

HCMG 849: Financial Management of Health Institutions

Fall 2015

MW 1:30-2:50, Colonial Penn Center Auditorium

Scott Harrington
Alan B. Miller Professor
Chair, Health Care Management
Office: MW 3:00-5:00 and by appt.

206 Colonial Penn Center
215-898-9403
harring@wharton.upenn.edu
[http://www.scottharringtonphd.com/
@SHarringtonphd](http://www.scottharringtonphd.com/@SHarringtonphd)

Overview

This course focuses on health care organizations' financial decisions in the changing health care landscape. The course involves case analyses and lectures, including presentations by practitioners with extensive real world experience. Upon completion of the course, students will be able to utilize a range of financial tools and techniques for making value-added financial decisions in numerous health care contexts.

The course is organized around cases dealing with publicly-traded health care company valuation, valuation and return on investment of biopharmaceutical and medical technology development projects, valuation and deal structure for startup and early stage health care organizations, health plan pricing and finance, and health care provider risk-sharing arrangements. Each case is accompanied by background on tools, methods, institutions, and markets.

Students seeking careers in health care with minimal finance background will obtain a solid introduction to key areas of health care finance and financial decision making. Students with more background will broaden and enhance their analytical and interpretive skills in a variety of important applications.

Prerequisites: FNCE 611, equivalent coursework, or experience

Canvas site: The cases and readings not accessible by direct links will be posted on the course Canvas site. Some speakers may provide additional readings. A copy of the lecture slides usually will be distributed in class and posted after class.

Guest speakers

- Geoff Meyerson, Managing Director and Co-founder, Locust Walk Partners
- Adam Koppel, Senior Vice President and Chief Strategy Officer, Biogen Idec
- Michael Aberman, Senior Vice President of Strategy and Investor Relations, and Nouhad Husseini, Senior Director of Business Development, Regeneron Pharmaceuticals
- Anthony Sun, Partner, Aisling Capital
- Eric Heil, Co-founder, President, and CEO, RightCare
- Maureen Spivack, Managing Director, Healthcare investment banking team, KPMG
- Todd Richter, Vice Chairman, Global Investment Banking, Barclays
- Robert Broermann, Senior Vice President and Chief Financial Officer, Sentara Healthcare

Case teams, write-ups, and presentation

Groups of up to three-four students should assemble to form a case team. Each team will be responsible for submitting 4 case write-ups and presenting one case in class. A case write-up should consist of no more than 6 pages of text, with as many supporting exhibits and figures as needed. More details on content and format will be provided in class.

A team's oral presentation should take approximately 15-20 minutes, with each member required to participate. The presenting team should turn in its slides/overheads and may also turn in a write-up if the presentation slides do not fully reflect the team's analysis.

A team member's overall case grade may be adjusted based on teammate evaluations.

Exam

An exam will be given in class on November 23. All course material is eligible, including presentations by guest speakers. You can bring one sheet of paper with helps on one side. If essential, a makeup exam will be given at the final examination time for MW classes beginning at 1:30.

Course grade

	<u>Numerical Weight</u>
Case write-ups	40%
Case presentation	15%
Class participation	25%
Exam (November 23 in class)	20%

Protocol

- Attendance is important, **including all case and outside speaker dates. Missing class on those dates will significantly reduce your participation grade.**
- No laptops, tablets, smart phones, etc. during class.

Outline

August 26: Introduction and context

"Health Spending Growth in May Continues to Moderate," Altarum Institute Spending Brief, July 9, 2015

"Spending Growth Trends: Keeping an Eye on Spending per Person," Melinda Buntin, *Health Affairs Blog*, July 28, 2015, <http://healthaffairs.org/blog/2015/07/28/spending-growth-trends-keeping-an-eye-on-spending-per-person/>

"Doctors Object to High Cancer-Drug Prices," Jeanne Whalen, *WSJ*, July 23, 2015

August 31 & September 2: Basic valuation, valuing drugs in development

- Discounted cash flow valuation basics
- Key features of investment in biotech/pharma/medtech projects
- Development stages and representative cash flows
- Unpacking the average cost of drug development
- Expected net present value of a drug in development

“Clinical Development Success Rates for Investigational Drugs,” *Nature Biotechnology*, January 2014

“How to Improve R&D Productivity: The Pharmaceutical Industry’s Grand Challenge,” *Nature Biotechnology*, March 2010

September 9: Adding value through partnering

- Licensing basics, economic and financial drivers
- Valuation, incentives, and deal terms
- Pre- and post-deal opportunism and mitigation

“The Economics of Licensing Contracts,” *Nature Biotechnology*, August 2008

September 14: Learning and the value of flexibility in development

- Understanding the option to abandon in health care projects with discrete development hurdles
- Simple and more realistic examples of the value of flexibility
- Using decision tree analysis to value flexibility
- Project discount rates, R&D leverage, and risk
- Simple and fancy ways to model flexibility

