

Career Opportunities in Biotechnology and Drug Development

Career Opportunities in the Life Sciences

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The Experiment

- A comprehensive, systematic assessment of careers in the biotechnology, pharmaceutical and medical device industries
- Not hypothesis driven, discovery based research
- Resource guide for career planning

Goals: Get on the Right Track



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Goals: Be Sure To Enjoy a Job

If you are doing what you love, then it's not really "work"



Methods

- 200+ interviews
- 1-2 hour telephone interviews
- Mostly VPs, most had Ph.D. or MD or other type of advanced degree
- About 10 interviews per chapter
- Data was compiled, analyzed and summarized
- Interviewees reviewed draft chapters
- Project took three years to complete

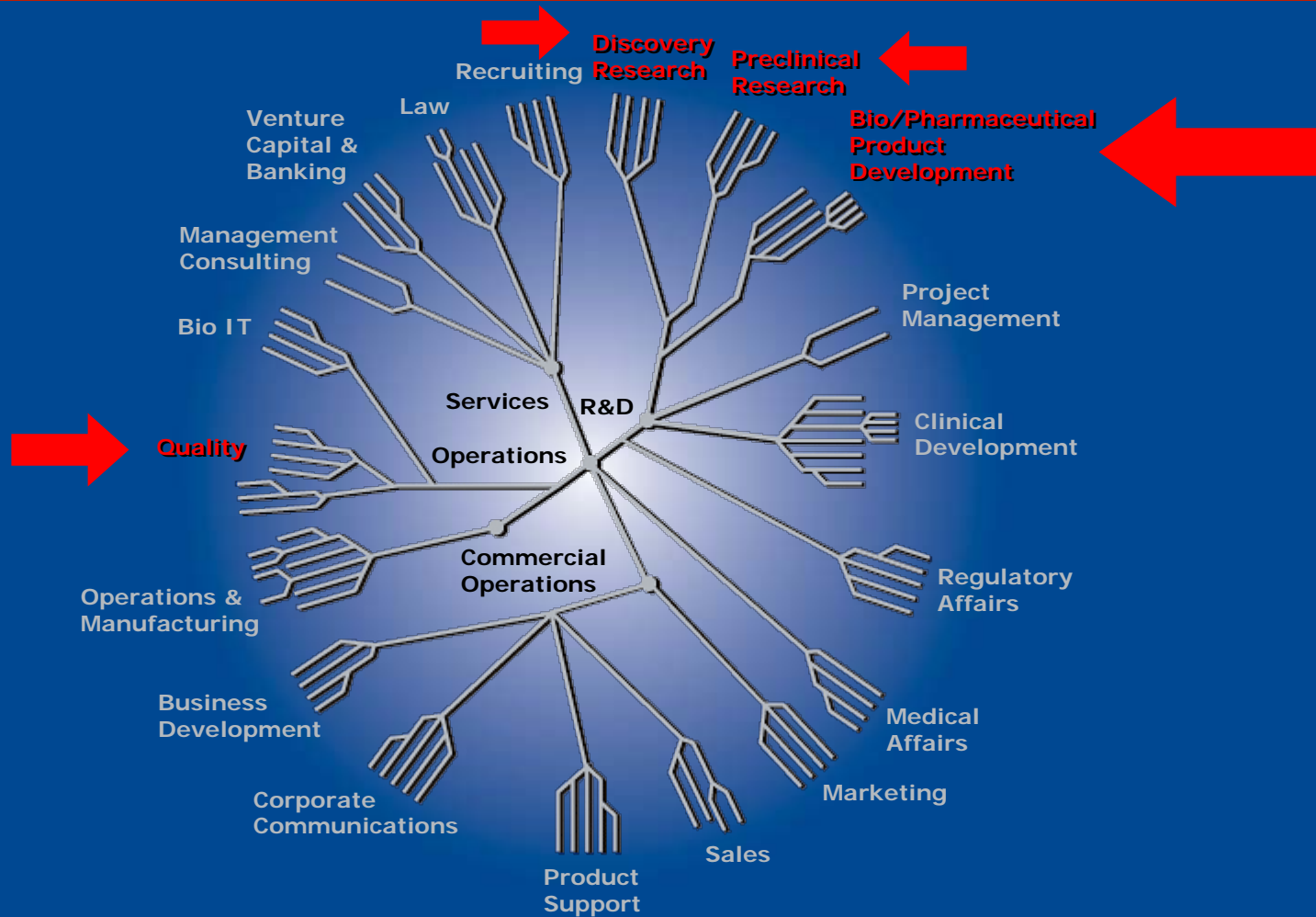
Results: So Many Careers To Choose!



