CLRES 2900
Transforming Practice for
Improved Health Care

Dates: Fall term
Location: 305A Parkvale
Phone contact: 412-586-9788

Course Director: Mary Ann Sevick, ScD, RN
Email addresses: (sevick@pitt.edu)

Course objectives:

Transforming Practice for Improved Health Care course will provide an overview of theories, methods, structures, and processes useful for translating evidence-based research findings into practice, and for transforming the practice setting to improve quality and outcomes. The course will provide didactic underpinnings of translation of research findings into practice and transforming practice. Students will be required to develop a research proposal or business plan related to translating evidence-based research findings into practice, or for transforming the clinical practice setting. Students will have the opportunity to subsequently implement their proposal or business plan in the optional CLRES 2910 Translational Research Practicum.

Course Requirements:

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<tr>
<td>Class participation</td>
<td>10%</td>
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<tr>
<td>Midterm preliminary proposal</td>
<td>30%</td>
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<td>Final Exam</td>
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Proposal/business plan.

Students will be required to develop a 10 to 15 page business plan or proposal related to translating evidence-based research findings into practice, or for transforming the practice setting to improve quality and outcomes of care.

Research proposals will be evaluated on the clarity of research objectives, scientific significance, methodologic rigor, feasibility, and likelihood that the results of the proposed work will result in improvements to health service delivery.

Business plans will be evaluated in terms of the technical description of the type of product or service to be developed, the evaluation of the potential market, the analysis of competitors, feasibility, and likelihood that the product will result in improvements to health service delivery.

Students will confer with the course director in development of proposal/business plan ideas. Identification of a faculty mentor with expertise in research/product area to be addressed in the proposal/business plan is strongly advised. An outline of the research proposal/business plan is due at midterm and the fully developed proposal/business plan is due at term’s end.
Course Mechanics:

2 credits, 2 hours/session, 1 sessions/week, for 16 weeks
Wednesdays 10-12 noon

Required text: None

Readings are placed on CourseWeb.
At the conclusion of this lecture the student will be able to:

1. Describe epidemiologic evidence pertaining to quality shortfalls in the US health care system.
2. Discuss the proximate causes of health care crises including: increasing patient complexity, advances in medical science, the structure of health care system, an acute care orientation in the face of an aging and chronically ill population, economic incentives, and underdeveloped information technology.
3. Discuss the Institute of Medicine agenda for transforming the health care system as described in the report: Crossing the Quality Chasm – Six aims for improvement.

Required Reading (prior to session):


At the conclusion of this lecture the student will be able to:

1. Describe the health care environment and methods for identifying common performance “break points.”
2. Discuss the VA QUERI approaches for integrating evidence-based medicine into practice.
3. Compare and contrast the evidence-based practice paradigm with the industrial engineering paradigm, for transforming the service delivery system.
4. Discuss potential pitfalls for implementation of guidelines into clinical practice settings.

Required Reading (prior to session):


Session 3  9/15  Using decision sciences to improve practice  Mark Roberts

At the conclusion of this lecture the student will be able to:

1) Describe the characteristics of health care problems that are amenable to evaluation by decision sciences and modeling
2) Describe the concepts of calibration and validation of a decision model
3) Evaluate the ability of two specific models to answer clinical questions regarding clinical practice in gall bladder disease and HIV disease

Required readings (prior to session):


Optional Reading:

Session 4  9/22  An introduction to process improvement methods for enhancing quality of care  Simak

At the conclusion of this lecture the student will be able to:

1. Describe process improvement tools/approaches common to health care quality improvement (QI) methods.
2. Discuss the common features of health system databases that may be used to identify quality problems, target QI interventions, and assess the effectiveness of QI interventions.
3. Discuss the factors to be considered in designing QI interventions that are feasible/acceptable, and methods to reduce implementation barriers (e.g. stakeholders).
4. Analyze findings, identify key opportunities for improvement, and recommend solutions (for class demonstration projects).
5. Critically evaluate the tools, data, flow chart, intervention and feasibility/acceptability of a QI project that has been implemented within the UPMC.

Demonstration/in class exercise: Improving Processes of Primary Care: Prevention, Phone Care, Diabetes Management, or Hypertension Management
Required readings (prior to session): none

Optional Reading:


Wheeler, Donald J. Understanding Variation: The Key to Managing Chaos. 2nd ed. SPC Press. 2000

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Session 5  9/29  Changing financial incentives to improve practice  Mehrotra

At the conclusion of this lecture the student will be able to:

1. Describe the extent to which the conditions of idealized competition are possible in the health care system.
2. Describe current economic incentives that support an inefficient system of care (e.g. asymmetric information and agency, moral hazard of insurance and current reimbursement, imperfect agency and supplier induced demand).
3. Discuss the evidence regarding alternative approaches for reversing inefficient economic incentives (e.g. pay-for-performance, co-payments and deductibles, prospective payment, competitive bidding, and consumer-directed health care).
4. Critically evaluate an empirical evaluation of a pay-for-performance study from UK.

Required readings (prior to session):


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Session 6  10/6  Implementation of Guidelines: Strategies that Work  Fine

At the conclusion of this lecture the student will be able to:

1. Discuss the developmental context and uses of clinical practice guidelines
2. Discuss the methods used to develop clinical practice guidelines
3. Describe guideline appraisal instruments, and critically evaluate the quality of a clinical practice guideline
4. Discuss effective methods of guideline dissemination and implementation
5. Critically appraise a study of guideline development and implementation.

