

MIT Seminar on Health Care Systems Innovation

MIT ESD.69

MIT HST.188 (*Special Subject*)

Harvard Medical School HC.750 (*Special Section*)

Fall 2009

Thursday's 1:00 – 3:00pm

Building 14E (Hayden Memorial Library), Room 310

Stan N. Finkelstein, M.D.

MIT ESD/HST/HMS

E40-251

snf@mit.edu

Joseph F. Coughlin, Ph.D.

Director, MIT Age Lab & UTC

E40-279

coughlin@mit.edu

Joel Moses, Ph.D.

Institute Professor EECS

32-249 (and) E40-229

moses@mit.edu

Course Overview - Health care has been characterized as in crisis, or at least in need of addresses critical performance issues in the United States and globally. Seminar on Health Care Systems Innovation applies a systems perspective to understand health care delivery today, its stakeholders and problems as well as opportunities. Students will be introduced to the 'systems perspective' that has been used successfully in industries that include automobile manufacturing, air traffic control, telecommunications, utilities, etc, to address the introduction of new processes, technologies and strategies to improve overall health outcomes. This seminar will incorporate a multidisciplinary approach that will integrate medicine, social and behavioral sciences, operations research and management as well as engineering perspectives to stimulate new thinking in the practice, process and delivery of health care. Students will be assigned to teams and work on a semester-long group project that incorporates insights gained from topics covered in class.

September 10

"Introduction: Health Care Systems from a Health Care Perspective"

Stan N. Finkelstein, M.D. & Joseph F. Coughlin, Ph.D.

Readings:

- Institute of Medicine, "Crossing the Quality Chasm: A New Health System for the 21st Century". *National Academy Press*, pp. 1-22, Executive Summary, (2001).
- Institute of Medicine, "To Err is Human: Building a Safer Health Care System". *National Academy Press*, pp. 1-16, Executive Summary, (2000).
- Leisen B., Hyman MR. "Antecedents and Consequences of Trust in a Service Provider: The Case of Primary Care Physicians". *Journal of Business Research*, Volume 57, pp. 990-999, (2004).

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(continued)

September 17 “Disease Management”
Joseph F. Coughlin, Ph.D.

Readings:

- To be added by Joseph Coughlin.

September 24 “Health Care Systems from Engineering Systems Perspective”
Joel Moses, Ph.D.

Readings:

- Grunden, N., The Pittsburgh Way to Efficient Healthcare: Improving Patient Care Using Toyota Based Methods, Productivity Press, Chapter 2, pp. 11-51 (2007).
- National Academy of Engineering and Institute of Medicine, “Building a Better Delivery System: A New Engineering/Health Care Partnership”. *National Academies Press*, pp. 1-26, (2005).
- Spear S. “Fixing Health Care from the Inside, Today”. *Harvard Business Review*, pp. 78-91, (September 2005).

October 1 “Performance Measures in Health Care”
Stan N. Finkelstein, M.D.

Readings:

- King’s Fund, “Payment by Results”.
http://www.kingsfund.org.uk/publications/briefings/payment_by.html
- Newhouse, J. Free For All? Lessons From the Rand Health Insurance Experiment. Harvard University Press, Selected Excerpts (1996).
- Review selected websites providing performance measures used in health care.
- Rosenthal MB, Dudley RA. “Pay-for-Performance: Will the Latest Trend Improve Care?”. *Journal of the American Medical Association*, Volume 297, No. 7, pp. 740-744, (2007).

October 8 “Managing Process Change I”
Guest: Deborah S. Nightingale, Ph.D.
*MIT Professor of the Practice of Aeronautics and Astronautics
and Engineering Systems Division (ESD)
& Co-Director, MIT Lean Advancement Initiative (LAI)*

Readings:

- To be added.

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October 15

“Managing Process Change II”

Guest: Steven J. Spear, Ph.D.