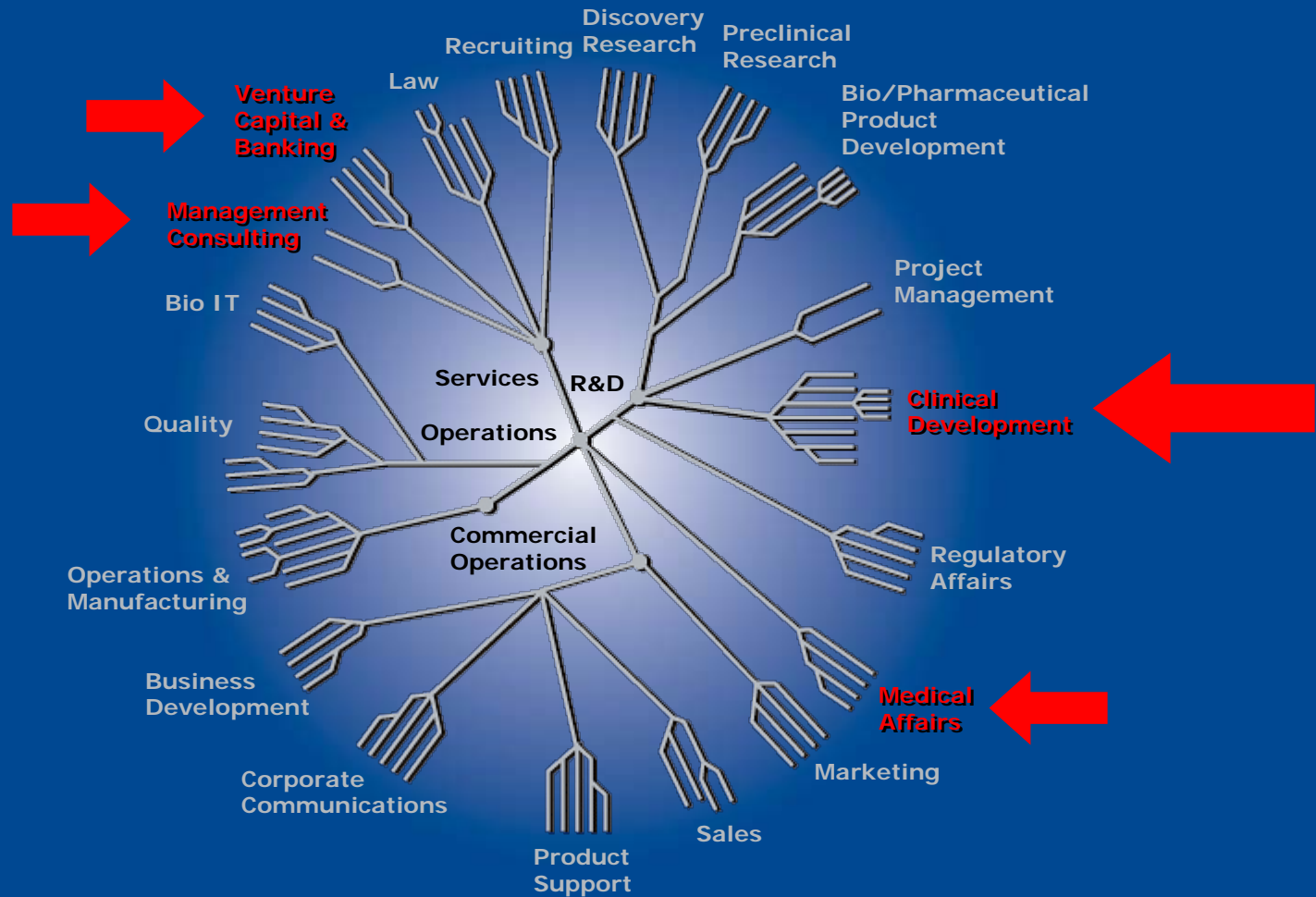
Careers in Research



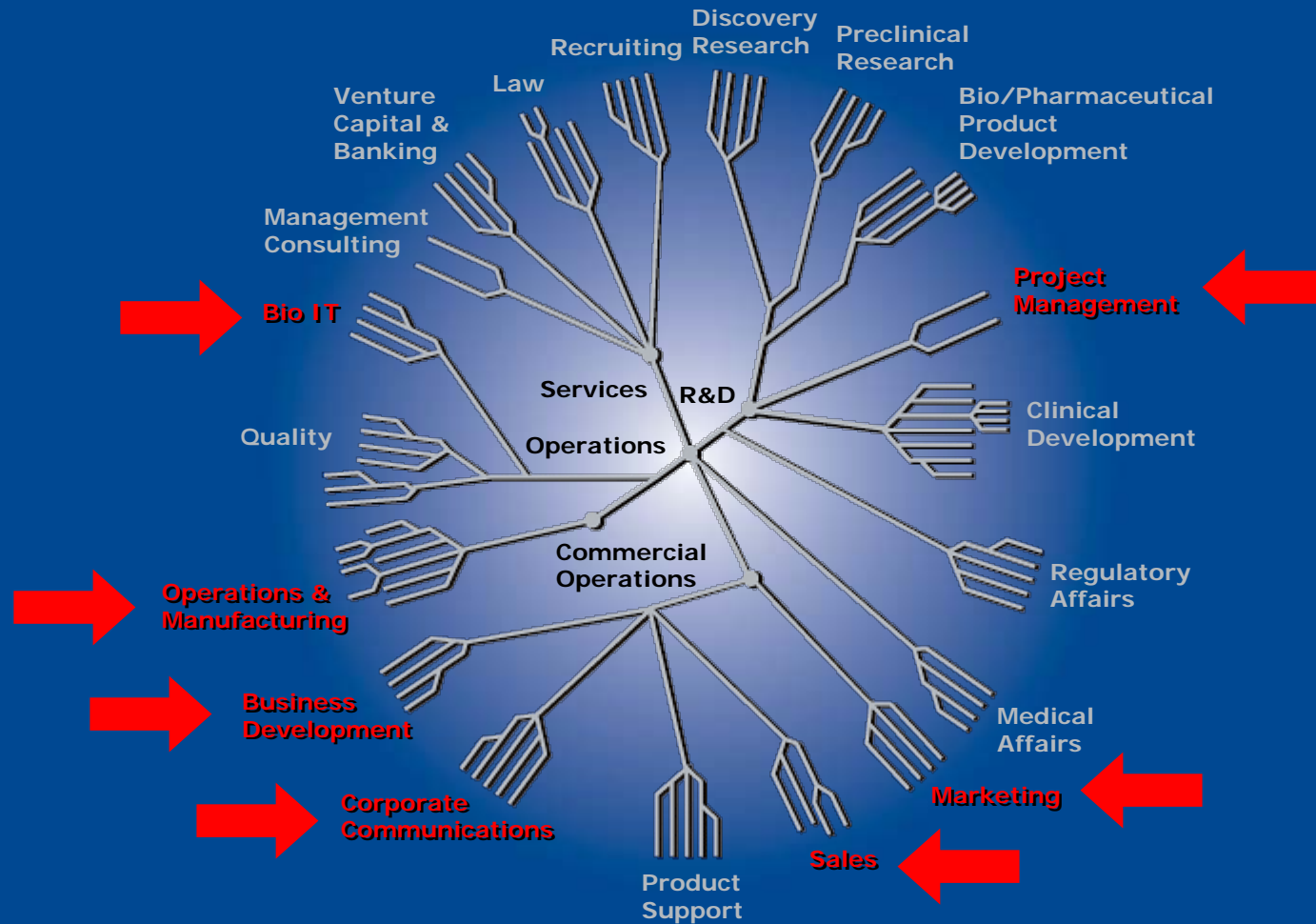
Careers for Chemists



