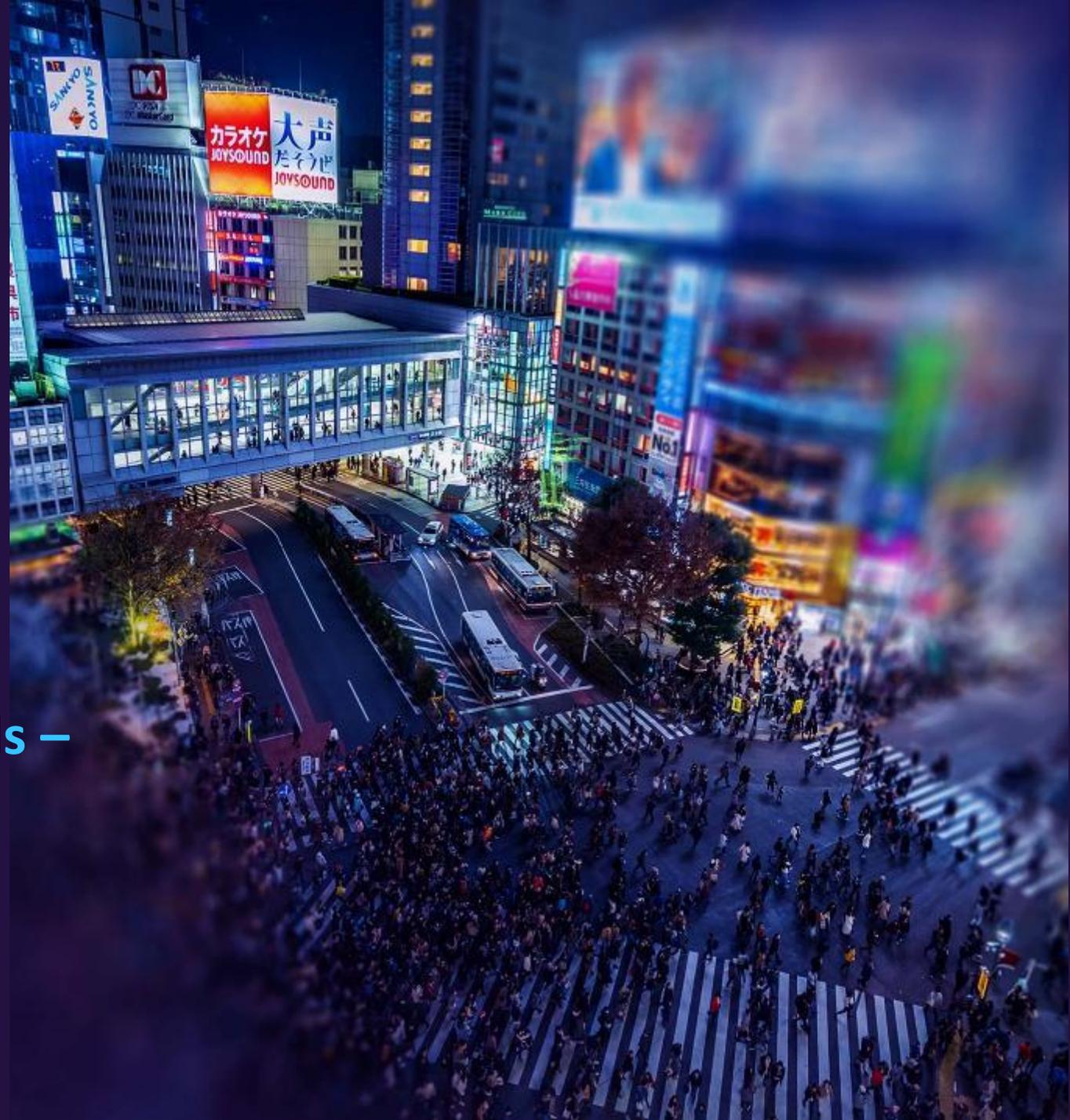
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Source: GlobalData, The State of the Biopharmaceutical Industry, 2025 Edition

