Fall 2015

15.767
Healthcare Lab: Introduction to
Healthcare Delivery in the US

DRAFT

Course website:	http://stellar.mit.edu/S/course/15/fa15/15.767/
Class meetings:	Classes MW 10-11:30 in E62-250 Recitations, as needed, F 10-11:30, E62-221 Monthly mentor meetings
Prerequisite:	15.060 (DMD) or equivalent, 15.761 (Intro. to Ops.) or equivalent, or permission of instructor**.**
Teaching team:	
Professor: Office hours:	Retsef Levi, E62-562, retsef@mit.edu by appointment with Ariel Brandner, abrandne@mit.edu
Sr. Lecturer/mentor: Office hours:	Janet Wilkinson, E62-490, jwilkin@mit.edu by appointment with Brenna Murphy, bcmurphy@mit.edu
Lecturer/mentor: Office hours:	Nicolene Hengen, nhengen@mit.edu by appointment, E38-634, 617-253-7633
Teaching assistant: Office hours:	TBD by appointment
Administrative assistants:	Ariel Brandner, E62-555, abrandne@mit.edu Brenna Murphy, E62-471, bcmurphy@mit.edu
H-Lab Action Learning website:	http://actionlearning.mit.edu/h-lab Potential host companies and projects will be posted here. You will submit project team applications through this website to be matched with hosts. See Stellar for further details. If you do not have a Sloan account email Laura Koller (lkoller@mit.edu).
Healthcare Certificate:	For this course to fulfill the requirements for the Healthcare Certificate, students must spend time on-site at a host

organization during the semester and/or during SIP week. For more information, go to http://mitsloan.mit.edu/mba/program-components/healthcare-certificate.

Grading: Students will receive a letter grade.

Listeners: Not allowed for this course.

Final exam: No final exam.

Textbook: This course uses a course pack rather than a textbook. Additional materials may be on the H-Lab site or on Stellar.

Course objectives

For more than 10 years healthcare spending in the U.S. has been continuously rising at a rate far exceeding inflation. At more than $2.9 trillion last year, current healthcare spending amounts for more than 17.9% of the national GDP, far exceeding any other developed country. This overspending has not led to superior outcomes, and in fact the U.S. stands behind most other developed countries in providing appropriate access to care as well as in many other leading quality indicators. Moreover, it is estimated that more than 100,000 people die every year in U.S. hospitals because of medical errors, and that 30% of healthcare spending is in fact waste from overuse, underuse, and misuse of resources. The Affordable Care Act (2010) aims to solve the access problem by mandating health insurance coverage for everyone. It does not, however, discuss many implementation issues in detail and leaves implementation as a major challenge in the coming years. Addressing this national challenge successfully requires business and clinical innovation and the creation of new markets, systems, organizations, processes, and technologies. The healthcare industry will have to transform in more ways than one as its emphasis shifts from transactional care for sick patients to continuous management of the health of patient populations and communities. This evolution will most likely be conducive to the development of new technologies and business and clinical models as well as the emergence of new players in the healthcare industry.

The focus of this course is on the business challenges and opportunities that arise in this context. Unfortunately the U.S. healthcare industry is highly heterogeneous, non-standardized, and very complex. The goal of the course is to provide a broad perspective of the various central system issues as well as business opportunities in the U.S. healthcare delivery and health industry. In particular, the course will focus on the following aspects:

- **The financial and organizational structures and incentives in the healthcare industry:** How do various players (hospitals, doctors, medical professionals, insurance companies, and patients) interact? How do the resulting organizational structures and incentives drive healthcare delivery systems design and operations?

- **Major system design and operational challenges:** What are the major challenges that healthcare delivery systems are facing? What alternative system designs are being considered?

- **Data and analytically driven healthcare delivery and health management**: How can we use data-driven, analytical, and scientific business approaches to obtain better (financially and clinically) system performance and decision support tools? How may new IT solutions enable these approaches?

- **Innovation in healthcare and health management:**
  What are the challenges in developing new business and clinical models that leverage technologies and analytical decision support tools?

Healthcare Lab (H-Lab) is an Action Learning Lab, a project-based learning course with learning opportunities within the classroom and on-site at a host organization. Specific goals of the action-learning component of the course are to provide students with:
- Insights about the real-world issues and challenges faced by health management and healthcare delivery organizations and companies.
- An intensive experiential learning experience of working collaboratively with senior leadership in a dynamic health organization.
- A means to develop skills to assist organizations with and within complex environments to move toward action.

