Introduction

eHealth is a neologism with many definitions. At its core, eHealth is about the application of information technology to the healthcare delivery system, with the goal of improving or enabling health care. It can include everything from electronic health records and telemedicine initiatives to consumer health informatics tools and mHealth.

While this course is ostensibly about eHealth and the Internet, it is really about innovation. Innovation in healthcare requires people who can think and act like entrepreneurs but who also understand the constraints of the health care system at an operational and policy level. When there is a high rate of change, such as the current SARS-CoV-2 pandemic, there is even greater opportunity to demonstrate innovation.

Using examples, we will learn about the innovation process as applied to healthcare. The aim of the course is to provide you with the perspective and skills necessary to manage innovation-based projects, people, and initiatives.

Basic Principles
1. Anyone can innovate – all it takes is a great need and a great team
2. Innovation is collaborative
3. Innovation is multidisciplinary
4. Innovation begins with a problem, not a solution or a technology
5. Innovation is rapidly iterative – learn to fail, and fail fast
Course Outcomes/Competencies

<table>
<thead>
<tr>
<th>Learning Objectives</th>
<th>CEPH Competency</th>
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<tbody>
<tr>
<td>D2:3</td>
<td>Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate</td>
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<td>D2:4</td>
<td>Interpret results of data analysis for public health research, policy or practice</td>
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<td>D2:16</td>
<td>Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making</td>
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<td>M:3</td>
<td>Apply problem-solving skills to improve functioning of organizations and agencies in public health and healthcare systems</td>
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Assignments and Suggested Readings
Where not identified in the syllabus, assignments and suggested readings will be posted on the CCLE site (https://ccle.ucla.edu/course/view/20S-HLTPOL430-1). Materials should be read before class so that students can participate fully in the discussions. Readings are available electronically.

There will be two group projects that provide you an opportunity to develop innovation skills using different frameworks.

The first project is based on Human-Centered Design (HCD) and focuses on asking the design challenge on how might we improve health in everyday life. The course materials will be posted on CCLE. The focus of this project is skill building. There will be a series of group in-class presentations based upon your out-of-class work. The only grade is for doing them.

The second project is the development of a healthcare innovation. There are several intermediate deliverables for this project and it will culminate in an angel VC or Capital Committee-style pitch for funding during week 10, with a soft stop on time (20 minutes presentation, 10 minutes Q&A), but, hopefully, more polite than a real VC pitch competition or Shark Tank.

- Exercise 2.1: Topic identification
- Exercise 2.2: Need assessment and Brainstorming
- Exercise 2.3: SWOT analysis
- Exercise 2.4: Innovation Proposal: Solution development
- Exercise 2.5: Innovation Pitch

Some guidelines:
1. Address a specific need in healthcare in a novel way (i.e. innovation)
2. Dream big (novel, unique, ambitious) but be realistic (use existing or near-mainstream technologies, acknowledge workflow issues, money exists)
3. Do research (what’s been done already? What is possible?)
4. Identify next steps
5. Don’t be boring!
Course Methodology
Theory and conceptual frameworks will be presented by the instructors using lectures, case studies, and class exercises/demonstrations. Discussions and article discussions will be used to facilitate the application of these concepts and frameworks to real organizational examples. Exercises require the student to apply the knowledge gained in the course.

Prerequisites
The student is expected to have a general familiarity of the Internet and understanding of basic information technologies and terms.

Grading
Grades will be assigned based upon class participation and performance on exercises:

- Class Participation (20%)
- Project 1 (40%)
- Project 2 (40%)

Notes
- Guidelines and instructions for the exercises will be distributed via e-mail and posted on the CCLE site (https://crole.ucla.edu/course/view/20S-HLTPOL430-1).
- Written exercises must be submitted by the beginning of class on the due date by email or hardcopy.
Calendar


Innovation
Human-Centered Design (Inspiration)
Design Thinking
TEDTalk: David Kelley: Creative Confidence

Organize into project groups (4-6 per group)

Readings on CCLE

Assignment of Exercise 1.1: Human-Centered Design – Field Research
Assignment of Exercise 2.1: Identify a health care priority needing service innovation and transformation and identify what has already been done to meet that need.