**Macroeconomic & Regulatory Trends –
Inflation Reduction Act
BIOSECURE Act**

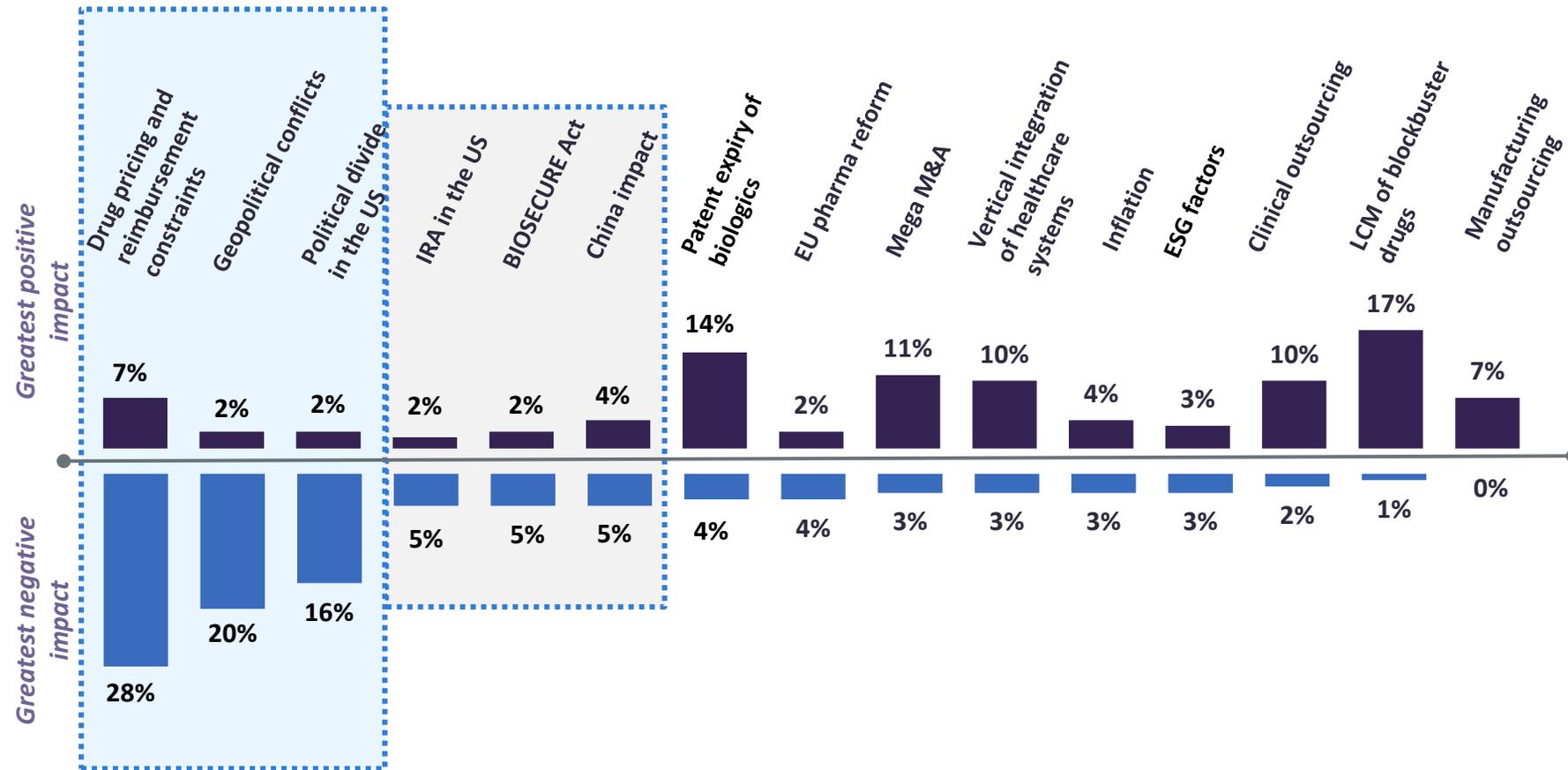


Emerging Regulatory and Macroeconomic Trends



Impact Drug Pricing and Reimbursement, Geopolitical conflicts, US Political Divide have the strongest negative impact

Survey fielded November 15, 2024, to December 4, 2024



Q: On a scale of -5 to +5, please rate the anticipated impact of each of the following emerging regulatory and macroeconomic trends on the pharmaceutical industry in the next 12 months.

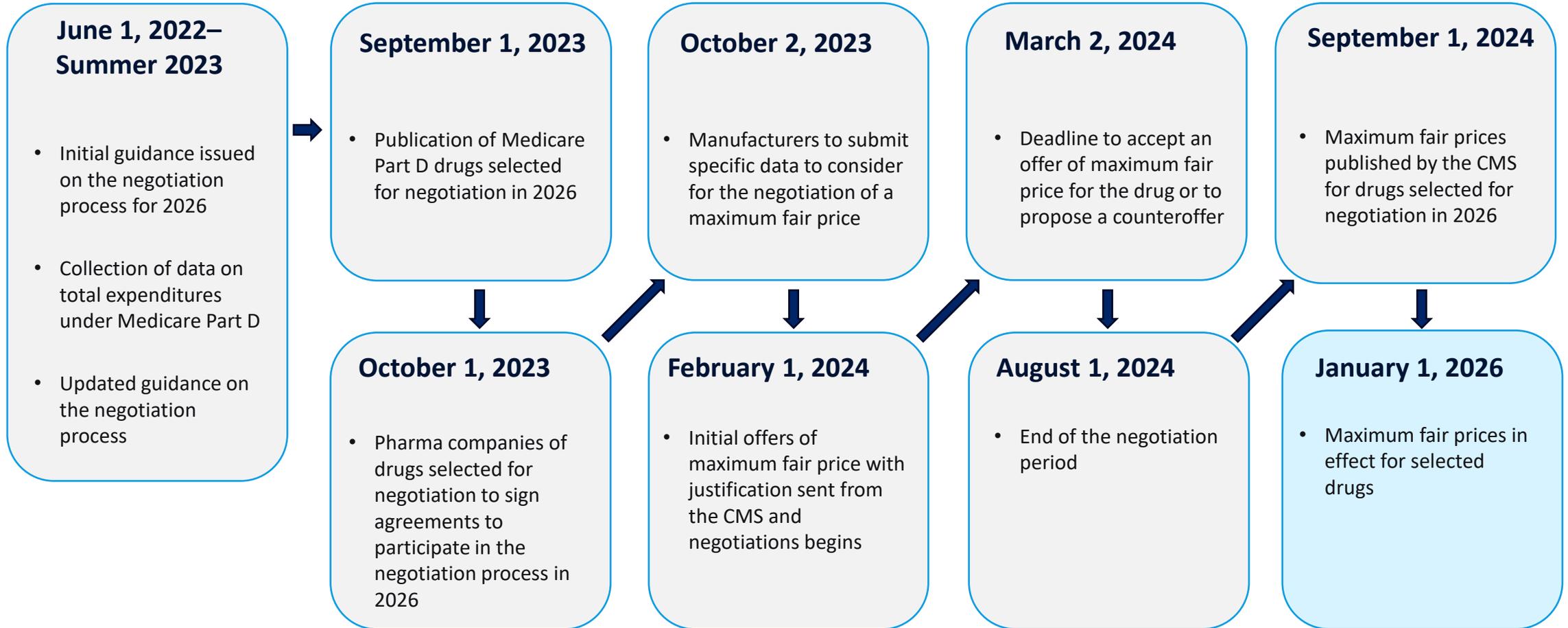
Source: GlobalData, The State of the Biopharmaceutical Industry, 2025 Edition

Note: Figures represent the number of respondents who selected a high negative or positive score.