Course format
The in-class portion of the course will be based on lectures, outside speakers (including many at the C-level) from the health industry, and case studies. **You will be able to directly interact with most speakers in organized lunches after class**. We will leverage material and examples from the ongoing collaborative projects of Sloan faculty and major hospitals in the U.S., especially in the Boston area, such as Mass General Hospital, Beth Israel Deaconess Medical Center, Children's, and Brigham and Women Hospitals.

The on-site portion of the course will include on-site work with the host organization. This work will be an extension of the project work and workplan that is developed during the semester in collaboration with your team, your host, and your mentor. It is expected that you will spend time on-site at an organization during the semester and/or during SIP week.

Students who will benefit from this course includes those who are interested in:
- A healthcare and health management related career path, either directly within the healthcare delivery or with organizations that interact with health delivery (e.g., consulting, bio-medical, IT, etc.).
- Entrepreneurship in the health sector.
- Understanding the major issues in the design and operations of large-scale healthcare delivery and health management systems.
- Interested in doing research or process improvement work in healthcare and health organizations.
- Experience working in the health industry on a significant real-world problem or opportunity.

Course materials
The required course material includes:

- The 15.767 course packet (you can purchase it from CopyTech).
- Additional material will be posted on the Stellar and H-Lab website.

Unit information
This is a 9-unit course and consists of both classroom <u>and</u> **on-site** work at a host organization. If you do the **on-site** portion of the class during **SIP**, you will also receive 1 SIP credit (please contact Maura Herson to confirm, <u>moynihan@mit.edu</u>).

Mentors
Given the complexity of the relationship with host organizations all Action Learning Lab teams, including the Healthcare Lab teams, are assigned a faculty mentor with whom you will meet at regular intervals. The mentors have spent time developing relationships with host organizations and defining the projects. The team-mentor relationship is designed so that the team takes primary responsibility for working with the organization and leading the project, and the mentor plays an advisory role.

The faculty mentor:
- Guides teams on project design and scope;
- Coaches the team and team members on working together for successful completion of the project;
- Shares and facilitates feedback with the team on project management;
- Provides an understanding of protocols for working with the host organization;
- Mediates the relationship with host (if necessary);
- Gives feedback on course deliverables and team dynamics; and
- **Grades course deliverables with the faculty team.**

Mentor meetings (team)
Meetings with your mentor will be scheduled outside of class time. Faculty mentors will travel to host organizations to meet with you and your host during your on-site work. Teams are required to meet with their mentors monthly, or no fewer than four times, throughout the semester. The mentors have an agenda for each meeting, which should last no more than one hour. Additional meetings may be arranged as needed. Once you know your assigned mentor, the team is responsible for making the meeting arrangements.
Due: One meeting in September, October, November, December

General information
Please use a name card for the first few weeks until we learn your names.

Most healthcare host organizations will require you to sign an NDA. Your mentor can clarify, before you sign, that there are no complicating factors. Your host organization will also probably require you to show proof of a T-spot TB test (blood rather than skin puncture test) within the last year. They will also require proof of several vaccinations. Please be prepared to show proof of compliance within the first two weeks of class. (TB tests and vaccinations are available through MIT Medical.)

Assignments, tasks, and grading

Grading is based on the following criteria:
  A. **Two case analyses (team) (20%)**
  B. **Class participation (individual) (30%)**
  C. **Project (50%)**
       1. **Project workplan and research report (team)**
       2. **Final report (team)**
       3. **Project poster (team)**
       4. **Final class presentation (team)**
       5. **Mentor feedback based on meetings, host organization feedback based on on-site work and presentation to host, and team members feedback survey (team and individual)**

A. Case analyses (team) (20% of grade)
You will turn in a case report, in which you analyze the assigned cases according to the respective assignment:

QuickMedx Inc (retail clinics) – **Due: Wednesday**, **October 7**, **at the beginning of class** (the specific assignment questions will be posted in due time)

Supply chain partners: Virginia Mason and Owens & Minors – **Due: Monday**, **November 9**, **at the beginning of class** (the specific assignment questions will be posted in due time).