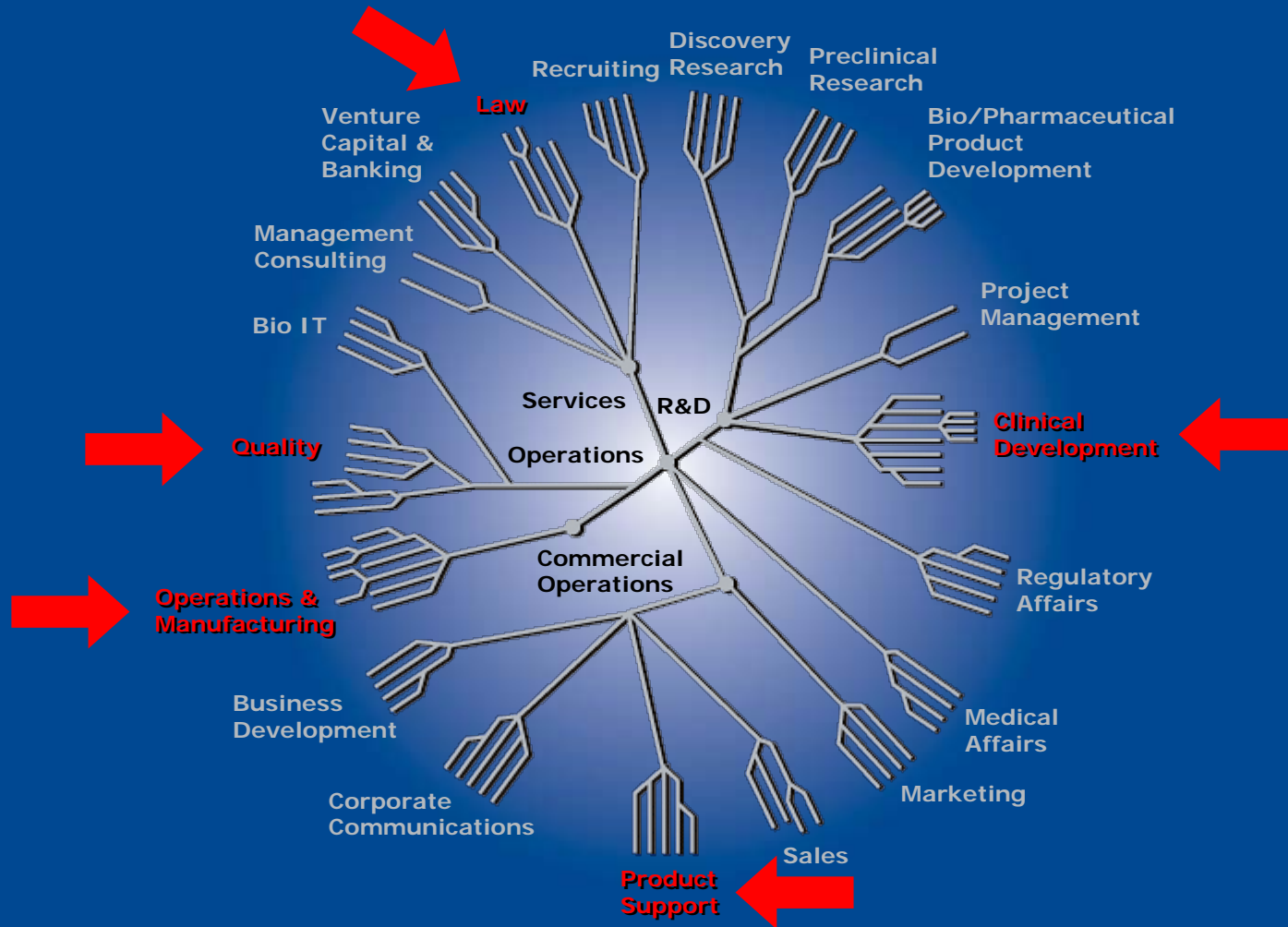
Careers for MDs



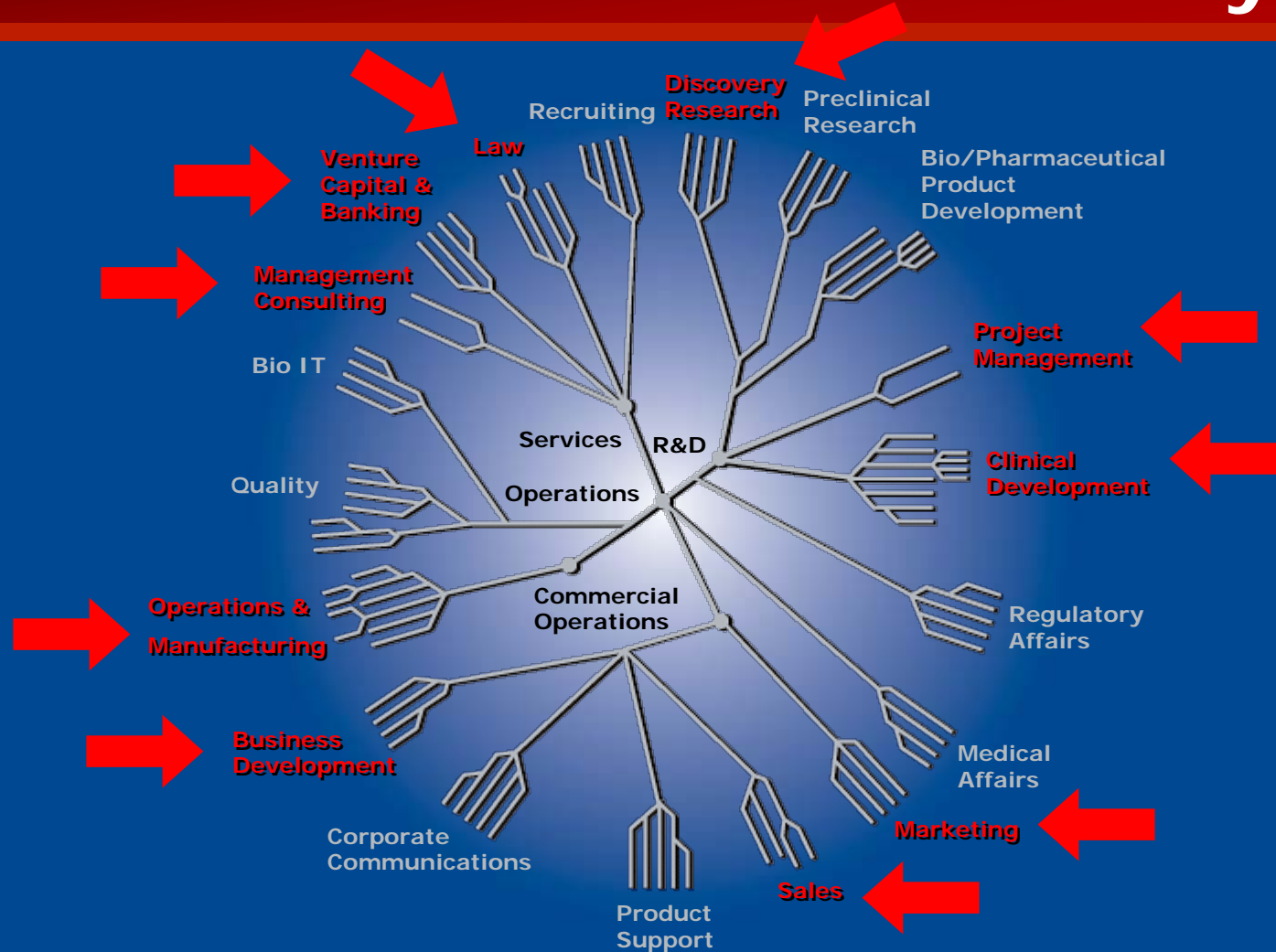
Careers for MBAs



