

DEPARTMENT OF HEALTH SERVICES
UCLA School of Public Health

Health Services 288: The Role and Impact of Technology in Health Services

Winter 2005

Instructors: Paul R. Torrens, MD,MPH
Sandra Aronberg, MD,MPH

Date/Time: Thursdays, January 6 - March 10, 2005, 3:00 – 6:00PM

Location: Room 33-105, CHS

Purpose and General Organization of the Course

The purpose of the course is to provide graduate students in the health sciences with a general understanding of the role and impact of technology in health services in the United States. By examining the various types of health care technologies and by understanding the origins and the processes for their production, approval, adoption, and financing, students will develop an appreciation for the size and scope of its potential impact. By examining costs of production, purchase, installation, and use, as well as the impact of technology on associated patterns of care, students will develop an appreciation for technology's economic and financial impacts. Finally, by examining the ways in which technology changes patterns of clinical practice, changes consumer demand, and (possibly) changes value systems within medicine, students will develop an appreciation of technology's organizational, clinical, and ethical impacts as well.

The course will be divided into several general sections. The first section will provide a general framework for understanding the overall role of technology in US health care, including information on the different types of technology to be discussed (pharmaceuticals; medical devices; clinical procedures; information technology). It will also provide information on the process of technology development, diffusion, adoption, and utilization within the health care system, as well as information on the methods of technology assessment and approval at the governmental, health insurance, and institutional levels.

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In the second section of the class, attention will be focused on the impact of technology on the economics of healthcare, clinical practice, consumer behavior, and organizational structure and function. Each of these areas will be examined separately and will include individual case studies (ex., the impact of the introduction of drug-eluting coronary artery stents on the practice of cardiology) that provide further elaboration of the general materials.

In the third section of the class, a selection of important new technologies will be discussed to provide a general sense of what lies ahead for health care in the US. These will (probably) include developments in embryonic stem cell research, robotics, telemedicine, neuropharmacology, genetics, the artificial retina, and nanotechnology.

Finally, in the last session of the class, the focus will be placed on issues of ethics, access to technology, and equity in distribution.

Textbooks for the Course

Two textbooks will be used in this course: (a) Technology in American Health Care: Policy Directions for Effective Evaluation and Management, 2004, by Alan Cohen and Ruth Hanft; (b) The Health Care Value Chain: Producers, Purchasers, and Providers, 2002, by Lawton R. Burns. These textbooks are available at the UCLA Medical Center Bookstore. Additional individual readings will be distributed by the instructors for individual sessions.

Grading for the Course

Grading for the course will be derived from two sources: attendance/active participation in course sessions and exercises: 25%; final course project/product: 75%. Auditors for the course are welcome and will be expected to take an active part in classroom discussions and exercises.

Final Course project/product

Since there will most probably be a wide variety of professional backgrounds and interests among the students attending the course, the instructors will allow considerable latitude for students to develop final course projects/product that are particularly relevant to their individual interests. In general, the final course project should be focused on a particular technology, should review the background for its development and production, and should speculate on the impact it is likely to have on the economics, clinical practice, consumer behavior, or organizational structure...or all four. Students are encouraged to

develop the general subject and direction of their final course project as early as possible in the course...certainly no later than the fourth class session. They should present a brief written outline of their intentions to the instructors and should not proceed with the project until they have received approval.

Tentative Course Schedule and Readings

<u>Date</u>	<u>Subject</u>	<u>Readings</u>	
		<u>Cohen/Hanft</u>	<u>Burns</u>
1/6/05	(a) Overview of the course (b) Review of technology types (c) Framework for Understanding Technology and US healthcare	1, 2 (Additional reading: “Biomedical Research, Technology and Technology Assessment”, <u>Understanding the US Health Services System</u>)	7, 8, 9
1/13/05	Development, Diffusion, and Adoption of Medical Technology	3, 4, 5	
1/20/05	Technology Evaluation and Approval	6, 7, 8, 9	
1/27/05	Impact of Technology on Health Care Economics and Finance	12, 7 (Additional reading: “Technology” <u>The Economics of Healthcare</u>)	
2/3/05	Impact of Technology on Clinical Practice	10, 11, 6, 8	
2/10/05	Impact of Technology on Consumer Behavior		
2/17/05	Impact of Technology on Organizational Structure and Function		1, 2, 3
2/24/05	New and Future Technologies		4, 5, 6
3/3/05	New and Future Technologies		10, 11
3/10/05	Ethics, Access, and Equity in Technology and Health Care	13, 14	

Contacting Instructors

Doctor Torrens: (voice mail: 825-7640)(e-mail: torrens @ ucla.edu)(appointments:

Please call Ms. Terry Laughlin at (310)(206-3435)

Doctor Aronberg: (e-mail: saronberg @earthlink.net)(310-277-9876)