In preparing these assignments, please adhere to the following guidelines:
*   Hand in one paper copy of the case write-up for each team (email attachments will *not* be accepted). Note that although there is one submitted copy per team, each member of the team should have a personal copy of his/her team write-up for the corresponding class discussion.
*   Case analysis assignments must be less than 4 pages in length and use text fonts no smaller than 12.
*   Every graph or table/spreadsheet showing the results of computations (or data analysis) must be accompanied by both a clear description of what all numbers represent qualitatively and an exhaustive explanation of how they are computed, including a statement of all the relevant mathematical formulas or algorithms. Do not submit a table copied from a spreadsheet assuming that the instructors will try to figure out by themselves how the numbers are calculated – they won't.

The case analysis assignments will be done in the same teams as your assigned project teams (see below).

B. Class participation (individual) (30% of grade)
Class participation will be determined on the basis of your comments in each class session (what counts is quality, not quantity). Students are expected to prepare the assigned readings for each session and be ready to answer related questions and discuss related issues during the class.

Some of the criteria that we will use to judge effective class participation include:
*   Is the participant a good listener?
*   Is the participant concise and articulate?

- Are the points made relevant to the current discussion? Are they linked to the comments of others?
- Do the comments show clear evidence of appropriate and insightful analysis of the topic discussed?
- Is there a willingness to participate?

C. Projects (team) (50% of grade)

Team formation and project bidding (team) **during recitation on Friday, September 11**

There is both team and individual work for the course. Students will form teams of up to four students (some teams may have less than four if necessary; teams of more than four will not be allowed). Students will form a team within the first week of the course and keep it fixed throughout the course. The mentors will assist in team formation and project bidding during a recitation. Team dynamics are critical and will determine the success of executing your project. It is important that you and your teammates determine your work norms, including how decisions are made and disputes resolved, team member roles and responsibilities (including a project manager), and how you will hold each other accountable for completing your work.

You should form a team with:
- At least one Sloan MBA
- At most one undergraduate
- All team members must be able to travel to the project site at the same time (i.e., during the semester and/or SIP).
- Different skill sets (i.e., not all one area of expertise, such as finance)

Provide your team members' names, contact information, and resumes**.**
Due: **5:00 pm on Friday**, **September 11.**

Once your team has been approved, you will begin the process of bidding for the available projects. You will bid on the Action Learning Office's H-Lab website http://actionlearning.mit.edu/h-lab. **Due: 5:00 pm on Monday**, **September 14.** You will be told which project your team has been assigned by **Wednesday, September 16.**

1. **Project workplan and remote research report (team)**

Once your project has been assigned, the team is responsible for creating a detailed **workplan** outlining the host's challenge or opportunity and how you intend to structure your work and resources to address the issue. The team should immediately contact the host and begin the conversation (via email, Skype, phone, etc.) about the project. Teams usually communicate weekly with their host.

Typically, a **workplan** is four to five pages (or 10-20 slides) (plus appendices) and includes the following elements:
1. A brief host organization overview
2. Detailed description of the project challenge. Include a problem definition (what problem are we trying to solve or opportunity are we are trying to develop?), and your host and team's perspective on the project challenge.
3. Use the SMART Model (or something similar) to define what you hope to achieve in

your project work (Specific goals, Measureable, Agreed upon with host, Realistic within the limited time frame, and Time-Based)
4. Timeline (work streams, tasks, review points, deliverables)
5. On-site schedule/dates; need to discuss with mentor and host
6. Team member contact information (names, emails, Skype, etc.)
7. Host contact information (names, emails, Skype, etc.)

Due: Teams will submit, via email, a *draft workplan* by Wednesday, September 23 (during class) to your mentor for review. Once you have your mentor's feedback, you will incorporate any changes and send it as your *final workplan* to your host organization by **Friday, September 25**. Report back any significant changes to your workplan from the host to your mentor.

The **remote research report** adds your team's preliminary research and analyses to your **workplan.** It is the document that communicates to your host the results of your work prior to your on-site work. The report is usually presented to your host at the beginning of your on-site work. It is typically 10-20 slides (or a written paper if you prefer) and should include:
- Your initial hypotheses regarding the issues/solutions and direction of the work effort.
- Industry analyses, market research findings, technology studies, or similar reports that give hosts new insights and guidance for their project challenge.
- Research and analytical methodology that you have begun or expect to use in your project.
- An annotated bibliography of at least three relevant academic articles or papers directly related to your project.
Due: Wednesday, October 14 (during class).