Inflation Reduction Act Implementation Timeline



Drug price negotiation timeline for implementation by 2026

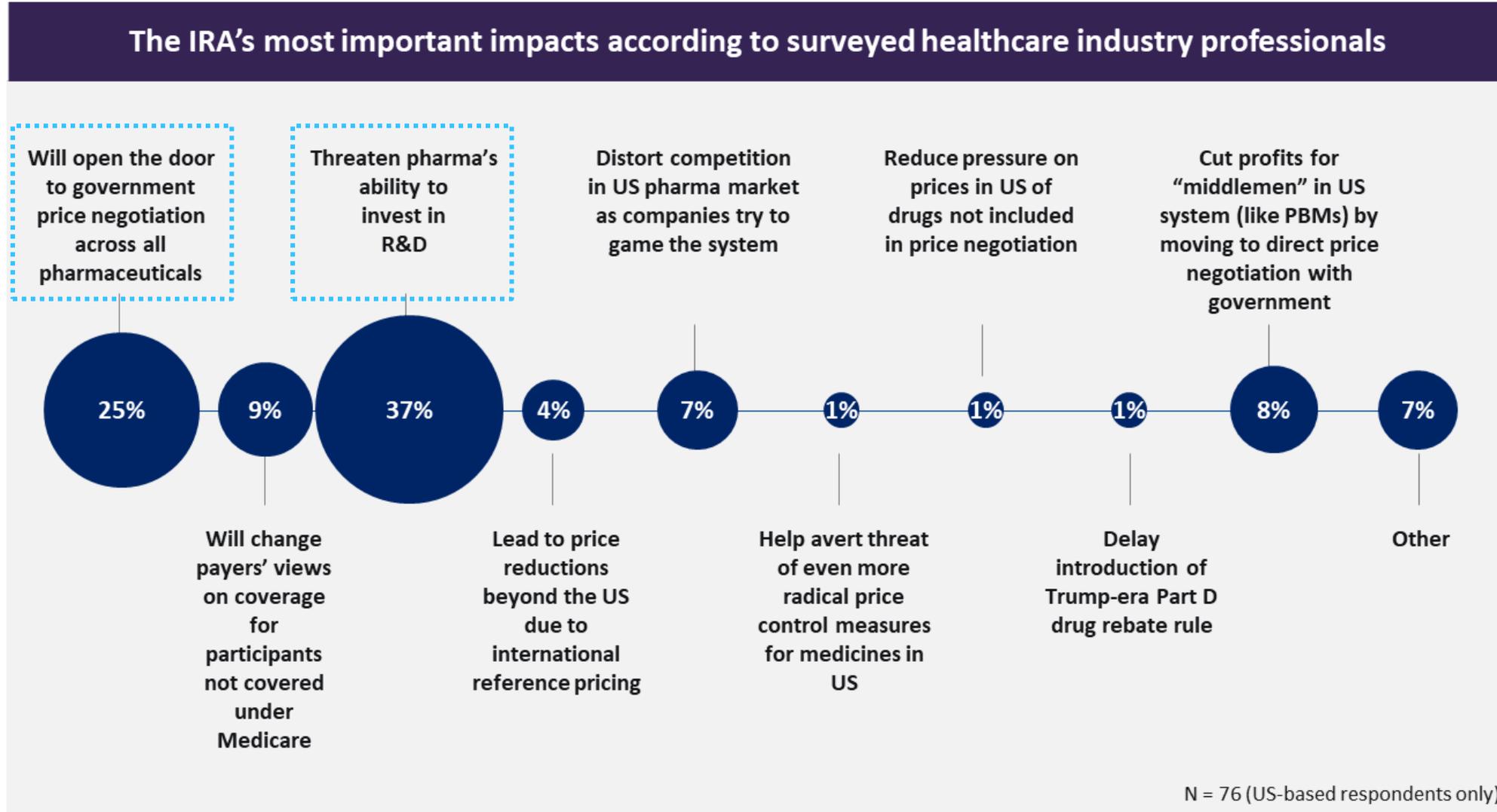


Inflation Reduction Act



The IRA's impact on the biopharmaceutical industry

Survey fielded November 15, 2024, to December 4, 2024



Q: How do you think the Inflation Reduction Act will impact the biopharmaceutical industry? (US-based respondent only)

