

HCMG 849: Financial Management of Health Institutions

Fall 2014

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

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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 contexts health care.

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
- Alexander Schuth, Head of Neuroscience Partnering, Genentech
- Cary Pfeffer, M.D., Partner, Third Rock Ventures
- Eric Heil, Co-founder, President, and CEO, RightCare
- Maureen Spivack, Managing Director, Healthcare investment banking team, KPMG
- Michael Buongiorno, CFO, Main Line Health

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 24. 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 24 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 27: Introduction and context

"The Global Slowdown in Medical Costs," *NYT*, July 16, 2014,

http://www.nytimes.com/2014/07/17/upshot/the-global-slowdown-in-medical-costs.html?_r=0

"Dissecting the Good Health Care Spending News in the CBO's Long-Term Budget Outlook," CRFB, July 18, 2014, <http://crfb.org/blogs/dissecting-good-health-care-spending-news-cbos-long-term-outlook>

"\$1,000 Hepatitis Pill Shows Why Fixing Health Costs is so Hard," *NYT*, August 2, 2014, http://www.nytimes.com/2014/08/03/upshot/is-a-1000-pill-really-too-much.html?partner=rss&emc=rss&_r=0

September 3 & 8: 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 10: 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 15: 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 17: **Geoff Meyerson**, Managing Director and Co-founder, Locust Walk Partners

September 22: **Case 1 due – ENPV of a drug**

September 24 & 29: 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

October 1: **Adam Koppel**, Senior Vice President and Chief Strategy Officer, Biogen Idec

October 6: **Alexander Schuth**, Head of Neuroscience Partnering, Genentech

October 8: **Case 2 due – Medtronic’s acquisition of Kyphon**

October 13, 15 & 20: Financing early stage health care companies

- Role and structure of venture capital finance
- Trends in funding by subsector and the hot biotech IPO market
- 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
- Alternatives for funding biomedical research: megafunds and securitization

“Trends in Healthcare Investments and Exits 2014,” Silicon Valley Bank (background)

“RockHeal+h, Digital Health Funding Mid-Year Review – 2014,”

<http://www.slideshare.net/RockHealth/digital-36395071> (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

“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>

“Commercializing Biomedical Research through Securitization Techniques,” *Nature Biotechnology*, October 2012

October 22: Cary Pfeffer, M.D., Partner, Third Rock Ventures

October 27: Case 3 due – Deal structure for an early stage health care company

October 29: Eric Heil, Co-founder, President, and CEO, RightCare

November 3 & 5: 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

“Startup Health Insurer Finds Foothold in NY,” *NYT*, March 28, 2014,

http://www.nytimes.com/2014/03/29/business/start-up-health-insurer-finds-foothold-in-new-york.html?_r=0

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

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

November 10: Health systems, risk sharing, and payment design

- Medical care provider reimbursement, risk, and incentives
- From health maintenance organizations to accountable care organizations (ACOs)
- Medicare ACOs: one-sided vs. two-sided sharing models
- Private ACOs

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

“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/>

“The Medicare Shared Savings Program and Pioneer Accountable Care Organizations,” Milliman, May 2012 (details for those interested)

November 12: Maureen Spivack, Managing Director, Healthcare investment banking team, KPMG

November 17: Case 4 due – Risk adjustment and plan design

November 19: Risk sharing and payment design – bundled payments

- Basic economics of bundled payment arrangements
- Medicare and private payer bundled payment initiatives
- Financial risk and its transfer

“Evaluating Bundled Payment Contracting,” Milliman, December 2011

“Hospital-Physician Gainsharing in Cardiology,” *Health Affairs*, 2008

November 24: Exam

December 1: Michael Buongiorno, CFO, Main Line Health

December 3: TBA

December 8: Case 5 due – Bundled payments for hospitals and physicians