Session 2 (April 9, 2020): Field Research

Session 3 (April 16, 2020): Ideation and Brainstorming

Team Presentations – Exercise 1.1 (slides)
Video: IDEO Shopping Cart Redesign
Human-Centered Design (Ideation)
Human-Centered Design (Brainstorming)
TEDTalk: Steven Johnson: Where Good Ideas Come From

Readings on CCLE

Assignment of Exercise 1.2: Human-Centered Design – Synthesis

Exercise 1.1 due (field research findings presentation and slides)

Session 4 (April 23, 2020): Entrepreneurism and Invention

Team Presentations – Exercises 1.2 (slides) and 2.1 (no slides)
TEDTalk: Eric Dishman: Take Health Care Off the Mainframe
Human-Centered Design (Prototyping)
Human-Centered Design (Implementing)
Stanford d.school Design Thinking Exercise – “Wallet”

Assignment of Exercise 2.2: Identify what has already been done (needs assessment) and what are the opportunities (brainstorming).

Exercise 1.2 due (synthesis findings presentation and slides)
Exercise 2.1 due (presentation of topic selection, discussion)

Session 5 (April 30, 2020): Implementing Innovation

TEDTalk: Eric Topol: The Wireless Future of Medicine
Organizational Cultures
Innovation and Strategy
TEDTalk: Charles Leadbeater: The Era of Open Innovation

Session 6 (May 7, 2020): Storytelling as a Tool

Team Presentations – Exercise 2.2 (slides)
TEDTalk: Nancy Duarte: The Secret Structure of Great Talks
Human-Centered Design (Prototyping and Storytelling)
Stanford d.school Design Thinking Exercise – “Gift Giving”

Assignment of Exercise 1.3: Human-Centered Design – Brainstorming
Assignment of Exercise 2.3: SWOT analysis for consensus need
Assignment of Exercise 2.4: Evaluate concepts and develop solution

Exercise 2.2 due (presentation of need statements, discussion)

Session 7 (May 14, 2020): Innovators Gotta Innovate

Sajid Ahmed (@sajcookie) is the CEO of WISE Healthcare, delivering artificial intelligence (AI) strategy and workflow engineering to healthcare organizations looking to improve healthcare delivery. Before starting WISE, he led the effort to build a new state-of-the-art hospital in South Los Angeles. As the Chief Information and Innovation Officer of Martin Luther King, Jr. Community Hospital, Sajid led the start-up hospital’s $70+ million health information technology initiative, launching an innovation hub on the 42-acre MLK Medical Center Campus. He still serves as an advisor to the hospital’s CEO.

Prior to the MLKCH, Mr. Ahmed was the Executive Director of Health Information Technology and Innovation for L.A. Care Health Plan, the nation’s largest public plan serving more than two million Los Angeles County residents through free or low-cost health insurance programs. Before leaving L.A. Care, Mr. Ahmed created and launched an innovation called “eConsult” in Los Angeles County, used by over 3,300 physicians. eConsult is an innovative care coordination system that allows for virtual consultations and collaboration with specialists, increasing timely access to critically needed specialty care for over 5 million patients, improving care and saving costs. Currently, Mr. Ahmed and his Redlands-based team is now launching eConsult in San Bernardino and Riverside Counties. In 2016, the Los Angeles Business Journal lauded Sajid as CIO/CTO of the Year across all industries in the Greater Los Angeles Area.
Team Presentations – Exercise 1.3 (slides)

Assignment of Exercise 1.4: Human-Centered Design – Prototyping and Storytelling

Exercise 1.3 due (Brainstorming presentation and slides)

Session 8 (May 21, 2020): Innovation in Practice

TEDTalk: Jon Cohen: Why Don’t Patients Behave Like Consumers?

Case Study: The Cleveland Clinic: Improving the Patient Experience

TEDTalk: Daniel Kraft, MD: Medicine’s future [innovations]

Exercise 2.3 due (SWOT discussion)

Session 9 (May 28, 2020): Investing in Innovation

Journal Club – “Innovation and Bell Labs”

TEDTalk: Atul Gawande, MD: Checklists

Exercise 1.4 due (Prototyping and Storytelling presentation and slides)
Exercise 2.4 due (presentation of concepts and discussion)

Session 10 (June 4, 2020): Final Presentations and Wrap-Up

Exercise 2.5 due (presentation of solutions and discussion)