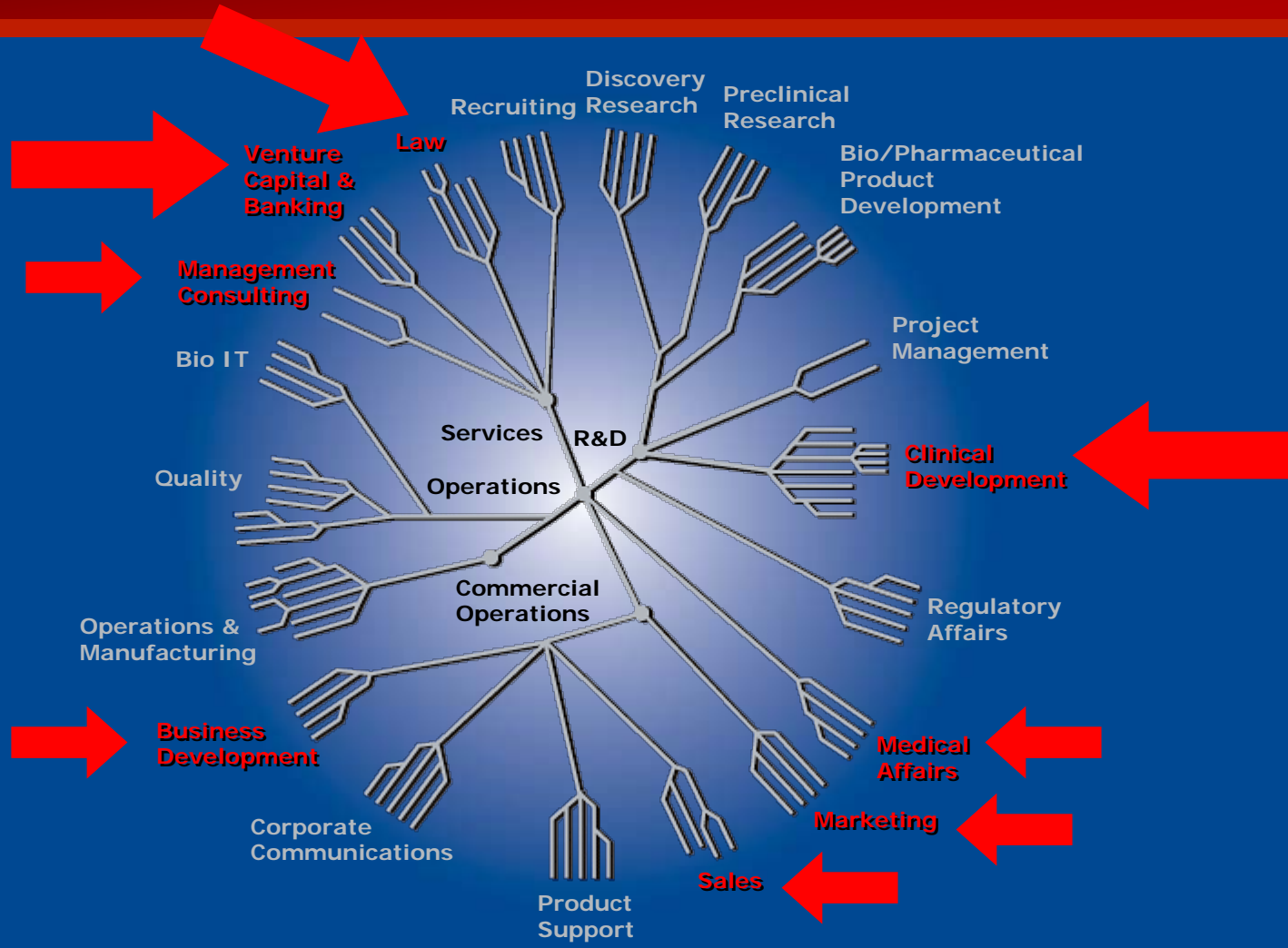
If you want a 9-5 job



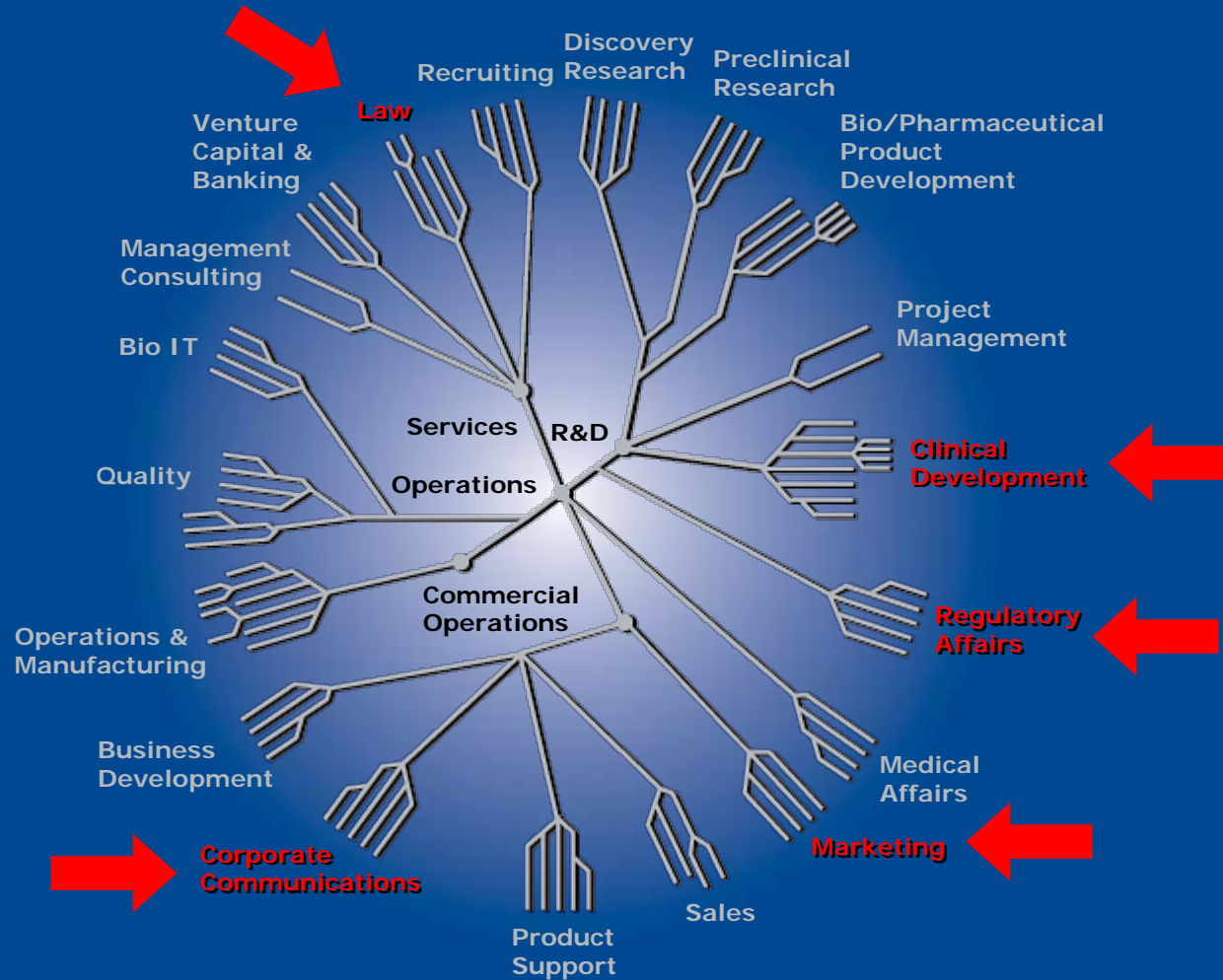
Who wants to be a CEO one day?