Source: GlobalData, The State of the Biopharmaceutical Industry, 2025 Edition



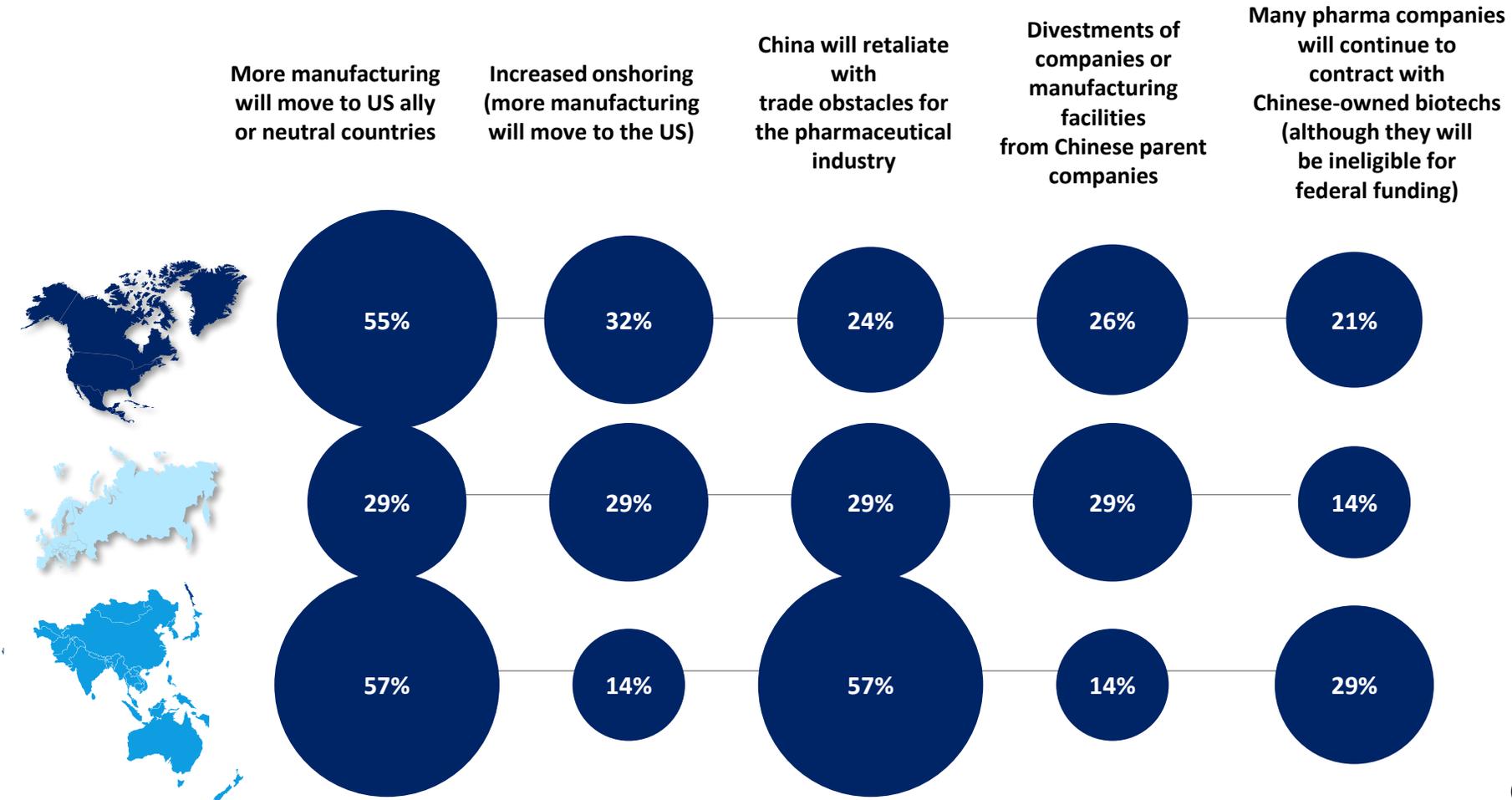
The **BIOSECURE Act**

A proposed piece of legislation in the US aimed at safeguarding the biotechnology sector from foreign adversaries, particularly China. The act seeks to prevent Chinese manufacturers from accessing US federal funding and to restrict US companies from collaborating with Chinese biotechnology firms deemed to be a national security risk.

Objectives and implications

- **National Security Focus:** The BIOSECURE Act is designed to reinforce the national security of the US biotechnology industry. It highlights vulnerabilities in the global supply chain, particularly concerning reliance on China for biomanufacturing.
- **Funding Restrictions:** The legislation prohibits federal agencies from contracting with or providing funding to companies associated with “biotechnology companies of concern,” specifically targeting major Chinese firms like WuXi AppTec, BGI, and Complete Genomics.
- **Impact on Drug Development:** The act could affect manufacturing and supply of several clinical-stage drugs by the US biopharmaceutical companies.

Implication for the pharmaceutical supply chain if the BIOSECURE act passes

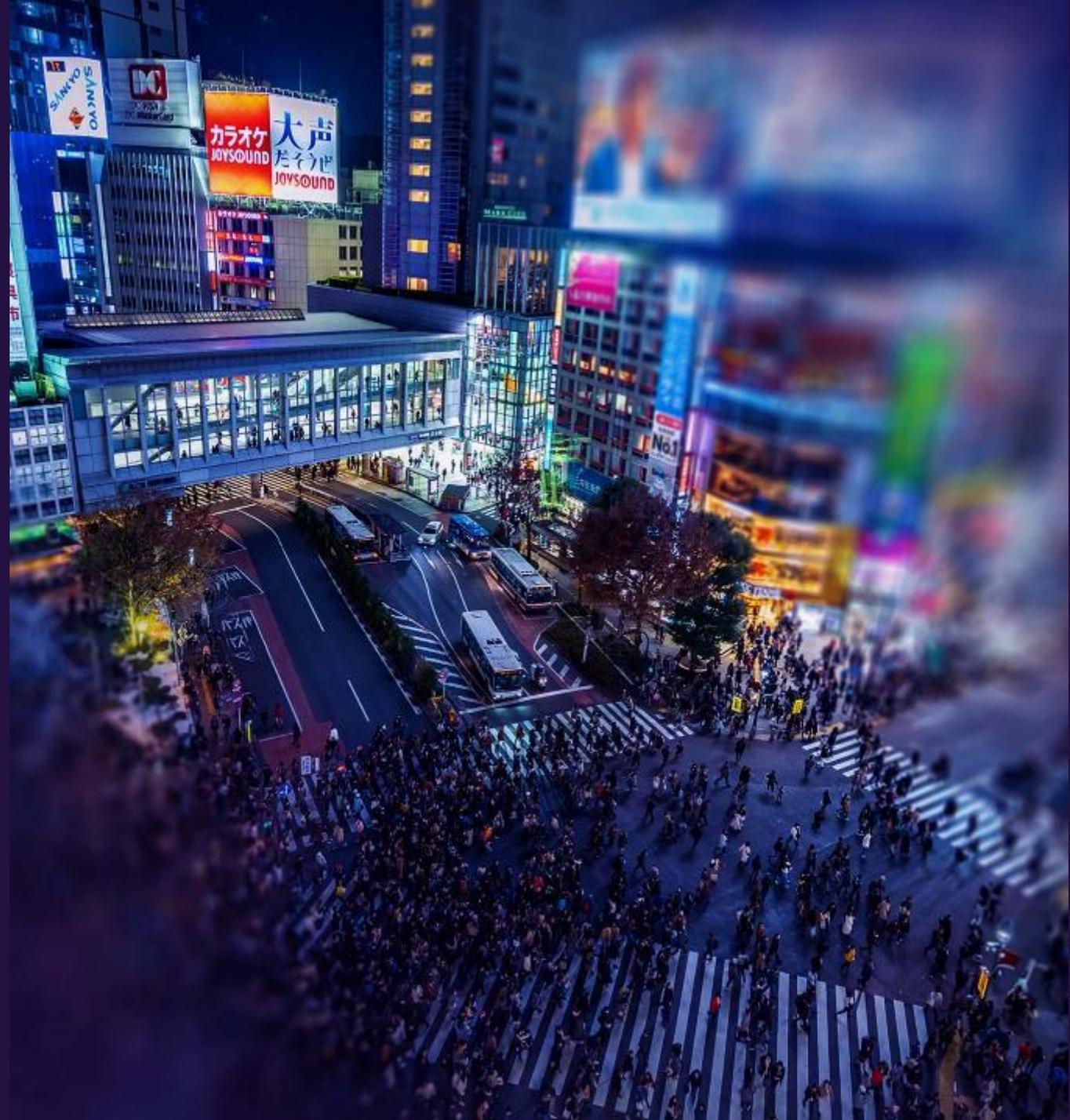


N = 76
(Respondents whose companies have HQs in the US)

Survey fielded November 15, 2024, to December 4, 2024

Q: If the BIOSECURE bill passes, what would be the wider implications for the pharmaceutical supply chain?
Source: GlobalData, The State of the Biopharmaceutical Industry, 2025 Edition