Required Reading (prior to session):


Optional:


Weingarten SR. Translating Practice guidelines into patient care: Guidelines at the bedside. CHEST 2000; 118: 4S-7S.

Session 7 10/13 Clinical Practice Strategies and Research pertaining to Multimorbidity and Complex Chronic Disease

At the conclusion of this lecture the student will be able to:

1. Discuss the epidemiologic data regarding the shifting needs of the U.S. population in terms of chronic disease and multi-morbidity.
2. Highlight the differences between disease management, case management, and collaborative care.
3. Discuss the literature regarding effectiveness of disease/case/collaborative management programs.
4. Discuss the barriers/facilitators to implementing disease/case/collaborative management programs for a variety of common conditions including CHF, depression, and diabetes.

Required readings (prior to session):


Optional Reading:

Robert Wood Johnson Foundation. Improving Chronic Illness Care.
http://improvingchroniccare.org/change/model/components.html


Session 8 10/20 Human Computer Interaction concepts and methods: designing and evaluating technology for the health care sector.

At the conclusion of this lecture the student will be able to: Discuss the importance of designing technology to solve the right problem, and methods for measuring whether this has been achieved.
Identify good and bad technology in use by providers and patients and discuss the implications of problematic technology for successful care.

1. Discuss current research initiatives at Pitt and CMU regarding human computer interaction and related technologies related to health care.
2. Discuss gaps in the literature related to human computer interaction and transformative care and directions for future research.

Required readings (prior to session):


Optional Reading:

| Session 9 | 10/27 | Using an EMR to Improve the Quality of Patient Care | Ambrosino Clark |

At the conclusion of this lecture the student will be able to:

1. Describe the features common to many EMRs (CPOE, documentation, care management, decision support, messaging, analysis and reporting, patient-directed functions [less common], billing)
2. Discuss barriers to uptake of EMR by individual practices (cost time, usability, support, inadequate exchange of information between paper and electronic record barriers to cross-institutional care).
3. Discuss the evidence on the effectiveness of EMR.
4. Discuss the organizational ergonomic considerations in designing and implementing an EMR (e.g. how do we optimize the interface between the EMR and features of the health care service delivery system?)
5. Describe the use of the EMR and barriers encountered in a current project regarding inpatient medical emergencies.

Demonstration: EMR from VA and UPMC (Mars, PowerChart, Epicare)

Required Reading (prior to session):

Leape LL, Berwick DM. Five Years After To Err Is Human: What Have We Learned? JAMA 2005; 293: 2384-2390

Optional Reading:


Del Beccaro MA, Jeffries HE, Eisenberg MA, Harry ED. Computerized Provider Order Entry Implementation: No Association With Increased Mortality Rates in an Intensive Care Unit. Pediatrics 2006; 118; 290-295

| Session | 11/3 | Using telehealth technologies | Courtney |

At the conclusion of this lecture the student will be able to:

1. Discuss the development of and potential applications for a variety of patient-provider telehealth technologies including environmental sensors, telemonitoring, and “virtual visits.”
2. Discuss the state-of-the-science with regard to each of these technological innovations (e.g., feasibility/acceptability; sensitivity/specificity for identifying risks/events; integration of multiple data sources; efficacy)
3. Discuss the ethical issues to be addressed in patient-provider telehealth technologies (e.g., privacy, safety, consent).
4. Discuss areas for further development/expansion of telehealth (e.g., linking telehealth technologies to the medical record; preparing users for self-management; use of trend data to improve patient management)

Demonstrations: Telehealth and telepathology applications,

Required readings (prior to session):

Hebert, M. A., Korabek, B., & Scott, R. E. Moving research into practice: A decision framework for integrating home telehealth into chronic illness care. International Journal of Medical Informatics 2006; 75(12), 786-794.

Optional Reading:


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At the conclusion of this lecture the student will be able to:

1. Discuss considerations for the development of internet-based health intervention including the mental models of the user, the system, the designer, and the health care professional.
2. Describe methods and processes of conducting a needs assessment for developing internet-based health interventions.
3. Discuss perspectives and methods for conducting user-centered design and evaluation of internet-based health intervention.
4. Describe web-based support/management programs to assist families/patients.
5. Discuss the importance of personalizing and tailoring health messages with internet-based care.
6. Critically evaluate the cognitive ergonomic characteristics of an internet-based self-management support program.
7. Describe threats to safety of participants, and the potential for therapeutic effects of the interventions.
8. Discuss why it is not the case that “if you build it they will come and they will benefit.”

Demonstration: HealtheVet, TBI Caregiver Support

Required Reading (prior to session):


At the conclusion of this lecture the student will be able to:

Required Reading (prior to session):


Optional Reading:

No Class 11/24  Thanksgiving break

At the conclusion of this lecture the student will be able to:
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1. Describe advantages associated with use of ecological momentary assessment (EMA) methods
2. Describe methods of real-time capture of self-report and biological data
3. Describe how EMA methods might be applied for understanding the role of stress in the development of cardiovascular disease and relapse processes in smoking
4. Describe how EMA methods might be applied to other diverse research questions and settings

Required Reading (prior to session):
