Outcomes and Effectiveness Research Methods

2009

Course Director:

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Description:

This course will provide a survey of effectiveness research. The curriculum will deal with conceptualization, design, sampling, modeling, data collection and analysis used in outcomes and effectiveness studies. The emphasis of the course will be largely on research methodology and study design. The course will be interactive and will use studies published in the literature as a teaching tool.

Objectives:

Upon completion of the course the student should be able to:

- Design an effectiveness study
- Control for severity and comorbidity in the studies of effectiveness.
- Evaluate a wide range of outcomes used in this research
- Analyze the strengths and weakness of effectiveness studies reported in the literature

Grade:

1. Two exams: 40% each
2. Critique and review of papers: 10%
3. Class participation: 10%

Outcomes and effectiveness research
Curriculum

Overview:

The course provides an examination of many of the important areas in effectiveness research. The curriculum was developed so the students learn research methodology, become familiar with problems and controversies and develop an appreciation of the complexity of designing outcomes studies. The discussion of the topics will be interactive as much as possible. Each session will review of 1-2 pertinent papers, which will be discussed by the students.

1. A. Introduction (1 hour) –Kapoor
(March 2)

Learning Objectives

- To review the history of outcomes and effectiveness research and apply it to current approaches
- To define outcomes and effectiveness research
- To summarize the types of effectiveness studies being conducted nationally

B. Conceptual foundation of effectiveness research (1 hour)—Kapoor
(March 2)

Learning Objectives

- To evaluate how hypotheses are formulated and tested in effectiveness research
- To recognize risk adjustment and treatments in effectiveness research and why risk adjustment is important and necessary
- To survey the broad spectrum of outcomes

Readings:

Wennberg JE. Understanding Geographic Variations in Health Care Delivery NEJM 349:52-53, 1999.

2. Study Designs (2 hours)—Kapoor
(March 4)

Learning Objectives

- To review the research methods used in effectiveness research

- To analyze the strengths and weaknesses of each method
- To compare the types of answers obtained from each of these methods
- To summarize types of non-experimental designs and to identify major threats to validity in these designs

3. Outcome measures: A. Condition or disease specific (1 hour)—Kapoor (March 9)

Learning Objectives

- To compare the uses of generic and condition specific measures
- To analyze the reasons for choosing condition specific measures
- To review examples and uses of selected condition specific measures

Reference: McDowell. Measuring Health, Third Edition.

B. Generic Measures (not disease or condition specific) —Kapoor (1 hour)

Learning Objectives

- To summarize the domains of health measured by generic measures
- To explain the criteria for choosing a generic measure
- To review examples and uses of selected existing measures

Reading: McDowell. Reading: Chapters 10

4. Outcome measures: Cost and resources use (2 hours)--Kraemer (March 11)

Learning Objectives

- To describe how cost, resource use, and LOS are used as outcomes measures
- To recognize methodological issues in measurement and analysis of these outcomes
- To summarize the use and limitations of these measures

5. Outcome Measures: Patient Satisfaction (2 hours)—Kapoor (March 16)

Learning Objectives

- To create the conceptual foundation for patient satisfaction
- To summarize methods of measuring patient satisfaction
- To evaluate the role of patient satisfaction in improving quality
- To review instruments available for measuring patient satisfaction

6. Risk adjustment: Severity of Illness (March 18)—Kapoor
7. Risk adjustment: Severity of Illness (March 23)—Kapoor

Learning Objectives (for 6,7)

- To review the conceptual models and dimensions of risk
- To study some of the existing measures of severity
- To critique problems with measuring severity
- To explain the methodology of risk adjustment
- To sample the uses of risk adjustments
- To examine the effects of different risk adjustment tools in similar data

Risk adjustment: Comorbidity

Learning Objectives

- To review the concept of comorbidity and why it should be measured
- To explain methodologic issues in the assessment of comorbidity
- To review examples of existing measures of comorbidity

Reading: Iezzoni, LI. Chapters 1,2, 3, 9

8. Mid-term Exam (March 25)

9. Sources of Data in Outcomes Research (2 hours)—Kapoor
(March 30)

- To summarize sources of data including administrative, medical records and survey data
- To compare the strengths and weaknesses of each type of data
- To review examples of the uses of these data for outcomes studies

Reading: Iezzoni, LI. Chapters 5, 6

10. Payment for Health Care: Medicare, Medicaid, Private Insurance and Managed care (2 hours)—Kapoor (April 1)

Learning Objectives

- To describe the history of health insurance in the US (Medicare, medical assistance, private insurance, managed care)
- To compare health care coverage in other countries to the US
- To review different payment methods for health care (e.g., FFS, Capitation etc) and their effect on outcomes and cost
- To review examples of how insurance status is used in outcomes research

11. Quality of Health Care (2 hours)—Kapoor (April 6)

- To examine various definitions of quality of care and concepts behind it
- To compare various methods of measuring quality
- To appraise approaches to improvement in quality of care
- To examine gap in quality in the U.S.

  N Engl J Med 1996;335:691-694, 891-894, 966-970, 1060-1063, 1146-1149, 1227-1231, 1328-1332

12. Quality of Health Care: Medical Errors and Patient Safety (2 hours)—Kapoor (April 8)

Learning Objectives

- To review the scope of patient safety concerns in the US
- To summarize the reasons for medical errors
- To analyze interventions that may reduce errors
- To describe the research agenda on patient safety

Books: To Err is Human: Chapter 1-3; Crossing the Quality Chasm: Chapter 1-2.

13. Health Care Disparities (April 13)—Said Ibrahim

- To learn key definitions within the field of research in health disparities, including race/ethnicity, vulnerable populations, and disparity in health and health care.
- To describe the evolution of the field of health disparities research within the broader realm of health services research.
- To describe key conceptual models for detecting, understanding and reducing/eliminating disparities in health and health care.
- To be familiar with landmark studies in the field of health disparities research.
- To review local and national funding as well as collaborative opportunities in health disparities research.
- To critique and discuss health disparities research methodology using two landmark studies: 1) Whittle, Conigliaro et al. NEJM, 1993 and 2) Ayanian et al. NEJM, 2000.

Articles for discussion:

- Epstein, Arnold M, **Ayanian, John Z**, Keogh, Joseph H, et al. Racial Disparities in Access to Renal Transplantation – Clinically Appropriate or Due to Underuse or Overuse? New England Journal of Medicine 343(21):1537-1544, November 23, 2000.
- Whittle, Jeff, **Conigliaro, Joseph**, Good, CB, et al. Racial Differences in the Use of Invasive Cardiovasulcar Procedures in the Department of Veterans Affairs Medical System. New England Journal of Medicine 329(9):621-627, August 26, 1993.

14. Methods of quality improvement (2 hours)—April 15

    Web seminar

15. Review, reflections and discussion—April 20

    Topic: US Health Care System: How can it be transformed for improved outcomes, cost and access?

    Readings:

    - Gawande, Atul. Getting There from Here. How health-care reform really happens. New Yorker Jan 26, 2009, p 26
    - Proposal of the Physicians' Working Group for Single-Payer National Health Insurance. JAMA 2004;290:798-805

16. Final exam (April 22)