



Yale Biotechnology & Pharmaceutical Society

Continuing Evolution of The Pharmaceutical Industry: Career Challenges and Opportunities

Presentation by

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Background

- 11-month research process
 - Joint venture
 - 14-person research team
- Interviewed more than 100 industry experts
 - Academics
 - Current and former CEOs
 - Senior chemists, marketers and managers
 - Consultants, lawyers, outplacement companies
 - Venture capitalists and executive search professionals
- Review of industry studies, financial disclosures, consulting reports
- Findings published in December 2007

1980 – 2005: Pharmaceutical Industry's Golden Era

- Numerous scientific breakthroughs
 - New treatment classes
- Dozens of blockbuster drugs
 - Soaring profits
 - 85x market value increase from 1985-2000
- Great careers
 - Important and interesting work
 - High pay, generous benefits
 - Job security
 - Opportunity to build wealth - stock & stock options
- Paternalistic employer-employee relationship

Seven Forces Reshaping Industry

- Patent expiration of many blockbuster drugs
 - Almost \$13 billion in U.S. revenue of blockbuster drugs expired in 2007
 - Almost \$60 billion by 2012¹

Company	Blockbuster Drugs - U.S. Patents Expiring	U.S. Drug Revenue as a Percent of Total Company Revenue in 2006
Pfizer	Norvasc, Zyrtec/Zyrtec-D, Lipitor, Xalatan, Viagra, Detrol	28.87%
Astra Zeneca	Nexium, Casodex, Arimidex, Atacand, Zoladex, Seroquel	27.53%
GlaxoSmithKline	Coreg, Advair, Imigran/Imitrex, Lamictal, Valtrex, Flovent Diskus/HFA, Avandia	25.51%
Merck	Fosamax, Cozaar/Hyzaar, Singulair	25.19%
Wyeth	Effexor/Effexor XR, Protonix	20.70%
Sanofi-Aventis	Ambien/Ambien CR, Eloxatine, Copaxone, Taxotere, Plavix, Lovenox	20.01%
Bristol-Myers Squibb	Plavix, Avapro	18.43%
Eli Lilly	Zyprexa	13.42%
Novartis	Lotrel, Zometa, Diovan/Co-Diovan	10.63%

¹ Source: FDA Orange Book; SEC Filings; U.S. Patent And Trademark Office; Financial information available on company websites.

Seven Forces Reshaping Industry

- Few replacement drugs
 - 75% specialty medications
 - Harder targets and higher costs

- Shift from “physician prescriber” to “stakeholder payer” model
 - Consolidation of payers
 - 10 companies = 56% of managed care
 - Ability to manipulate patient co-pays
 - Pharmacist compensation
 - Generic or formulary for asymptomatic conditions

- Outcomes-based pricing
 - Efficacy vs. cost-effectiveness
 - Commoditization of innovative pharmaceutical treatments

Seven Forces Reshaping Industry

- Litigation
 - 65,000 lawsuits
 - Higher research costs / timid regulators
 - No “loser pays” system

- US government largest customer
 - Medicare Part D; Tri-care, employees / retirees, etc.
 - Budgetary pressure / political piñata
 - Broad power to change economics

Seven Forces Reshaping Industry

- Globalization
 - Markets for drugs
 - Increased spending by emerging markets countries
 - Potentially 20% of global sales by 2020 ²
 - Generics
 - Affluent portions of population
 - Development of new drugs offshore
 - Clinical trials with cost savings of 30% to 65% ³
 - Increasing sophistication
 - Labs with US/EU trained staff
 - National priority / supportive regulators
 - Increased willingness to respect intellectual property

² PriceWaterhouseCoopers, 2007. "Pharma 2020: The vision. Which path will you take?" Retrieved Oct. 1, 2007, from www.pwc.com

³ Bailey, Wynn; Cruikshank, Carol; and Sharma, Nikhil. "Make Your Move: Taking Clinical Trials to the Best Location". A.T. Kearney's Executive Agenda. Retrieved Sept. 19, 2007, from www.atkearney.com.