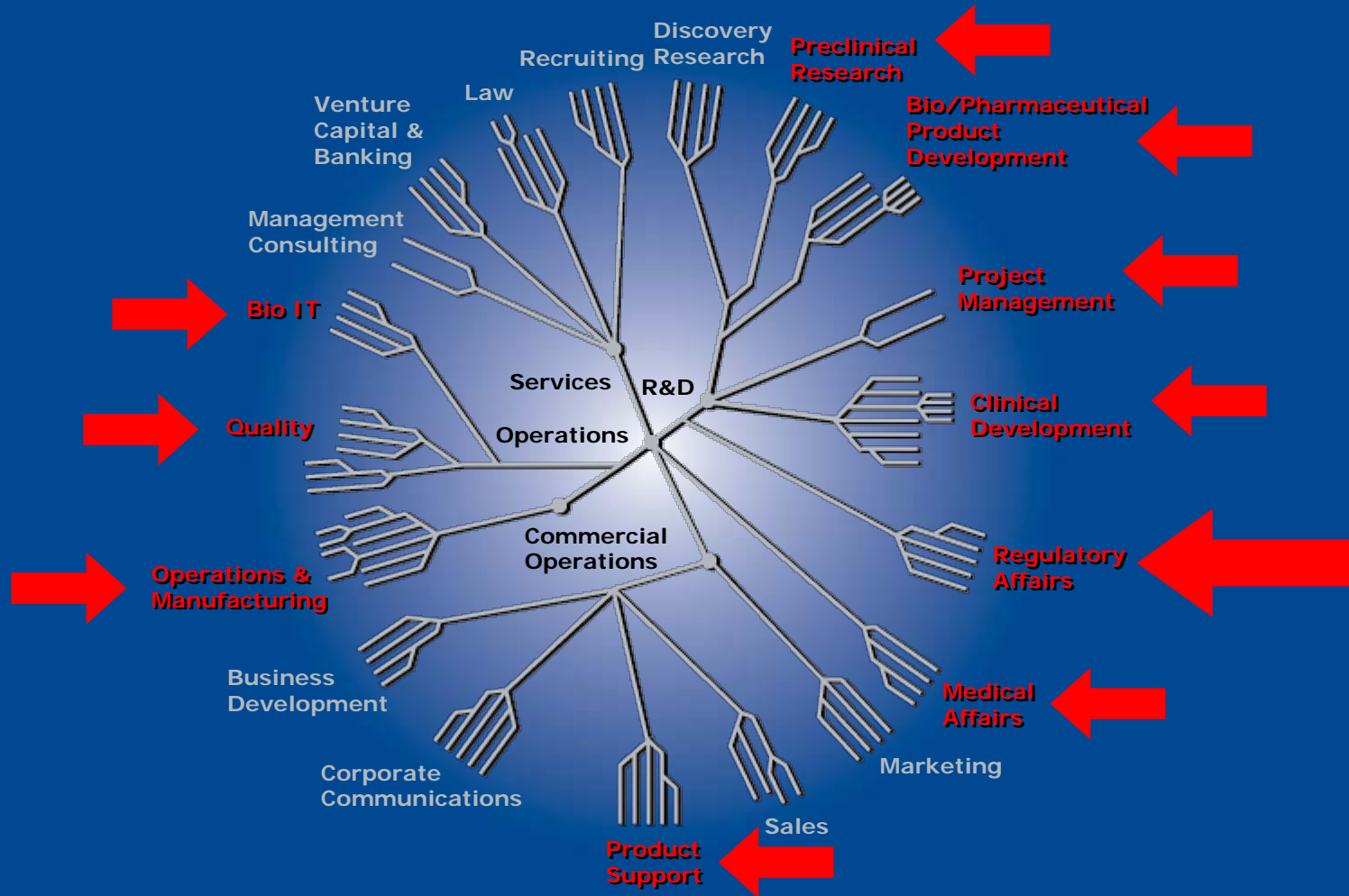
\$\$\$ Careers



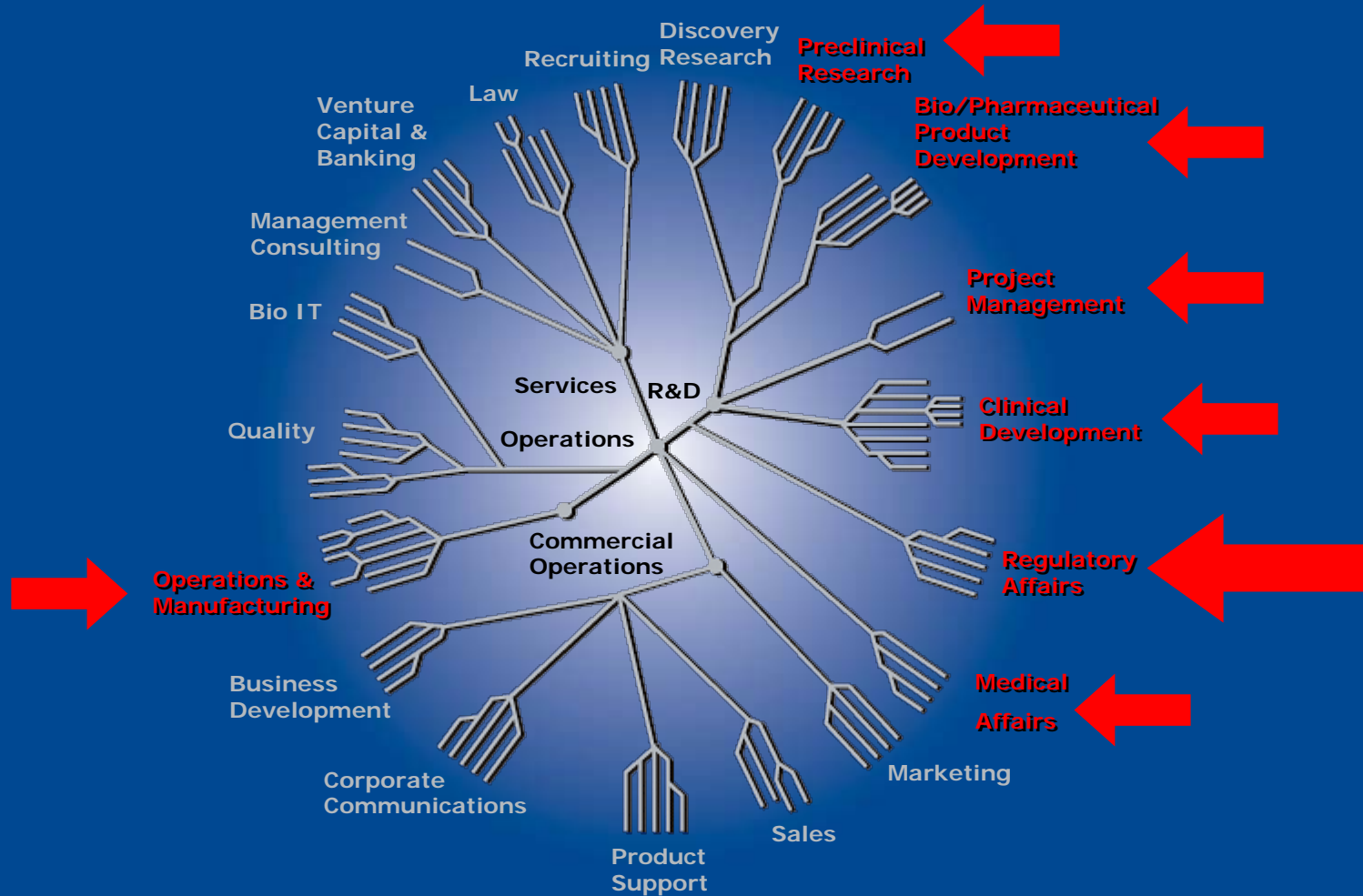
If you love writing...



The Hidden Jobs



Hot Jobs



So Many Careers To Choose!

