An overview of the pharmaceutical industry

Life Sciences HARDMAN & CO

23 September 2021



LIFE SCIENCES INSPIRATION

What gets me out of bed?

- Learning about new technologies
- Meeting interesting people
- Continually building database
- Learning something new every day
- Being able to add value

Continuously evolving industry

September 2021

2

-PHARMACEUTICALS DRUG DEVELOPMENT

Opportunities

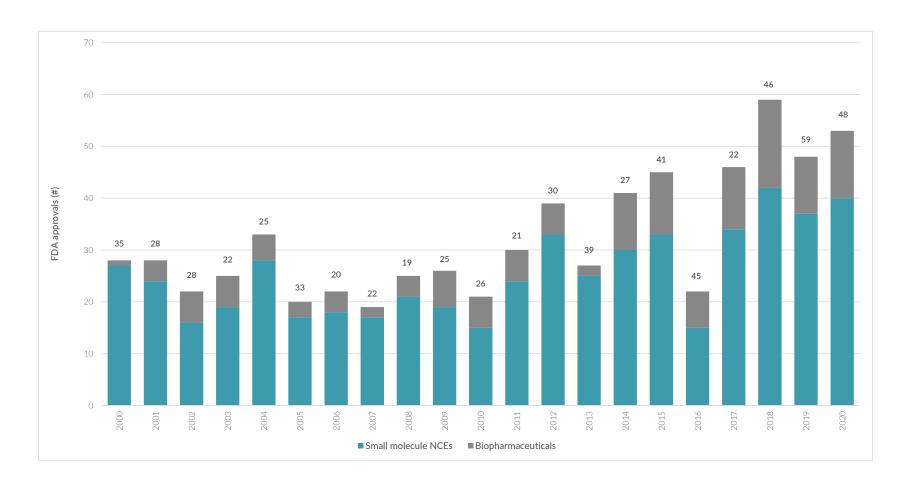
- Clinical need: Antibiotics, CNS, Oncology
- ► Global need: Demand for new medicines in developing economies
- Aging population: Move from cardiovascular problems to other diseases
- ► **Lifestyle:** Diet/diabetes

Risks

- Timeframe: At least 10 years to develop a new drug
- Probability of success: Has not changed
- Regulation: Improvements, but still a major hurdle
- ► Capital: Very expensive process
- **Economics:** Ability of payors to pay

Increasing demand for new technologies

DRUG DEVELOPMENT FDA APPROVALS



Equates to only ONE new drug per major company per annum

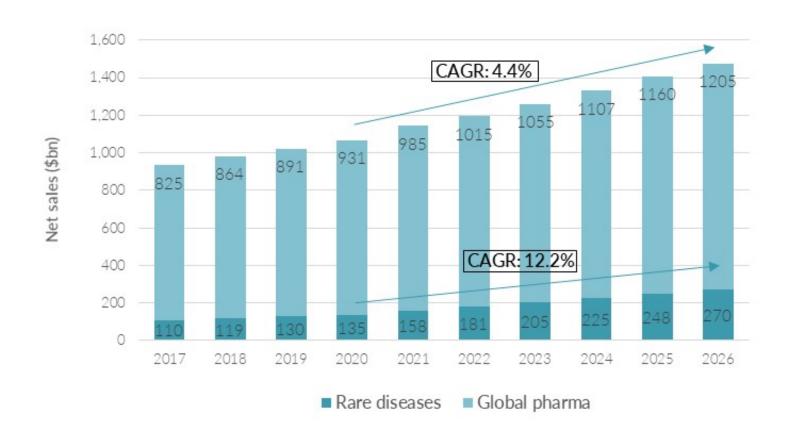
— DRUG DEVELOPMENT COSTS

1990	\$14.8bn	15.3%
2000	\$41.8bn	17.2%
2010	\$103.9bn	19.1%
2020	\$138.7bn	20.2%

- Since 1990, the pharmaceutical industry has invested \$1,957bn into R&D which has led to the approval of 980 drugs by the FDA
- Average cost per drug is \$1,997m

Big companies need biotech and vice-versa

-GROWTH DRIVER SPECIALTY/RARE DIDEASES



Key is to identify area of unmet medical need

— LIFE SCIENCES SUMMARY

- Fabulous industry to follow
- Personal interest
- ▶ Be aware of the chances of success risk reward
- Management is key
- Know the timing of capital increases
- All CEOs think their shares are cheap