Pharma Business Model Evolution

- Cost reduction
 - Mergers / acquisitions
 - Eliminate redundancies
 - 90% tied to single treatment area
 - Near-term value-added vs. past contribution
 - Product acquisition
 - Narrower focus
 - Sell / spin-off non-core lines
 - Outsourcing
 - R&D / manufacturing / sales / everything

Pharma Business Model Evolution

- Risk reduction
 - “Expensive gamble”
 - 1 in 3,000 to 10,000
 - Unpredictable level of future revenues
 - Success unlikely to help current management
 - Near-term costs could be career killers
 - Shift to developing & commercializing proven potential
 - Increased licensing / acquisition of compounds
 - VCs assume early stage risk
 - Research consortiums

Danger or Opportunity?

- Danger

- 50,000+ upper-middle and senior level positions displaced
- Higher demands on retained employees
- Mobility required including overseas

- Opportunity

- Large pharma will both survive and thrive
- Thousands of new high paying jobs at small companies
- Numerous independent contractor opportunities
- Better ability to monetize intellectual capital / value-added
- Control over career and lifestyle

Future Structure of the Industry

- Fewer large companies
 - Very big
 - Focused on fewer treatment lines
 - Primarily latter stage R&D / commercialization / marketing
 - Global workforces and distribution
 - Networks of joint ventures and independent contractors
- Mid-sized get bigger or acquired
- Thousands of small companies
 - One or two products
 - Short lifecycles
- Armies of independent contractors

Future Employment Structure of the Industry

- Career within single industry, not with single employer
 - Both within and between companies
- Greater specialization
 - Portable expertise
- Corporate paternalism unsustainable
 - Shareholder demands and economic pressure
 - Ability to solve specific, immediate problems

High Growth Opportunities

- Generic Biotech/Biosimilars
 - \$40 billion market in 2006⁴
 - Initial patents expiring
 - EU vs. FDA

- Commercialization of Dormant Compounds
 - 2,000 to 5,000
 - Immense sunk cost
 - Repurposing extends patents
 - Side effects

⁴ Source: IMS Health

High Growth Opportunities

- Improving R&D Efficiency
 - Revenue compression
 - Risk and cost reduction
 - Intractable targets; toxicity; efficacy

- Oncology and Central Nervous System (CNS)
 - Greater longevity = higher incidence
 - Breakthroughs in biochemistry
 - Diagnostics

- Stratified Medicine and Diagnostics
 - Personalized vs. stratified medicine
 - Diagnostic economic model
 - Life threatening / high-cost therapeutics

High Demand Expertise

- Joint ventures; across divisions, cultures and countries
 - Every company
 - Working and regulatory environments
 - End of the silo

- Intellectual property, science and business strategy
 - Gene sequence land-grab
 - Case law
 - Licensing costs vs. economic opportunity

- Decision-making dynamics of payers
 - Multi-factorial problem
 - Client base, insured; local and state governments
 - Pricing and positioning of product