On-site work
The goal is for your team to work professionally on-site with senior management and staff as effective consultants. You will work on-site during the semester and/or during SIP week. If you are on site during SIP, you should follow this schedule:

SIP week
- Make a formal presentation to your organization on **Monday, October 19,** summarizing your remote research report and discussing your workplan for the week.
- Make a presentation to your organization at the conclusion of your on-site work about your preliminary findings on **Friday, October 23.** Discuss next steps in the project that will lead to your final report.

2. **Final report (team)**
Your final report will reflect all of your project work from the semester including:
- An executive summary (at most four pages)
- Your initial workplan
- The remote research report
- Summary of your on-site work
- Conclusions resulting from your on-site work
- Final thoughts and possible next steps for the organization

All final work products must be submitted to your host company, your mentor and uploaded to

Stellar. Your final report should "stand on its own"; that is, it should have enough detail so that anyone reviewing it would understand the problem, your research methods, your final recommendations, a list of all research materials used, and any models that you created. It may be a formal paper or a slide deck.
Due: 5:00 pm Thursday, December 10

3. **Project poster (team)**
Each team will create a poster that highlights the project work. Please follow these instructions to create your poster:
* Poster dimensions: 24" x 36" (flat); portrait (vertical) format only
* File format: 24"x36" PDF or PPT image; if PDF have all fonts embedded
* Poster content:
    o Images and text describing your project – make it exciting!
    o Name and year of your class, e.g., 15.767 H-Lab 2014
    o Host company name and their city/country location, e.g., Conexia, Buenos Aires, Argentina
    o A project description in 14-point font, maximum of 250 words, at the bottom
    o All team members' names
* **Be aware of any NDA restrictions, and do not include confidential information that you have heard or been given. Make sure your host organization approves of the public display of your poster.**
* Use photos that you have taken or been given, but not "borrowed" from the web.
* Put the file on a USB drive or CD and deliver it to CopyTech (W20-104). Tell them which class it is for and proof the image.
Due: at CopyTech 5:00 pm on Wednesday, December 9

We will hold a Healthcare Lab poster session in **February**. This major event draws a large and enthusiastic audience from the entire MIT community. **All team members are asked** to attend and talk about their work with the community.

4. **Final presentation (team)**
Your final presentation will be about 20 minutes in class and include questions from your fellow students. You will need a slide deck that summarizes your project. Final presentations to the class will be **Monday, December 2, and Wednesday, December 7. These classes may be extended to 12:45 (and if so, lunch will be provided).**

5. **Mentor, host organization, and team feedback (team and individual)**
We will solicit feedback from your mentor, host organization, and your fellow team members. This information will be used to determine your final grade.

Each **individual** team member will be asked to complete a form to review the team experience and grade fellow team members on their performance on the project team. Submit the form via email to your team's mentor and to the TA. These reports are confidential between you and your mentor and TA – **do not** submit them to Stellar or copy to any other person. These reports will allow your mentor to better understand your team member's performance.
Due: 5:00 pm on Thursday, December 10

Course expectations

Students selected to participate in Healthcare Lab are expected to complete all of the requirements, which include project-related assignments and activities. H-Lab is a collaboration between MIT and health or healthcare organizations. The faculty has devoted considerable time and resources to identifying and cultivating appropriate projects, and the organizations have competitively applied to host a project. Please be aware that MIT and Sloan's **reputations** are at stake. If you agree to be part of a team and work on a project, we expect that you will continue to do so throughout the semester. Dropping the class after projects have been assigned damages Sloan's **reputation**.

Please regard everything we ask you to do as a work assignment (i.e., as if from an employer) and not simply a course requirement. Everything in this course is designed to help you work effectively on your projects and with your team.

Students are expected to actively participate in all in-class activities. Missing more than two class meetings could result in a grade reduction.

Remote EMBA students

Given the interest among the EMBA students in healthcare courses and the healthcare certificate, the school has decided to allow the participation of EMBA students in 15.767 through remote access. EMBA students will fulfill the same requirements as in-class students with the exception that in-class attendance is substituted by remote attendance.