*MIT Visiting Senior Lecturer, Engineering Systems Division (ESD)
& Senior Fellow, Institute for Healthcare Improvement*

Readings:

- To be added.

October 22

“Health Care and Information Technology”

Guest: Peter Szolovits, Ph.D.

*MIT Professor of Computer Science and Engineering, Department of
Electrical Engineering & Computer Science (EECS),
& Professor of Health Sciences and Technology (HST)
& Head of the Clinical Decision Making Group within MIT Computer
Science and Artificial Intelligence Laboratory (CSAIL)*

Readings:

- To be added.

October 29

“Student Projects Progress Check In”

Joseph F. Coughlin, Ph.D.

Stan N. Finkelstein, M.D.

Joel Moses, Ph.D.

“Care Pathways”

Stan N. Finkelstein, M.D.

Readings:

- Wheelwright S., Weber J. “Massachusetts General Hospital: CABG Surgery (A)”. Harvard Business School, Case Product Number 9-696-015 (Publication 1995, Revision 2004).

November 5

“Variation and Uncertainty in Clinical Decisions I”

Guest: Albert G. Mulley, Jr., M.D., M.P.P.

*Chief, General Medicine Division, Massachusetts General Hospital (MGH)
& Harvard Medical School (HMS)
(AND)*

Guest: Karen Sepucha, Ph.D.

*Senior Scientist in Health Decision Research Unit at Massachusetts
General Hospital (MGH)
& Instructor in Medicine, Harvard Medical School (HMS)*

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(continued)

November 5

“Variation and Uncertainty in Clinical Decisions I” (continued)

Readings:

- Mulley AG. “Accessing Patients’ Utilities”. *Medical Care*, Volume 27, No. 3, pp. S269-S281, (March 1989).
- O’Connor AM, Llewellyn-Thomas, HA, Flood AB. “Modifying Unwarranted Variations In Health Care: Shared Decision Making Using Patient Decision Ads”. *Health Affairs*, (October 2004).
- Wennberg JE. “Unwarranted Variations In Healthcare Delivery: Implications for Academic Medical Centres”. Volume 325, pp. 961-964, (October 2002).

November 12

“Variation and Uncertainty in Clinical Decisions II”

Guest: Albert G. Mulley, Jr., M.D., M.P.P.

Chief, General Medicine Division, Massachusetts General Hospital (MGH)
& Harvard Medical School (HMS)

(AND)

Guest: Karen Sepucha, Ph.D.

Senior Scientist in Health Decision Research Unit at Massachusetts
General Hospital (MGH)

& Instructor in Medicine, Harvard Medical School (HMS)

Readings:

- Sepucha KR, Fowler FJ, Mulley AG. “Policy Support for Patient-Centered Care: The Need For Measureable Improvements In Decision Quality”. *Health Affairs*, pp. 54-62, (October 2004).
- Sepucha KR, Mulley AG. “A Perspective on the Patients’ Role In Treatment Decisions”.

November 19

“Systems Perspectives on Safety”

Guest: Nancy Leveson, Ph.D.

MIT Professor of Aeronautics and Astronautics
& Engineering Systems Division (ESD)

(AND)

Guest: Meghan M. Dierks, M.D.

Harvard Medical School (HMS)
& Beth Israel Deaconess Medical Center (BIDMC)

Readings:

- To be added.

November 26

“Thanksgiving Day – No Class”

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(continued)

December 3

“Innovators’ Prescription”

Video Presentation: Clayton M. Christensen, Ph.D.

*Professor of Business Administration, Harvard Business School (HBS)
& Engineering Systems Division (ESD)*

Readings:

- To be added.

December 10

“Student Presentations”

Requirements & Grading

Students will be required to complete assigned readings and actively participate as well as meaningfully contribute to class discussions. In addition, students will be assigned to teams to examine a specific health care problem, apply concepts from class discussions and readings and present a group presentation and paper. Topics will be defined at the beginning of the semester.