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HCMG 849: Financial Management of Health Institutions

Fall 2018

MW 1:30-2:50

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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 health care contexts.

The course is organized around cases dealing with valuation and return on investment of biopharmaceutical and medical technology development projects, valuation of publicly-traded health care companies, 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 important 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 611/614, equivalent coursework, or experience

Canvas site: The cases and readings not accessible by direct links will be posted on the course Canvas site. 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
- Nouhad Husseini, Senior Director of Business Development, Regeneron Pharmaceuticals
- Adam Koppel, Managing Director, Bain Capital
- Elizabeth Campbell, Principal, LLR Partners
- Ana Gupte, Managing Director, Healthcare Services, Leerink
- Robert Broermann, Senior Vice President and Chief Financial Officer, Sentara Healthcare

Case teams, write-ups, and presentation

Groups of up to three-to-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.

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* turn in a supplemental 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.

Class participation / contribution

Attendance is important, and participation is expected. **Attendance on all case and outside speaker dates is essential. Missing class on those dates will significantly reduce your participation / contribution score and overall grade.**

Any student who wishes to do so can submit an **optional** 7-10 page analysis of a topic in health care finance, approved by me, which will be considered when determining your participation / contribution grade. Due date Dec. 3.

Course grade

	Numerical Weight
Case write-ups	50%
Case presentation	15%
Class participation / contribution	35%

Protocol

- See above regarding attendance.
- No laptops, tablets, smart phones, etc. during class.

Outline

August 29: Introduction and context

September 5 & 10: 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 12: 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 17: Geoff Meyerson, Managing Director and Co-founder, Locust Walk

September 19: Learning and the value of flexibility in development

- Simple and more realistic examples of the value of flexibility
- Using decision tree analysis to value flexibility
- Simple and fancy ways to model flexibility

"Valuation of a Development Drug as a Real Option," *Journal of Applied Corporate Finance*, Summer 2016

September 24: Nouhad Husseini, Regeneron Pharmaceuticals

September 26: Case 1 due – ENPV of a drug

October 1: Valuing health care companies

- Valuation using comparable firms and transactions
- Discounted value of free cash flows
- Terminal values and their limitations

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

October 3: Adam Koppel, Managing Director, Bain Capital

October 8: Estimating the cost of capital for health care companies

"Cost of Capital for Pharmaceutical, Biotechnology, and Medical Device Firms," Oxford University Press, 2012 (academic background for lecture)

October 10: Case 2 due – Valuing a company with pipeline drugs

October 15: Financing early stage health care companies

- Role and structure of venture capital finance
- Trends in funding and exits by subsector
- Valuation, dividing value, deal terms, and incentives

"Trends in Healthcare Investments and Exits 2018," Silicon Valley Bank (background)
"Another Trophy Quarter for VC-Backed Biotech Funding," *Forbes Blog*, April 30, 2018, https://www.forbes.com/sites/brucebooth/2018/04/30/another-trophy-quarter-for-vc-backed-biotech-funding/#200d1da91701
"Digital Health Funding 2018 Midyear Review: Digital health déjà vu in yet another record breaking half," https://rockhealth.com/reports/2018-midyear-funding-review-digital-health-deja-vu-in-yet-another-record-breaking-half/

October 17: Elizabeth Campbell, Principal, LRR Partners

October 22: Financing early stage, cont.

- Convertible preferred stock and its variants
- The "VC method" and why VC target returns are often so high
- Contingent deals

"An Entrepreneur's Guide to Understanding the Cost of Venture Capital," *Journal of Applied Corporate Finance*, Summer 2012

October 24: Health insurance and managed care—introduction to Case 4

- Market overview and background on economics of health insurance
- Role and operation of risk adjustment schemes, example of Medicare Advantage
- What's a risk score, and why it's important

"Risk Adjustment in Health Insurance," *Health Affairs Health Policy Brief*, August 2012
"Issues for Risk Adjustment for Medicare Advantage," MedPac, June 2012 (Case 4 background)
"Improving Risk Adjustment in the Medicare Program," MedPac, June 2014 (Case 4 background)

October 29: Case 3 due – Deal structure for an early stage health care company

October 31 & November 5: Health insurance and managed care, cont.

- Health insurance demand and why it's special
- Issues in the individual health insurance market
- Understanding medical loss ratios

"Commercial Health Insurance—Overview of 2016 Financial Results and Emerging Enrollment and Premium Data," Milliman, Inc., May 2018.

November 7: Startups and payer disruption

"Health Insurance Startups Bet It's Time for a Nineties Revival," Bloomberg, July 24, 2018, https://www.bloomberg.com/news/features/2018-07-24/health-insurance-startups-bet-it-s-time-for-a-nineties-revival

November 12: Ana Gupte, Managing Director, Healthcare Services, Leerink

November 14: Case 4 due – Risk adjustment and plan design

November 19: Optional lecture, subject TBA

November 26: 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

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

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

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

"Cost of Joint Replacement Using Bundled Payment Models," LDI Research Brief, January 2017 (background for Case 5)

November 28: Robert Broermann, SVP and CFO, Sentara Healthcare

December 3: Payer/provider risk sharing

- From health maintenance organizations to accountable care organizations
- One-sided vs. two-sided sharing models
- Provider sponsored health plans

"Early Performance of Accountable Care Organizations in Medicare," *New England Journal of Medicine*, June 26, 2016.

"Analysis of Integrated Delivery Systems and New Provider-Sponsored Health Plans," Robert Wood Johnson Foundation, June 2017.

December 5: TBA

December 10: Case 5 due – Bundled payments