“Getting Real about Valuation in Biotech,” *Nature Biotechnology*, April 2005

September 16: **Geoff Meyerson**, Managing Director and Co-founder, Locust Walk Partners

September 21: **Case 1 due – ENPV of a drug**

September 23 & 28: Valuing health care companies

- Valuation using comparable firms and transactions
- Discounted value of free cash flows
- Terminal values and their limitations
- Estimating the cost of equity capital for health care companies and whether it matters
- How R&D leverage affects the cost of capital

“Valuation Multiples – A Primer,” UBS Warburg, 2001 (detailed and often technical background, which might be helpful for some)

September 30: Financing early stage health care companies

- Role and structure of venture capital finance
- Trends in funding by subsector and the hot biotech IPO market

“Trends in Healthcare Investments and Exits 2015,” Silicon Valley Bank (background)

“RockHeal+h, Digital Health Funding Mid-Year Review – 2015,”

<http://www.slideshare.net/RockHealth/digital-health-funding-2015-midyear?ref=http://rockhealth.com/resources/rock-reports/> (background)

“VC-Backed Biotech IPOs: Valuations and Virtuous Cycles,” *Forbes Blog*, August 4, 2014,

http://www.forbes.com/sites/brucebooth/2014/08/04/vc-backed-biotech-ipos-valuations-and-virtuous-cycles/?utm_source=followingweekly&utm_medium=email&utm_campaign=20140804&ss=pharma

October 5: Michael Aberman and Nouhad Hussein, Regeneron Pharmaceuticals

October 7: Case 2 due – Valuing a drug company with pipeline products

October 12: Adam Koppel, Senior Vice President and Chief Strategy Officer, Biogen Idec

October 14 & 19: Financing early stage health care companies, cont.

- Venture valuation, dividing value, and the “VC” method
- Why VC target returns are often so high
- Deal terms, payoffs, and incentives
- Convertible preferred stock and its variants
- Convertible notes for seed financing
- Option-based deals, structured deals, contingent valuation rights

“An Entrepreneur’s Guide to Understanding the Cost of Venture Capital,” *Journal of Applied Corporate Finance*, Summer 2012

“Employee Equity: Dilution,” AVC, <http://avc.com/2010/10/employee-equity-dilution>

“Valuation Caps on Convertible Notes,” Martin Kleppmann, <http://martin.kleppmann.com/2010/05/05/valuation-caps-on-convertible-notes-explained-with-graphs.html>

October 21: Anthony Sun, Aisling Capital (tentative date)

October 26: Case 3 due – Deal structure for an early stage health care company

October 28: Eric Heil, Co-founder, President, and CEO, RightCare

November 2 & 4: Health insurance and managed care

- Background on economics of health insurance and market overview
- Understanding medical loss ratios
- Role and operation of risk adjustment schemes, example of Medicare Advantage
- What’s a risk score, and why it’s important
- Affordable Care Act’s exchanges and subsidies, risk adjustment, reinsurance, risk corridors and effects on employers, insurance offers, and employment
- Private health insurance exchanges

“Risk Adjustment in Health Insurance,” *Health Affairs Health Policy Brief*, August 2012

“Issues in Risk Adjustment for Medicare Advantage,” MedPac, June 2012

November 9: Risk sharing and payment design – bundled payments

- Medical care provider reimbursement, risk, and incentives
- Basic economics of bundled payment arrangements
- Medicare and private payer bundled payment initiatives
- Financial risk and its transfer

“The Transition to Emerging Revenue Models,” *Healthcare Financial Management*, April 2013

“The Volume-Driven Hospital Model Meets Payment Reform,” Stephen Rauh Consulting, December 2012.

“BPCI – The Next Big Thing; A Closer Look into Medicare’s Bundling Initiative,” Piper Jaffray Industry Note, April 1, 2015

“Hospital-Physician Gainsharing in Cardiology,” *Health Affairs*, 2008 (background for Case 5)

“UHC Supply Cost and Quality Analytics,” UHC Intelligence, 2015 (background for Case 5)

November 11: Maureen Spivack, Managing Director, Healthcare investment banking team, KPMG

November 16: Case 4 due – Risk adjustment and plan design

November 18: Todd Richter, Vice Chairman, Global Healthcare Banking, Barclays

November 23: Exam

November 30: Payer/ provider risk sharing

- From health maintenance organizations to accountable care organizations (ACOs)
- Medicare ACOs: one-sided vs. two-sided sharing models
- Private ACOs

“ACO Results: What We Know So Far,” *Health Affairs Blog*, May 30, 2014,
<http://healthaffairs.org/blog/2014/05/30/aco-results-what-we-know-so-far/>

“ACO Update: A Slower Pace of Growth,” Nihum Ghandi, Oliver Wyman Research, April 2015

December 2: Robert Broermann, SVP and CFO, Sentara Healthcare (tentative date)

December 7: Case 5 due – Bundled payments for hospitals and physicians