High Demand Expertise

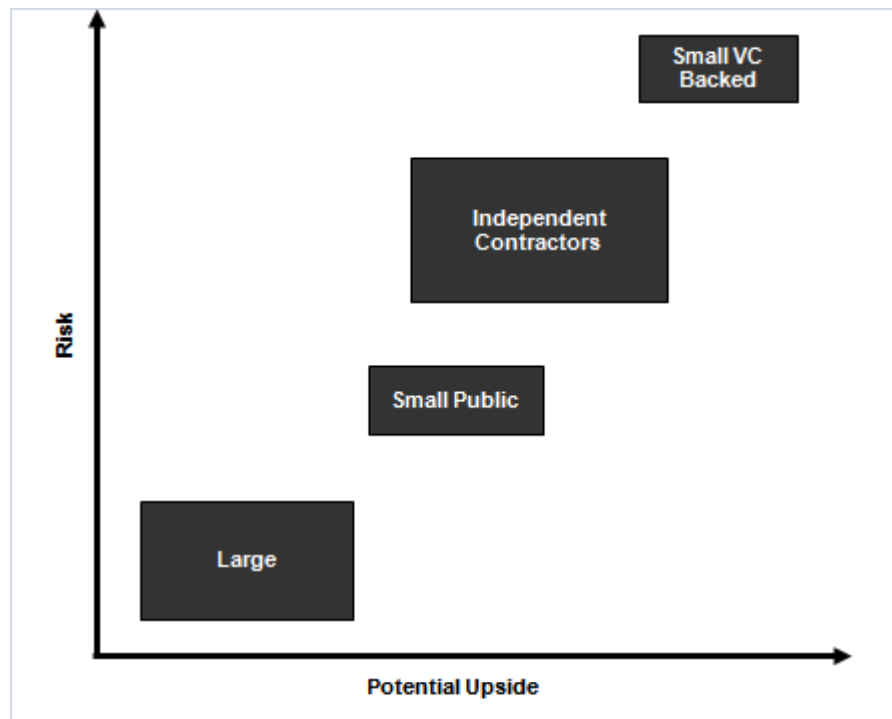
- Spur creativity, manage commercially
 - Conflicting objectives / personality types

- Regulatory expertise
 - Treatment category
 - Evaluation / decision mechanics
 - Individual regulators
 - Shorten approval time horizons

- Intellectual capital management
 - Evolution of research model
 - Joint ventures / internal / academia
 - Research consortiums

Career Planning

- Traditional pension vs. 401(k)
- Industry overview
 - Risk vs. reward



Career Planning

- Big pharma
 - Higher (vs. past) risk / less upside
 - Redefined roles
 - Mobility
- VC-backed small
 - Culture
 - Expectations
 - Big upside + big risk
- Mid-sized & small public
 - Less risk / less upside
 - Cultural adjustment
 - Shorter lifecycle
- Independent contractor / pharma support
 - Uber-expert
 - Higher compensation / lifestyle control
 - Limited half-life
 - Foraging for new work
 - Own business

Athlete or Specialist?

- Specialists are role players
 - Great depth
 - Narrow focus
 - Constant race to refresh
- Athletes employ a broad set of skills
 - Versatile and adaptable
 - Manages complexity

Decision-making Factors

- Effectively now have two businesses to run
 - Managing your career
 - Managing your wealth

- Personal objectives and lifestyle
 - Career horizon
 - Type of work
 - Corporate culture
 - Lifestyle
 - Location