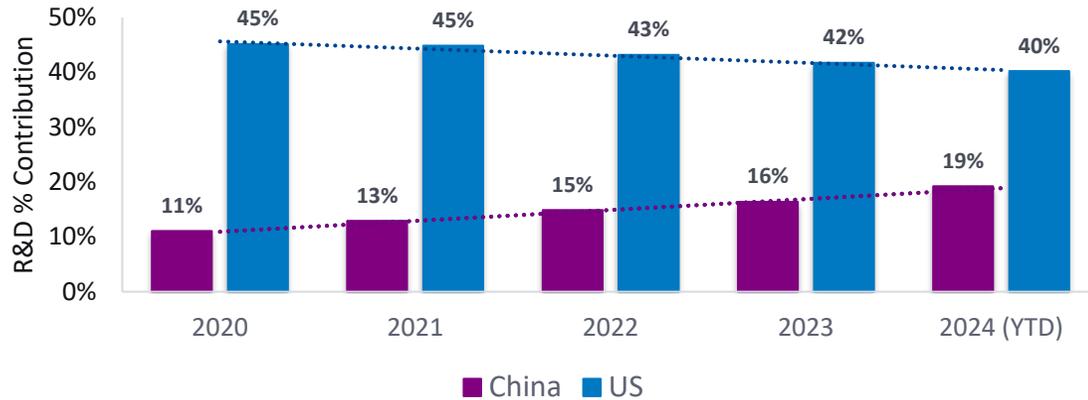
Drug Development in China



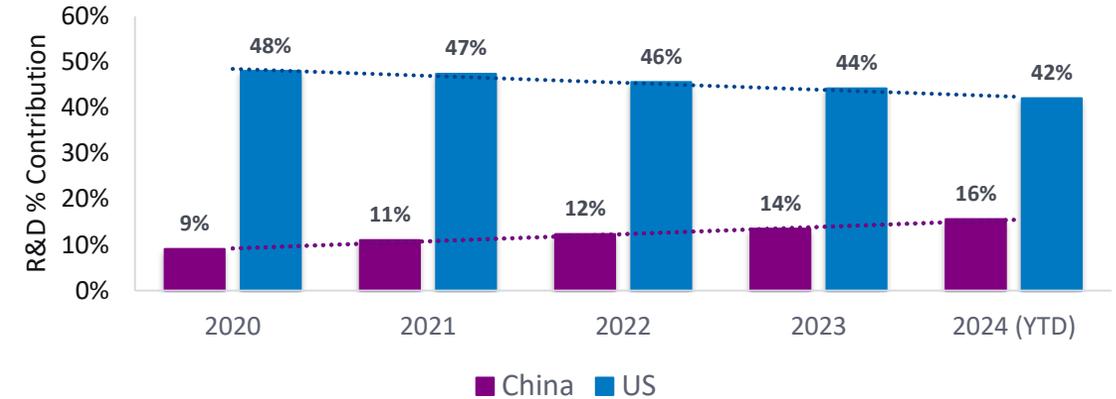
Companies Based in China Have Shown Steady Growth in Drug Development Activity



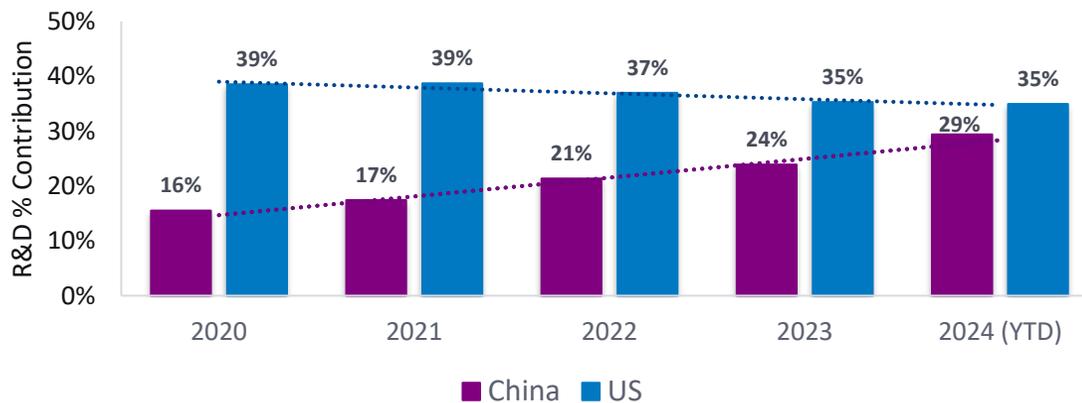
Overall R&D Landscape (China Vs US HQ Companies)



Early-Stage R&D Landscape (China Vs US HQ Companies)

