

SUMMER NURSING INSTITUTE

**School of Nursing
American University of Beirut
In Collaboration with Johns Hopkins University School of Nursing, USA**

COURSE TITLE: Managing Clinical Outcomes

COURSE OFFERED: AUB Summer Institute 2007

FACULTY: Kathryn Paez, PhD(c), MBA, RN
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COURSE DESCRIPTION: Students review clinical information and examine outcomes through case studies. A group project allows participants to develop skills in the analysis, management, and presentation of clinical outcomes information. Emphasis is placed on the ability to critically analyze information and develop appropriate managerial strategies to enhance clinical systems.

OVERVIEW: The major emphasis of this course is on defining patient outcomes related to health promotion, disease prevention, and illness management in a selected population and using skills in data management, analysis, and presentation to guide the assessment, intervention, and evaluation of care for this population. Students will learn basic statistical analysis using SPSS. No prior experience with SPSS is needed. Students should have basic computer skills.

LEARNING OUTCOMES:

1. Identify and manage patient outcomes in selected patient populations using biopsychosocial and ethical concepts in advanced practice nursing.
2. Demonstrate fundamental skills in the entry, validation, analysis, and presentation of patient outcomes data.
3. Apply critical thinking skills in data management and analysis to guide advanced practice nursing assessment, intervention, and evaluation of care.

EVALUATION METHODS:

- Preparation, participation in discussions and completion of in class exercises 40%
- Outcomes analysis assignment 60%

SEMINAR SCHEDULE

(Computer lab in italics)

July 16: Measurement of Clinical Outcomes: Overview and Variation Brief Statistics Review

Lesson One - Measuring Patient Satisfaction

Lesson Two - Critical Pathways and Managing Financial Outcomes

July 17: Sources of Outcome Data Validity and Reliability of Measures

Lesson Three - Measuring and Managing Outcomes of Conscious Sedation

Lesson Four - Identifying and Predicting Factors Related to Acute Renal Failure after CABG

July 18: Nurse Sensitive Outcomes Risk Adjustment

Lesson Five - Calculating Length of Stay from Admission and Discharge Dates

Lab Time for Clinical Outcomes Data Management Project

July 19: Practice Guidelines: Help or Hindrance?

Lesson Six - Estimating the Frequency and Cost of Hospital Readmission

Lab Time for Clinical Outcomes Data Management Project

July 20: Ethical Issues in Outcomes Management

Lesson Seven – Regression Analysis

Outcome Analysis Project Due

READINGS

July 16: Measurement of Clinical Outcomes: Overview and Variation Brief Statistics Review

Please review basic statistics and complete the readings prior to the first class.

Statistics Review: Briefly review basic statistics

Select sections of the Johns Hopkins School of Public Health openware online course called “Statistical Reasoning Part I” by John McGready is an excellent resource for a basic statistics review. The slides listed below are recommended for review. The website for the course is: <http://ocw.jhsph.edu/courses/StatisticalReasoningI/lectureNotes.cfm>

- *As an alternative to the online course, students can review the terms listed below in any basic statistics book.*

Levels of measurement and types of variables: nominal, ordinal, interval and ratio data
Lecture 1: *Describing Data Part I*, Slides 1-35

Measures of central tendency: mean, median, mode
Lecture I: *Describing Data Part I*, Slides 81-88

Frequency distribution
Lecture 1: *Describing Data Part I*, Slides 36-63
Briefly note the use of histograms and box plots in later slides as a way to display frequency and central tendency.

Parametric statistics

t-tests

Lecture 4: *The Paired t-test and Hypothesis Testing*, slides 3-42, 74-84

ANOVA

Lecture 5: *Comparing Means Amongst Two (or More) Independent Populations*, Slides 195-226

Non-parametric statistics: chi-square

Lecture 6: *Comparing Proportions Between Two Independent Populations*, slides 80-100

Note: To better understand basic statistics, consider reviewing Lecture 3: Confidence Intervals, slides 4-105.

Readings (prior to first class)

Nies M, Cook T, Bach C, et al. (2001). Concept analysis of outcomes for advanced practice

nursing. *Outcomes Management for Nursing Practice*, 3(2), 83-86.

IHI launches national campaign to reduce medical harm U.S. hospitals. *Press release*, Dec. 12, 2006.