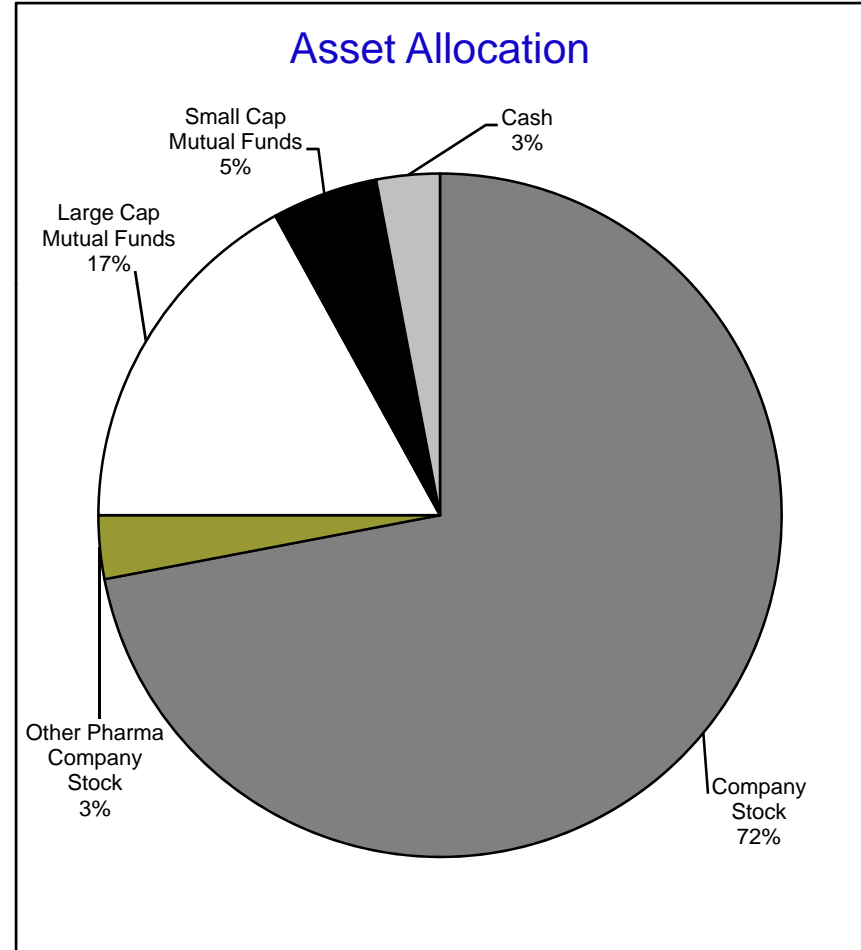
Financial Resources Constrain Choices

- Ability to tolerate and afford risk
 - Current wealth vs. current obligations
 - Current wealth vs. potential obligations
 - Lifestyle objectives
 - Career horizon

- Current risk profile
 - Industry concentration
 - Equity vs. cash compensation
 - Each choice = investment in employer
 - 30% to 90% of compensation

Example of a Typical Pharmaceutical Executive's Portfolio

Assets		
Taxable Savings Account		
Employer Stock	\$	300,000
Other Pharmaceutical Company Stock	\$	50,000
Large Cap Mutual Funds	\$	50,000
Cash	\$	50,000
401(k)		
Employer Stock	\$	450,000
Large Cap Mutual Funds	\$	100,000
Small Cap Mutual Funds	\$	50,000
Deferred Compensation		
Employer Stock	\$	150,000
Large Cap Mutual Funds	\$	150,000
IRA		
Large Cap Mutual Funds	\$	50,000
Small Cap Mutual Funds	\$	50,000
Stock Options		
Employer Stock (Current Value)	\$	550,000
Total	\$	2,000,000



Financial Resources Constrain Choices

- Hidden costs of career changes
 - Pension plan vesting
 - Foregone stock & stock options
 - Tax and opportunity costs of forced exercise
 - Deferred compensation distribution trigger
 - Post-retirement health care

Conclusion

- Industry on brink of change
 - Different industry in 10 years
- Will survive and thrive by adapting
 - Participants must likewise adapt
 - Changes will create both risk and opportunity
- Embrace the coming changes
 - Opportunity of a lifetime
 - Career within industry and not single company
 - Reposition to take advantage
- Inertia lowest likelihood of success

White Paper Requests

- You may download a copy at www.pharmawealthmanager.com.
- You may request a copy at no cost by emailing paper@pharmawealthmanager.com or by calling (973) 635-7070, ext. 250.
- To learn more about RegentAtlantic's Pharmaceutical Executive Services Group, please contact Michael Steiner at (973) 635-7070, ext. 214 or msteiner@regentatlantic.com.

Michael R. Steiner, CFP®, CPA, Wealth Manager

Michael Steiner leads the Pharmaceutical Executive Services Group (PESG) at RegentAtlantic Capital, one of the country's largest independent wealth management firms. It has specialized in advising executives and senior researchers of pharmaceutical and biotechnology companies for nearly 25 years. PESG currently includes 20 professionals who work with clients located throughout the world including current and former employees of Merck, Novartis, Pfizer and Johnson & Johnson.

Steiner is leading a ten person research team who for the past year has been conducting a major study of the forces reshaping the economics of the pharmaceutical industry and how they will affect individual participants. They have interviewed more than 100 academics, current and former industry executives and service providers including compensation specialists, attorneys, consultants and venture capitalists. They plan to publish their findings in a white paper in November of this year.

Steiner is a graduate of Hofstra University who has worked with executives of pharmaceutical companies for nearly 15 years. He came to RegentAtlantic Capital from KPMG and also worked at J.H. Cohn LLP.

Important Disclosure

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