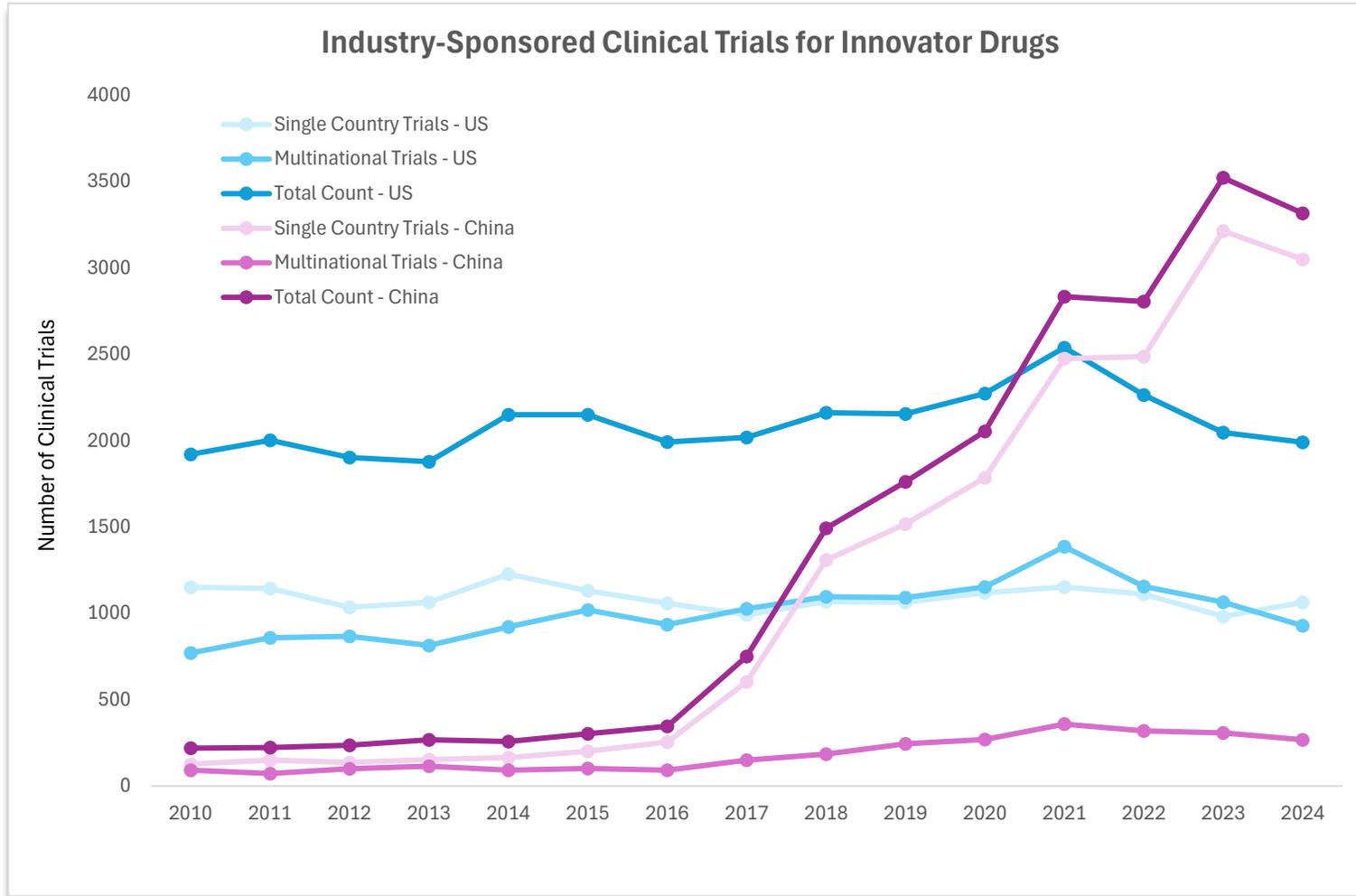


Clinical-Stage R&D Landscape (China Vs US HQ Companies)



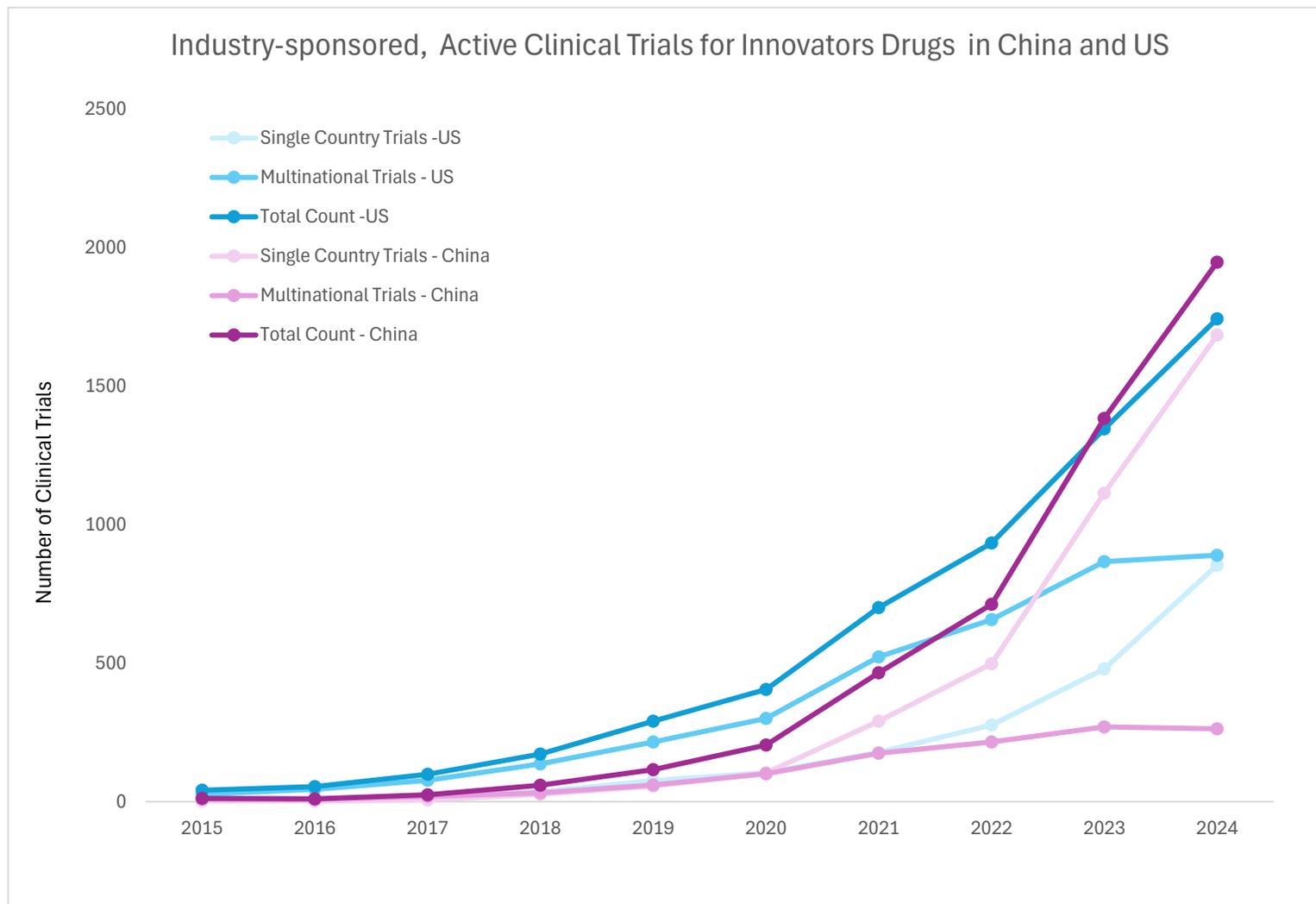
- Over the past five years, China has shown steady growth in drug development, with much higher increase in drugs in clinical development
- China's growth rate for drug development has been impressive, with a compound annual growth rate (CAGR) of 18.48%, compared to the CAGR of 3.6% for the US-based companies.