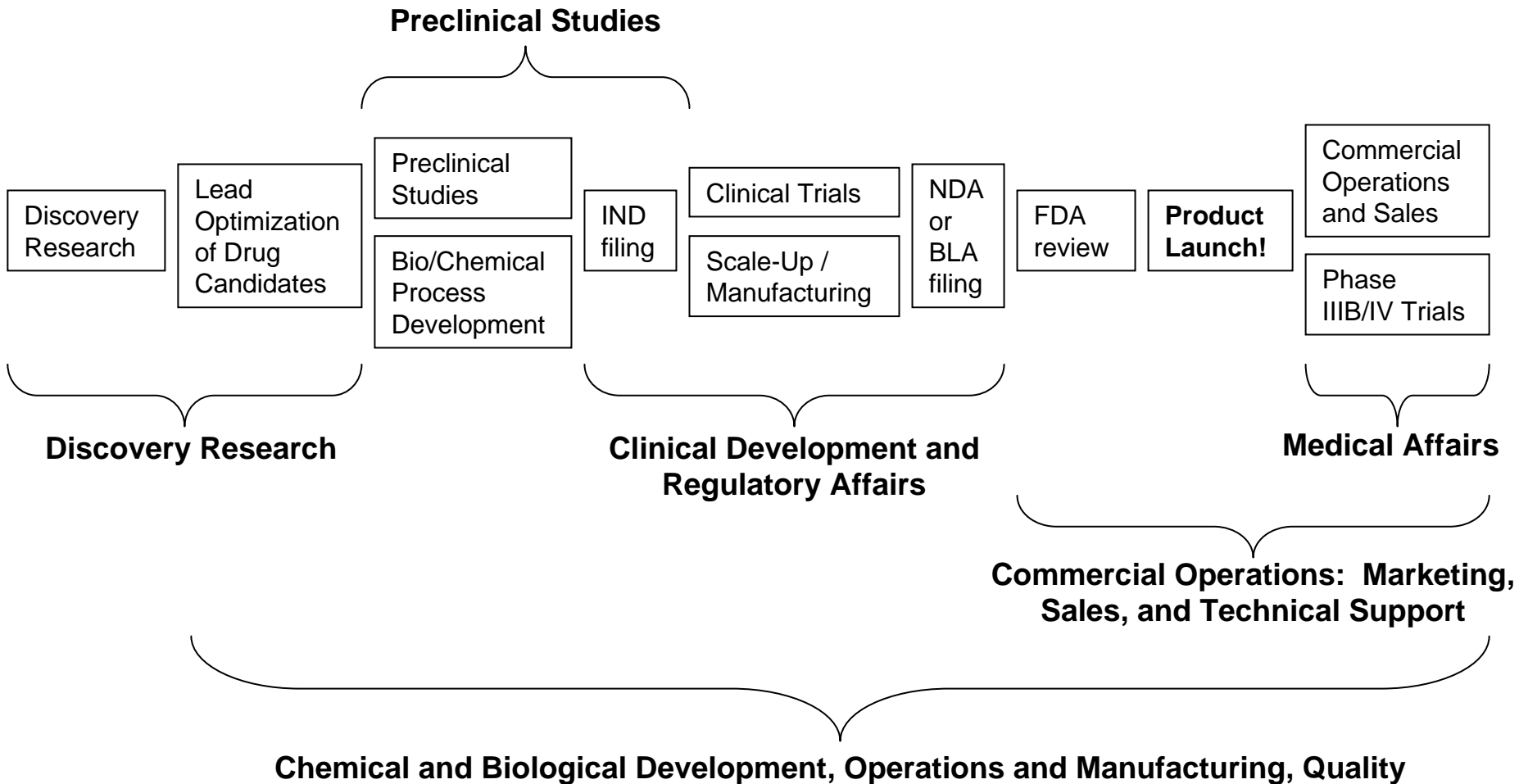


Many Areas to Consider

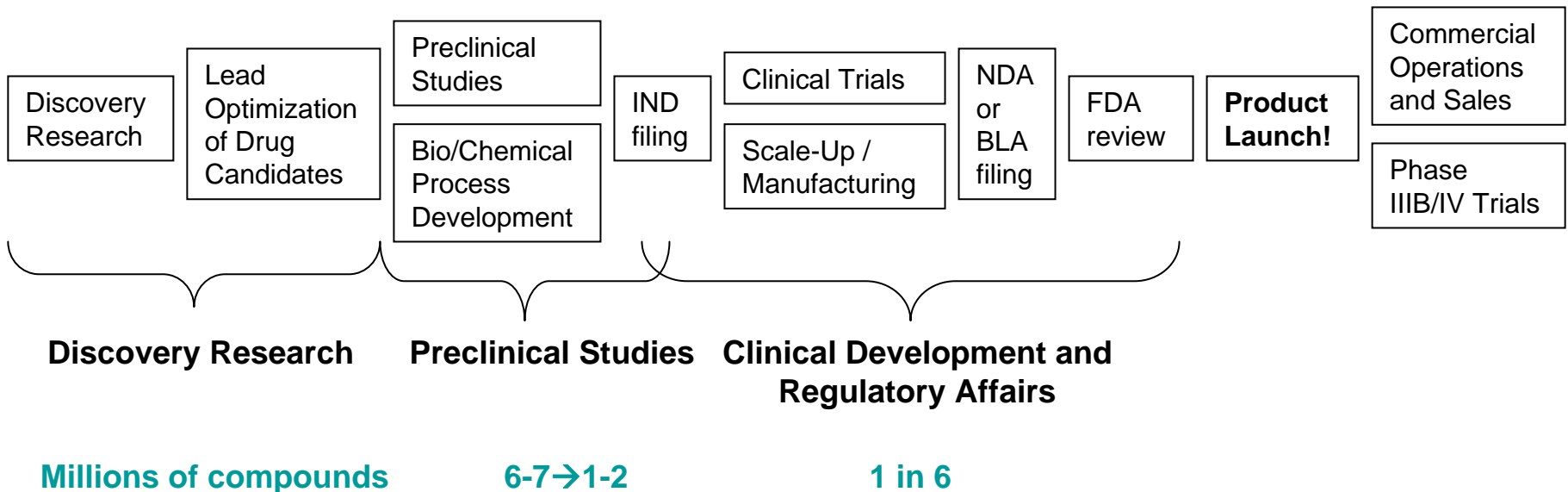
Table 6-1: Biotechnology and Drug Development Overview... Where the Jobs Are

Drug Discovery & Development	Biotechnology "Tools"	Biotechnology Services	Other Pharma/ Biotech Areas	Government Institutions	Medical Devices	Academia
Pharmaceutical companies	Reagents and Chemical suppliers	Management consulting and accounting firms	Agricultural	Food and Drug Administration (FDA) and CBER	Medical devices	Technology transfer
Biotechnology therapeutic companies	Instruments (e.g., microscopes)	Law firms	Industrial biotechnology	Centers for Disease Control (CDC)	Diagnostic companies	Industry-supported labs and institutes
Vaccines	Platform companies (e.g., genomics, proteomics, nanotechnology)	Venture capital and investment banking	Molecular diagnostics	National Institutes of Health (NIH)	eHealth	Education
Drug delivery	Bio-IT	Recruiting firms	Veterinary companies	US Patent and Trademark Office (USPTO)		
Molecular Diagnostics	Software and hardware	Contract research organizations (CROs)	Foundations, non-profits, social philanthropy	Research institutes and government labs		
	Molecular diagnostics	Contract manufacturers (CMOs)	Clean tech/energy	Homeland security & defense		
		Research and clinical testing: clinical labs, customized antibodies	Nanotech	CIA, FBI, and NASA		