In particular, the school decided to implement the following policy:
- Remote access will be allowed ONLY to EMBAs (the TA will block anyone that is not an EMBA and who attempts to access the class remotely).
- We will only have live streaming and not provide any offline recording. Specifically, EMBA students are expected to attend remotely each live class.
- Like in-class students, EMBAs are not allowed to arrive late to class or leave before the class ends. Entrance to class will we will disallow access after we put the sign on the class door that the session is ongoing and in-class students are not allowed in anymore…We will also have logs of the remote participants that will allow us to have participation grade like any other students.
- Remote students will be expected to participate in class discussions like anyone else, including the possibility of cold calling.
- EMBAs will have to satisfy the project requirements, and will not be allowed to substitute other projects instead. We will work with the EMBAs students to find appropriate times in which they can satisfy their project requirements.

Academic integrity and professional standards

Our general policy for this class is that when preparing cases and assignments you should not receive any related input from anyone who has already participated in a faculty-led discussion of the same material, be it at Sloan or another school. Discussions regarding the case analyses and the project should be limited to the members of your team. When preparing any graded assignment you may *not* consult or use material not already included in the course packet or posted on the course webpage, unless explicitly authorized by the instructor.

Each member of a team will be held fully responsible and accountable for the reports the team submits. In particular, each student in the team must be ready to present and explain the work that the team has done.

We would like to emphasize the following issues. Do not:
- Copy all or part of another student's work (with or without permission) if the student is not on your team.
- Allow another student (not from your team) to copy your work.
- Ask another person outside your team to write all or part of an assignment for you.
- Consult or submit work (in whole or in part) that has been completed by other students in this or previous years for the same or substantially the same assignment.
- Use print or internet materials directly related to a case, unless explicitly authorized by the instructor.
- Use print or internet materials without explicit quotation and/or citation.
- Submit the same, or similar, piece of work for two or more subjects without the explicit approval of the two or more instructors involved.

We will enforce the academic integrity policy of this course violations will have serious consequences. In addition, you will be held personally responsible for confronting and reporting any violations that come to your attention. Finally, if at any point during the course the implications of this academic integrity policy on your particular situation are not completely clear, you should immediately contact the instructor.

Consistent with Sloan academic and professional standards, we require:
- On-time arrival to classes and recitations, with uninterrupted attendance for the duration. We will not allow latecomers into the class after the first two minutes used to make announcements.
- Maintenance of a professional atmosphere by using respectful comments and humor.
- Turning off of electronic devices in class: no use of laptops; wireless devices must be silenced.
- Refraining from distracting or disrespectful activities (e.g., avoiding side conversations and games).
- Courtesy and respect for all participants in the classroom.
- Observance of the most conservative standards when one is unsure about which norms apply.

Please refer to the Sloan professional standards document for more details. Violations will be marked. Three or more violations will result in an automatic penalty of a letter grade.

Possible Guest Speakers	
Dr. Richard Baum	*MD, MPA, MBA, Chief of Division of Angiography and Interventional Radiology at Brigham and Wor... Center, Harvard Medical School faculty*
Ann Prestipino	*SVP for Surgical and Anesthesia Services and Clinical Business Development at the Massachusetts G... Massachusetts General Physicians Organization (MGPO), member of the Board of Trustees for Bost... for Martha's Vineyard Hospital*
Dr. Peter Dunn	*Executive Medical Director of the Operating Rooms and Executive Vice Chair of the Department of A... Medicine at MGH*
Dr. Kevin Tabb	*President and Chief Executive Officer of Beth Israel Deaconess Medical Center, member of the Boar... Center and Professor of Medicine at the Harvard Medical School (Division of Clinical Informatics (BIL...*
Dana Gelb Safran, Sc.D.	*SVP of Performance Measurement and Improvement at Blue Cross Blue Shield of Massachusetts, As... Tufts University School of Medicine and Co-Chair of Center for Accountable Care at Patient Centered...*
Prof. Joseph Doyle	*Erwin H. Schell Professor of Management and Professor of Applied Economics (Sloan)*
Dr. Nancy Gagliano	*CMO of MinuteClinic and SVP of CVS Caremark*
Dr. Timothy Ferris, MPH	*Medical Director of the Mass General Physicians Organization at the Massachusetts General Hospit... Medicine at the Harvard Medical School*

Dr. Myechia Minter-Jordan	*President & CEO of The Dimock Center*
Dr. Roy Schoenberg	*CEO of American Well Systems*
Jay Levine	*Principal at ECG Management Consultants and a Director of the Southampton Hospital Association*
Dr. Jon Halamka	*CIO of the CareGroup Health System, CIO, Dean for Technology at Harvard Medical School, and Cha...*
Dr. David Torchiana	*President and CEO of Partners HealthCare*