

What is the Pharmaceuticals Industry?

- Companies make medicines from plant- and chemical-based compounds that work to prevent the spread of disease, ease pain, cure illnesses, and slow the effects of aging, among many other things
- Many firms also produce animal health products, livestock feed supplements, vitamins, and a host of other goods
- Mission of companies is to discover the next groundbreaking medicine
- Insiders refer to the handful of multinational giants that dominate the industry as ‘Big Pharma’ companies
- Generally smaller companies employ cellular and biomolecular processes to make medicines or diagnose illness
- Depending on size and strategy, companies conduct extensive in-house research or may seek to license promising drugs from academia, other pharmaceutical firms, or biotechnology companies
- Some call this industry ‘Pharma/Biotech’

Job Functions

Business Development, Clinical Research, Commercial Strategy, Corporate Communications, Engineering, Finance & Administration, Human Resources, Information Systems & Technology, Legal Affairs, Manufacturing & Supply Chain, Marketing & Sales, Quality & Regulatory Affairs, Project Management, Research & Development, and Strategic Planning

Typical Job Titles

Biochemical Engineer, Bio Statistician, Business Development Manager, Business Operations (Finance, HR, Purchasing), Clinical Data Manager, Clinical Research Associate, Clinical Research Physician, District Manager, Industrial Engineer, Lab Technician, Market Research Analyst, Mechanical Engineer, Medical Science Liaison, Physician, Process Engineer, Product Manager, Quality Assurance Specialist, Quality Control Analyst, Regulatory Affairs Associate, Research Associate, Research Scientist, Sales/Field Representative, Strategy Director

Skills Sought

- Research and internship experience are essential – provide a point of reference for interview questions
- Bright, broadly trained – technical background combined with strong soft skills (*oral and written communication*)
- Ability to work effectively in a team environment and independently in a laboratory setting
- Personable, a good fit for the department and the organization
- Exudes a certain level of maturity and professionalism
- Background in statistics/data analysis becoming a major factor
- Can move with the times and contribute to increasing need to create and adapt promising new drug-discovery technologies

Successful Interviews

- Be prepared to discuss your internships and any experience you have with research and statistics/data analysis
- Exude a strong level of maturity and professionalism that you would bring to the team/organization if hired
- Provide evidence and examples of the value of your interdisciplinary education

Top Employers

Pfizer	Merck & Co.	Johnson & Johnson	AbbVie	Takeda
Novartis	Sanofi	AstraZeneca	Teva	Bristol-Myers Squibb
Roche	GlaxoSmithKline	Eli Lilly & Co.	Amgen	Boehringer-Ingelheim

Trends and Labor Market

- **Statistics, Big Data, Data Analysis:** Expanded technology calls for quicker turnaround – need to be able to statistically analyze data and measure more than one variable at a time.
- **Hiring:** Extremely competitive – need to be able to highlight internship and research experience, communication and interpersonal skills, and any experience with statistics/data (if two candidates are similar but one has a statistical background, they will likely get the job offer)

Resources & Associations

Professional Associations:

American Association of Pharmaceutical Scientists
2107 Wilson Boulevard, Suite 700
Arlington, VA, 22201-3042
Tel: (703) 243-2800
<https://www.aaps.org>

Pharmaceutical Research and Manufacturers of America
950 F Street, NW, Suite 300
Washington, DC, 20004-1404
Tel: (202) 835-3400
<http://www.phrma.org>

U.S. Food and Drug Administration
10903 New Hampshire Avenue,
Silver Spring, MD 20993-0002
Tel: (888) 463-6332
<http://www.fda.gov/Cosmetics>

Publications and Professional Journals:

- Organic Process Research & Development (OPR&D)
<http://pubs.acs.org/journal/oprdfk>
- Genetic Engineering & Biotechnology News (GEN)
<http://www.genengnews.com/>
- FierceBiotech
<http://www.fiercebiotech.com/>
- Biotechnology Progress Journal
www.aiche.org/sbe/resources/publications/biotechnology-progress

Please note there are many professional organizations and resources related to this field. For more detailed information, please visit the *Pharmaceuticals & Biotechnology Industries & Professions* guide in Vault.

Resources:

Morkes, Andrew. *Vault Career Guide to Pharmaceuticals and Biotech*. Industry Guides. New York: Vault, 2014.