Description
This course will examine financial structure, service delivery, and innovative strategies to improve access, quality and manage costs in the global healthcare industry.

As context, the structure of health care systems in different countries will be reviewed, with a focus on healthcare in the total economy; financial models and trends for single vs. public/private payment systems; the structure of healthcare delivery and the role of key stakeholders; models for innovation in healthcare financing, services and technology; and funding models for innovation.

The following countries will be covered: the U.S. (the U.S. healthcare system will serve as a reference and point of comparison with other countries/models), the Netherlands, Germany, the U.K., Brazil, India, China, and Africa.

Given the timing and relevancy of the COVID-19 pandemic, we will examine its impact on healthcare in the markets covered.

Course Learning Objectives

• Analyze need for innovation in healthcare services, including role of finance, reimbursement and technology innovation

• Study innovation models in global healthcare markets

• Identify future opportunities for investment and career growth

Learning is driven through readings, lectures, class discussion and guest speakers. Evaluation is based on class discussion, individual assignments and a student group project.
Office Hours, by appointment with faculty member

Prerequisites, None.

Connection to the Core

The learning in this course will utilize, build on and extend concepts covered in the following core courses:

<table>
<thead>
<tr>
<th>Core Course</th>
<th>Connection with Core</th>
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<tbody>
<tr>
<td>Corporate Finance</td>
<td>1. Time Value of Money</td>
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<td>2. Risk</td>
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<td>3. Firm Valuation Model</td>
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<td>Decision Models</td>
<td>1. Decision Making Under Uncertainty and Risk</td>
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<td>2. Sensitivity Analysis</td>
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<td>3. Modeling Competitive Effects</td>
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<td>4. Modeling in Practice</td>
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<tr>
<td>Managerial Statistics</td>
<td>1. Modeling Uncertainty: Random Variables, Distributions,</td>
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<td></td>
<td>Making Decisions Under Uncertainty</td>
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<tr>
<td>Managing Marketing Programs</td>
<td>1. Innovation, New Products</td>
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<td>2. Pricing</td>
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<td>3. Integrated Marketing Communications</td>
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<tr>
<td>Marketing Strategy</td>
<td>1. Company Analysis</td>
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<td>2. Customer Analysis</td>
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<td>3. Competitive Analysis</td>
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<td>4. Market Penetration and Marketing Strategy</td>
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Format and Approach

This course promises to be intellectually stimulating and challenging. Class participation will be critical for the students, and we will constantly seek to relate the information and ideas discussed in the classroom to issues currently confronting companies, investors and entrepreneurs in this sector. Understanding/experience in the healthcare, venture capital, and/or technology sectors will be highly valuable. Students will benefit from attending the first-class session to understand material to be covered in later stages of the course.

Student focus: Students who plan to work in any of the following segments of the health care field should find this course to be valuable:

- Health insurance companies and managed care organizations
- Hospitals and physician practices
- Financial services focused on health care
- Public and not-for-profit organizations focused on health care
• Pharmaceutical and medical device companies

Core Culture
This course adheres to Columbia Core Culture. Students are expected to be:
• Present: (1) On time and present for every session; (2) Attendance tracked
• Prepared: (1) Complete pre-work needed, expect cold calling; (2) Bring nameplates
• Participating: (1) Constructive participation expected and part of grade; (2) No electronic devices unless explicitly called for by the instructor

Course Topics
The course will focus on ensuring students understand critical components of innovative healthcare business models, internationally, including the:
• Key drivers of change in health services and life sciences
• Strategic challenges and opportunities to improve healthcare; impact of COVID-19 on healthcare and opportunities for innovation around delivery and cost
• Best practice models of healthcare services and financing in select countries, including a focus on healthcare in mature markets vs. frugal innovation in emerging countries
• Role of technology in innovation
• Investment models and key actors
• Role of various stakeholders, including consumers / patients
• Cost, pricing and reimbursement
• Role of government regulation
• Legal and intellectual property
• Infrastructure to enable health care and wellness

Innovation Model
The class will apply an innovation model framework to profile, evaluate and recommend changes to the innovation strategies in countries. This framework will allow students to deepen their understanding of what drives and sustains innovation as countries explore creative ways to solve their healthcare problems around cost, access, quality, patient outcomes and how these imperatives are balanced with investment returns and risks. We will contrast mature countries such as the US with its system of innovation with the frugal innovation models being utilized by emerging countries including Brazil, India and Africa.

Class format will be lectures, readings, and case studies with senior executive guest speakers. Students will be asked to monitor current events in global healthcare and each student will have an opportunity to share their insight and lead discussion on a healthcare/life sciences current event.