In the Past Decade, the Number of Clinical Trials in China Have Increased



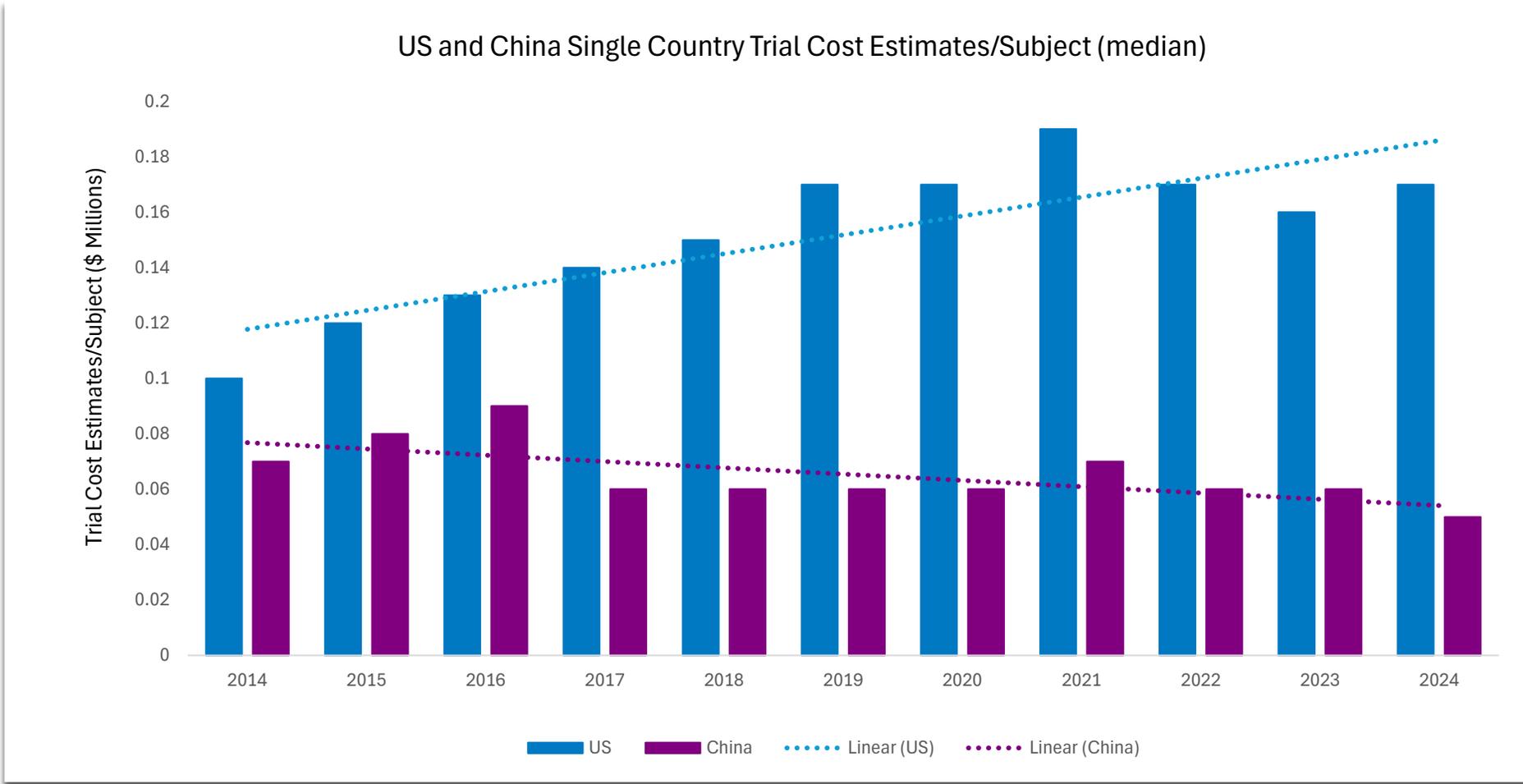
- China has surpassed the US for total number of clinical trials
- The increase in clinical trials in primarily from single country (China only) trials and over 75% of the sponsors are companies with HQ in China
- However, increase in multinational active trials in China is minimal

A Similar Trend in Emerging for Active (ongoing and planned) Trials



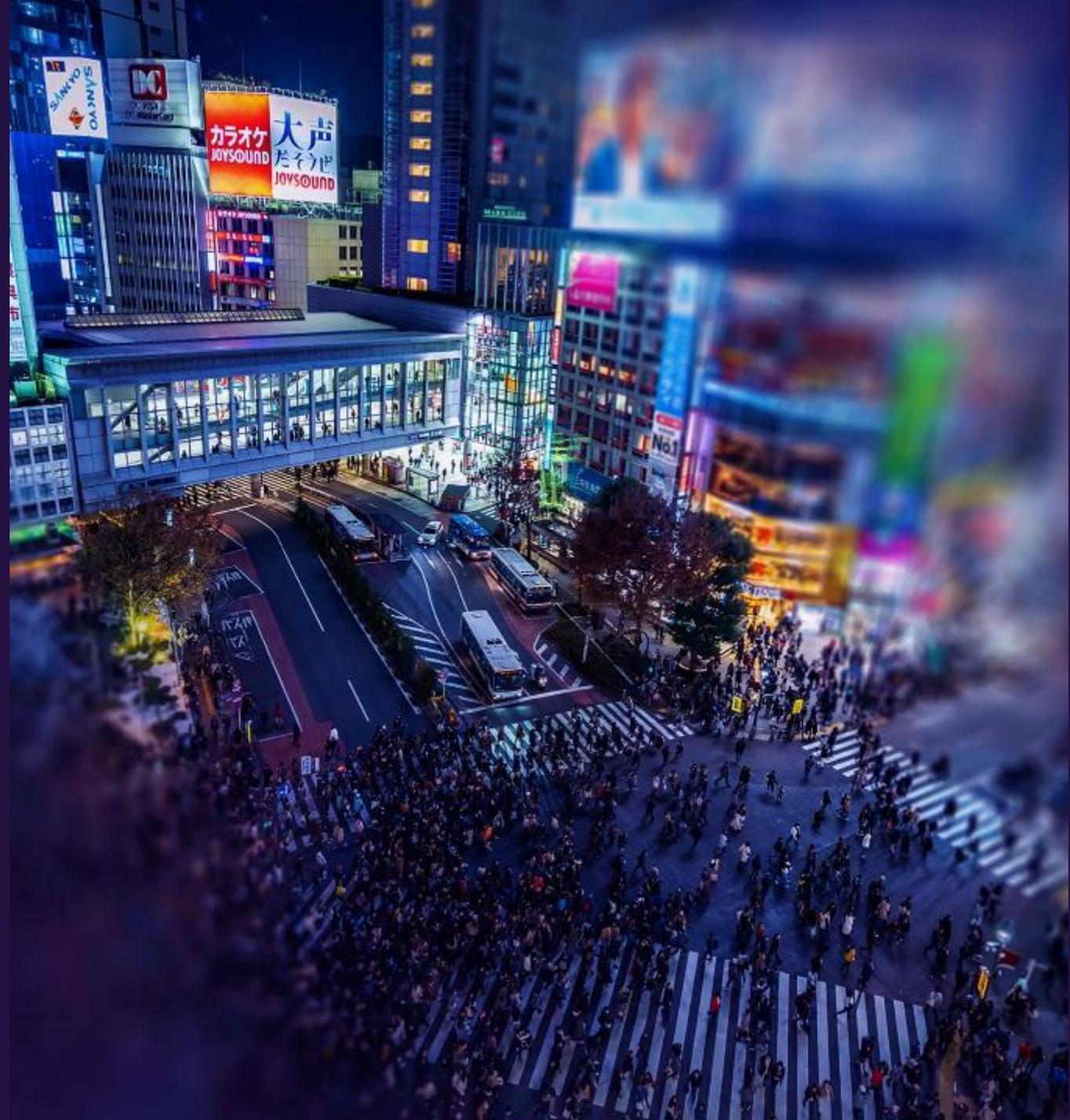
- Majority of trials are single country (China only) trials and over 70% of the sponsors are companies from China
- This also highlights overall drug development activity in China
- However, increase in multinational active trials in China is minimal

