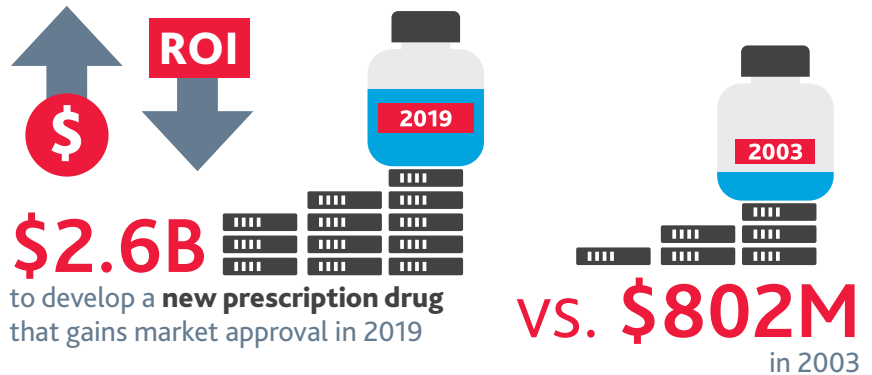


5 KEY TRENDS IN LIFE SCIENCES FOR 2020

The global life sciences industry continues to face significant disruption: from regulators, technological innovations, new types of collaborations and evolving global compliance requirements. These 5 trends will drive the industry forward in 2020.

1 POSITIVE ROI FROM R&D CONTINUES TO DECLINE

The cost of developing new products is getting higher and higher—and so is the risk, especially as the life sciences industry navigates public pressure to curb drug prices. We expect R&D expenses in the biotech and pharmaceutical industries to continue increasing, causing positive return on investment to become even more elusive.



36% of U.S. payers in 2018 said they had **value-based care or risk-sharing agreements** in place or would by the end of that year in the area of cardiovascular, followed by diabetes (28%) and rheumatology (20%).



74% of U.S. patients are interested in **value-based drug pricing**

2 OUTCOMES-BASED REIMBURSEMENT GAINS SPEED

As results of early value-based arrangements have shown decreased costs to consumers and better treatment outcomes, we believe outcomes-based arrangements will grow among life sciences organizations and payers.

3 BIOPHARMA CONTINUES ITS RISE

New technologies like cell and gene therapy or RNA-targeted therapeutics are generating a lot of interest and investment in biopharma. We expect this sector to continue to grow at a clipped pace—especially as the industry begins to deliver on the promise of gene therapy.

Biopharma companies raised **\$12.4B** in Q2 of 2019



Spending on **gene therapies** expected to **grow x25** from 2019-2024



"We're expecting to see some truly transformative technologies in this space, because it needs to happen."

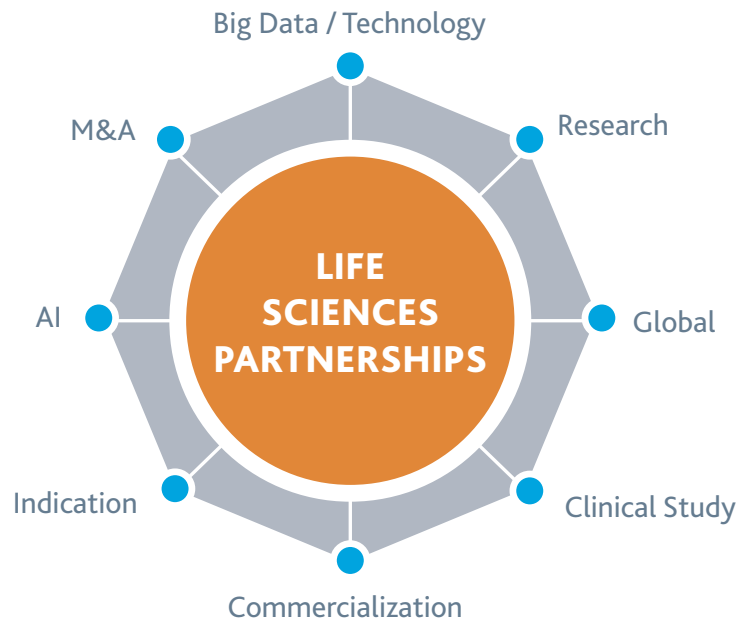
Patti Seymour, managing director in BDO's BioProcess Technology Group, in *Pharma Manufacturing*

4 COMPANIES SEEK NEW TYPES OF COLLABORATION

Finding the next blockbuster deal is the lifeblood of biotech and pharmaceutical companies, motivating billions in research, spending and deal making—and now, new types of collaboration. Collaboration around clinical studies, research, big data and more allow life sciences entities to pool resources, tap into additional expertise, and increase results and outcomes. We expect alternative types of collaboration to grow in popularity as traditional avenues for innovation become more competitive.

“You’re going to see a lot more appetite for technologies that increase efficiencies around the drug development cycle.” As corporations hunt for their next blockbuster drugs, “they need to go outside their own silos.”

Todd Berry, Assurance partner and leader of BDO’s Life Sciences practice, in *The Wall Street Journal VC Pro*



40%
of U.S. drugs are
made overseas

Up to
30%
of medicines sold in parts
of Asia, Africa and Latin
America are **counterfeit**



About
10% of all medicines
worldwide are counterfeit

5 GROWING NEED FOR GLOBAL DRUG SERIALIZATION REQUIREMENTS

Lack of cross-border alignment on drug development standards creates significant barriers to international life sciences deals—and represents a roadblock to U.S. proposals to lower drug costs by importing products from abroad. As new entrants like Amazon enter the space, we believe we’ll see increased pressure to create standardization through serialization and track-and-trace efforts from governments and regulatory bodies around the world.

Benefits of track-and-trace laws:

- ▶ Reduced counterfeits
- ▶ Better identification of raw materials
- ▶ Increased consumer confidence
- ▶ Improved consistency in global regulations



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