		Bio-IT	Journalism	Trade commissions		
		Other agencies and niche providers: PR, advertising, market research, medical communications				
		Consultants				

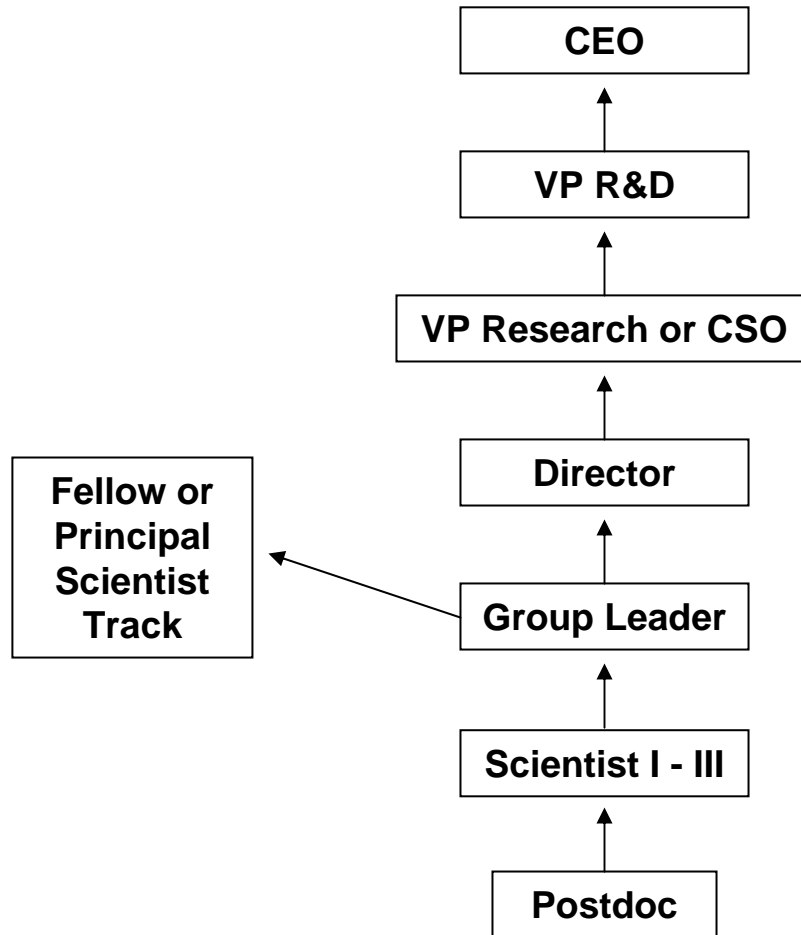
Product Development Overview



Drug Development: A Risky Endeavor



Career Ladder in Discovery Research



Why Work in Industry???

- Most common answer to why people enjoyed their jobs?

Why Work in Industry???

- Overwhelming feeling of higher aspirations for developing drugs that promise to benefit mankind

Additional Pros to Working in Industry

- Applied results
- Team orientation
- Numerous career choices to consider
- Job variety
- Intensive and continued learning
- Unlimited resources to do “big science”

Negative Aspects to Working in Industry

- Job security
- Travel
- Stress and deadline pressure
- No time to get to the bottom of interesting biological questions
- Project failures and terminations are frequent and disappointing
- Decision making

Things you can do to Increase Job Security...

- Learn new skills
- Stay at the cutting edge
- Become a recognized expert in a niche area
- Work in large companies with robust pipelines
- Work in biotechnology hubs
- Stay flexible in career

Themes to Excel

Personality attributes to be successful,
regardless of the career?