Assignments:
Participation: Class discussion based on readings and current events; case analysis. (20%)
Individual assignments: Three short case study assignments based on lectures, readings, cases and guest lectures. (45%)
Final: Individual assignment that also can be fulfilled in a small group project: Short report and class presentation featuring an insightful analysis of an innovation model in a specific country and its impact on healthcare quality, cost and patient access. (35%)
Required Course Materials:
A reading list will be provided; key readings will be assigned in advance for each respective class.

Reading list:

Inclusion, Accommodations, and Support for Students:
At Columbia Business School, we believe that diversity strengthens any community and brings it greater success. Columbia Business School is committed to providing all students with the equal opportunity to thrive in the classroom by providing a learning, living and working environment free from discrimination, harassment, and bias of the basis of gender, sexual orientation, race, ethnicity, socioeconomic status, or ability. Students seeking accommodation in the classroom may obtain information on the services offered by Columbia University’s Office of Disability Services online at www.health.columbia.edu/docs/services/ods/index/html or by contacting (212) 854-2388.

Method of Evaluation:
Participation 20%
Midterm 45%
Final 35%

Course Schedule:

Class 1
Course Overview, Introduction to Global Health Services: Macro Trends, Financing Models, Regulatory Structure, Reimbursement, and Innovation Model Framework, Case Study on the Netherlands and Germany
Introduction of the course requirements, readings and speakers.
Review basics of healthcare delivery including design and financing of public and private insurance—differences between single payer vs. public/private model. Examine organization of healthcare delivery and the reimbursement of physicians, hospitals, pharmaceutical and device manufacturers. Review models for technology adoption and payment- the need to balance access and quality with the cost of innovation. How to evaluate healthcare systems among different countries. Compare the US to the Netherlands and why it was the basis for the Patient Protection and Affordable Care Act. Examine the German healthcare system as a second example of a private insurer model. Impact and trends of COVID-19 on healthcare globally.

Readings:
- Gopffarth and Henke [2013]. “The German Central Health Fund-Recent developments in
healthcare financing in Germany.” Health Policy 109: 246-252.
• Select articles on impact of COVID-19 on healthcare

Class 2
The Healthcare System in the UK. Examine U.K. as model for public single payer system. Study role of financing, organization of delivery, reimbursement and regulatory structure. Case study on NICE including its role in evaluating and approving new drugs and technologies—methodology for evaluation and recent pricing and reimbursement examples

Readings:

Class 3
Healthcare in China
Overview of healthcare in China – population health status, health economics/financing, structure or healthcare delivery, regulatory and reimbursement, models for innovation and role of medical tourism. Case study on medical tourism.

Guest Speaker
Roberta Lipson, ’86 CEO Chindex Children’s and Family Hospital, acquired by Fosun in 2019

Readings:

Class 4
Healthcare in India
Overview of healthcare in India – population health status in the various regions, health economics/financing, health industry organizational structure. Case studies: Eye health and cardiovascular/diabetes health as examples of frugal innovation.

Guest Speaker: Nalini Saligram, CEO, Arrogya Health, India (not for profit)
Readings:
• Kay, Meera. [2015]. “The unethical revenue targets that India’s corporate hospitals set their doctors.” BMJ. 351:h4312.
• Hong-Gam Le. [2016]. “A Sustainable Model for Delivery High-Quality, Efficient Cataract Surgery in Southern India. Health Affairs. 35:10.
• Bhatia, Mrigesh. [2015]. “The Indian Health Care System, 2015.” International Profiles

Class 5
Healthcare in Brazil and Mexico and Haiti
Healthcare systems in Brazil and Mexico, financing, regulatory, reimbursement, and organization of delivery. Case study on Healthcare Equity International, not for profit hospital in Haiti extrapolating its model to developing nations.

Readings:
- CBS CaseWorks: Private Equity International a model for improving access (in press)

Guest Speaker: Conor Shapiro, CEO, Healthcare Equity International (Haiti based hospital extrapolating its model to developing nations)

Class 6
Healthcare in Africa and Course Wrap-Up
Overview of healthcare in Africa - population health status of various countries, health economics/financing, organizational structure, and access to drugs including vaccines.

Guest speaker (1 will be confirmed)
Waafa El-Sadr, MD, MPH, MPA, Mailman School of Public Health, Head, ICAP on HIV/AIDS in Africa
Paula Annunziato, MD, VP and TA Head, Vaccines Clinical Research, Healthcare and Vaccines in Africa and other Underserved Regions, Merck Co.

Readings:
WHO articles on Africa
Additional articles on vaccines to Africa
Articles on HIV/AIDS treatments in Africa

Wrap-Up: Summary of Key Course Learnings

Final Group Project