Estimated Cost of Clinical Trials in the US is Increasing, While in China the Estimated Trial Cost is Lower and Relatively Steady



- Increasing complexity in clinical trials, recruitment challenges, drop-out rates are likely to be contributing to increasing cost of clinical trials
- Why are these factors not affecting trial costs in China?

Key Takeaways



Key Takeaways



After a tough biotech market amid rising inflation over the last few years, more investors are now optimistic about the recovery of biotech funding than late last year, but the recovery is rather slow.



Concurrently, uncertainty driven by evolving regulation, geopolitical tensions, and reimbursement pressures continues. The key events that will impact pharmaceutical markets include regulatory, pricing and reimbursement reforms across the US, IRA , BIOSECURE Act, and EU Pharmaceutical reform.



The obesity market continues to reach new heights with GlobalData anticipating the market for GLP-1 receptor agonists to reach \$125.3 billion sales by 2033 across seven pharmaceutical markets. However, shortages of these drugs will be a challenge for manufacturers.



Given the role of artificial intelligence (AI) and big data across the pharmaceutical value chain, AI will continue to be the most disruptive emerging technology in the pharmaceutical sector in coming years.



The industry needs to track increased drug development and clinical trials activity in China and potential opportunities. Is drug development in China faster and more cost effective? M&A activity in China is increasing.

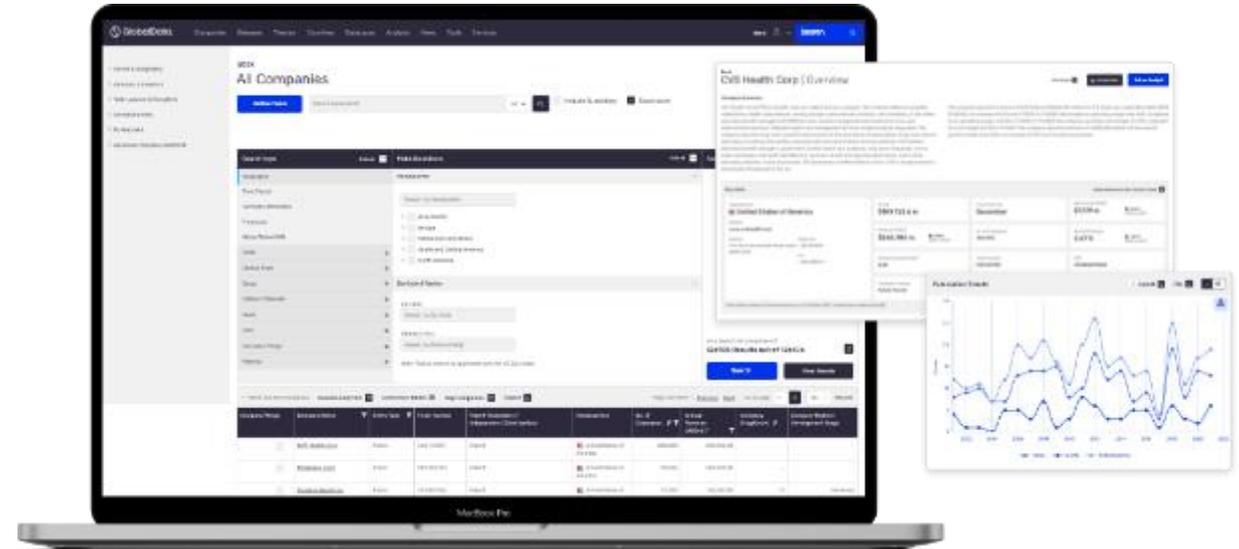


Thank You!



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We have a single taxonomy across all of our data assets and integrate our capabilities into a single platform – giving you easy access to a complete, dynamic, and comparable view of the world's largest industries.

GlobalData's end-to-end solution & team of experts can help at every step of drug development



Data Intelligence

- Trials Intelligence
- Trial Feasibility Analysis
- Trial Cost Estimates
- Drugs Intelligence
- Drug Lifecycle Assessment
- Drug Sales Forecast
- Business Fundamentals
- Deals, M&A
- Lead Sheet and Catalyst

~150

PhD/Masters-level analysts, journalists & healthcare experts In US, UK, Japan and India



Disease Intelligence

- Disease Analysis
- Market Sizing
- Patient-based Forecasts
- Custom Forecasts
- Competitive Intelligence
- TPP Analysis
- Unmet Needs
- Epidemiology

~400

Team of researchers in India supporting databases and therapy analysis teams



Market Research

- Physician Primary Research
- KOL Primary Research
- Payer Primary Research
- B2B Research
- Vendor Selection & Management



HEOR, Pricing and Market Access

- Price Intelligence
- Drug price simulation
- Reimbursement Insights
- Regulations and Policies
- Market Access
- Health Economic Impact



Outsourcing Intelligence

- CRO & CDMO Landscapes
- Manufacturing Sites Screener
- Manufacturing & Supply Chain Benchmarking



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