Personality Attributes to be Successful in Industry

- Flexibility
- Communication skills
- Team player attitude
- Interpersonal skills
- Can-do positive attitude, sense of humor
- Ability to multitask
- Being able to see the “forest through the trees”
- Ability to understand customer’s point of view
- Creative problem solving skills

Academia is Attractive Also!

- An important role in society
- Tenure
- Pension plans
- Freedom for decision making
- Ability to remain an expert/retain narrow focus

What You Can do Now to Help Eventually Land a Job...

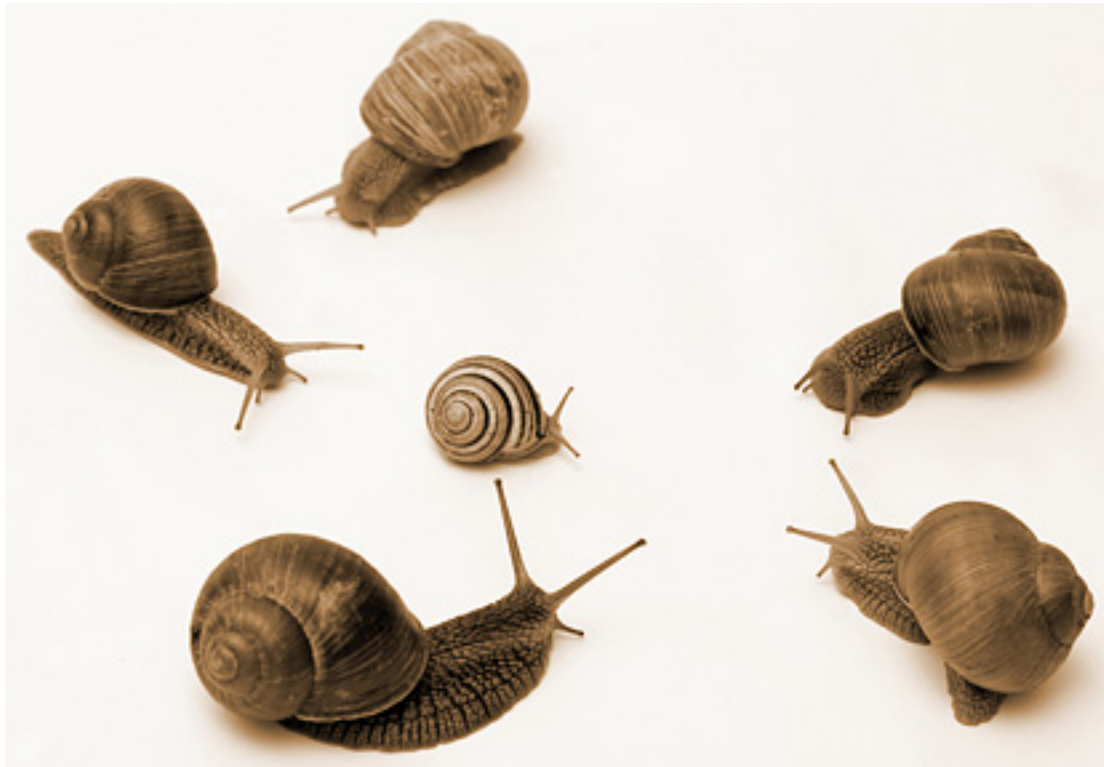
- Work on projects related to human disease rather than esoteric science
- Do drug screens, applied science
- Form collaborations with industry
- Gain experience with or learn about clinical trials
- Publish, publish, publish (but don't perish)
- Give presentations and attend conferences and become a perceived expert (get visibility)
- Postdoc in industry

Follow the Industry News

- BioSpace
 - www.biospace.com
- FierceBiotech
 - www.fiercebiotech.com
- FierceBioResearch
 - www.fiercebioreseracher.com
- Nature Biotechnology and Nature Reviews Drug Discovery
 - www.nature.com/nbt/
- The Scientist
 - www.the-scientist.com

Job Search

- Build your network



Career Planning

Try to go from big to small



Career Planning

Embrace the concept of “Continued Life-Long Learning”



Career Advice...

Try to pick your boss, not the company



Career Advice...

Make sure you fit into the culture



More Career Advice...

Interview the company as much as they interview you



More Interviewing Advice...

- Don't interview like a postdoc!

Career Planning

Find your niche



Bay Area Employment Economics

- Recent and some spectacular layoffs in the Bay Area in both biotech and medical device companies:

Amgen, Roche, Scios, Alza, Renovis, Corgentech, Sunesis, Telik, Ilypsa, Affymetrix, Threshold, Nektar, PDL, more

Boston Scientific, Abbott, Medtronic, more

- Large lay-offs in pharma also
- Large pool of qualified talent is available—highly competitive

VCs are Funding Biotech and Medical Device Companies

Investments by Industry / Q3 2007

Industries Defined	Total \$ Invested	Average \$ Per Deal	Deals
All	\$7,104,206,400	\$8,009,252	887
		Amount	% of Total Deals
<u>Software</u>		\$1108M	15.60%
<u>Biotechnology</u>		\$1091M	15.36%
<u>Industrial/Energy</u>		\$921M	12.96%
<u>Medical Devices and Equipment</u>		\$825M	11.62%
<u>Telecommunications</u>		\$585M	8.24%
<u>Semiconductors</u>		\$513M	7.22%
<u>Media and Entertainment</u>		\$509M	7.16%
<u>IT Services</u>		\$354M	4.98%
<u>Networking and Equipment</u>		\$289M	4.07%
<u>Financial Services</u>		\$280M	3.94%
<u>Business Products and Services</u>		\$195M	2.74%
<u>Electronics/Instrumentation</u>		\$153M	2.15%
<u>Healthcare Services</u>		\$96M	1.35%
<u>Computers and Peripherals</u>		\$88M	1.24%
<u>Consumer Products and Services</u>		\$57M	0.81%
<u>Retailing/Distribution</u>		\$40M	0.56%
<u>Other</u>		\$0M	0.00%

Source: PriceWaterhouseCoopers, Money Tree

The Future of Biotech is Promising

- Significant unmet medical needs remain—neurological disorders, cancer, infectious diseases, diabetes, obesity, cardiovascular diseases
- Energy
- Aging population
- Tremendous market opportunity in China and India

Thank you!



Wishing you much success in your endeavors!

May you find a cure for cancer!

Speaking Engagements

- Teri Hankes's 'Alternative Careers in Medicine Series', April 17th, Stanford, from 5-6 pm
- Free sample chapter on Careers in Project Management available on my website at www.careersbiotech.com
- Books available at campus career centers

Contact Information

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If only books grew on trees!