Erickson S. (1998). The Vanderbilt Model of outcomes management. *Critical Care Nursing Clinics of North America*, 10(1), 13-20.

Institute of Medicine (2001b). *Crossing the Quality Chasm: A New Health System for the 21st Century* Washington, D.C.: National Academy Press.

Wilson RM & Harrison BT. (2002). What is clinical practice improvement? *Internal Medicine Journal*, 32:460-464.

Supplemental Readings (optional)

Fasting A & Gisvold S. (2003). Statistical process control methods allow the analysis and improvement of anesthesia care. *General Anesthesia*. 50(8):767-774.

Resources

- Quality Assessment and Improvement Terms and Definitions

July 17: Sources of Outcome Measures and Data Validity and Reliability of Measures Risk Adjustment

Aydin C E, Bolton, L B, Donaldson N, et al. (2004). Creating and analyzing a statewide nursing quality measurement database. *Journal of Nursing Scholarship*, 36:371-378.

Bozzo, J. & Minarik P. (1999). Databases and nursing outcomes. *American Journal of Nursing*, 99(4):22.

Diers D. & Bozo J. (1999). Using administrative data for practice and management. *Nursing Economics*, 17: 233-237

Gregg A. (2002). Performance management data systems for nursing service organizations. *Journal of Nursing Administration*, 32(2):71-78.

Newhouse R. (2006). Selecting measures for safety and quality improvement initiatives, *Journal of Nursing Administration*, 36(3):109-113.

National Quality Forum (2003). National Quality Forum's 'Reaching the Tipping Points: Measuring...'. NQF press release.

Wachter RM & Provost RJ. (2006). The 100,000 lives campaign: A scientific and policy review. *Joint Commission Journal on Quality and Patient Safety*, 32(11):621-627.

July 18: Nurse Sensitive Outcomes

Aiken LH, Clarke S P, Cheung RB, et al. (2003). Educational levels of hospital nurses and surgical patient mortality. *JAMA*, 290:1617-1623.

Brooten D & Naylor, M. (1995). Nurses' effect on changing patient outcomes. *IMAGE: Journal of Nursing Scholarship*, 27(2):95-99.

Curley MAQ, & Hickey PA. (2006). The Nightingale metrics. *American Journal of Nursing*, 106(10):66-70.

Dang D, Johantgen, ME, Pronovost PJ, et al. (2002). Postoperative complications: does intensive care unit staff nursing make a difference? *Heart and Lung*, 31: 219-228.

Naylor MD. (2007). Advancing the science in the measurement of health care quality influenced by nurses. *Medical Care Research Review*, 64(144):144s-168s.

July 19: Practice Guidelines: Help or Hindrance?

Gardner K, Allhusen J, Kamm J, et al. (1997). Determining the cost of care through clinical pathways. *Nursing Economics*, 15(4):213-217.

Katz D. (April, 1999, Part II). Barriers between guidelines and improved patient care: An analysis of AHCPR's unstable angina clinical practice guidelines. *Health Services Research*, 34(1):377-389.

Pearson SD, Kleefield SF, Soukop JR, et al. (2001). Critical pathways intervention to reduce hospital length of stay. *American Journal of Medicine*, 110:175-180.

Price J, Ekleberry A, Grover A, et. al. (1999). Evaluation of clinical practice guidelines on outcome of infection in patients in the surgical intensive care unit. *Critical Care Medicine*, 27(10):2118-2124.

Reed III, J.F & Olenchock, Jr., SA. (2003). Comparative analysis of risk-adjusted bypass surgery stratification models in a community hospital. *Heart and Lung*, 32(6):383-90.

References

AGREE Collaboration (2003). Development and validation of an international appraisal instrument for assessing the quality of clinical practice guidelines: The AGREE project. *Quality and Safety in Health Care*, 12:18-23.

Dy SM, Pushkal G, Nuberg D, et al. (2005). Critical pathway effectiveness: Assessing the impact of patient, hospital care and pathway characteristics using qualitative comparative analysis. *Health Services Research*, 40(2):499-516.

National Guideline Clearinghouse (NCG). (2004). National Guideline Clearinghouse.

<http://www.guideline.gov>

Shaneyfelt T, Mayo-Smith M, & Rothwangl J. (1999). Are guidelines following guidelines? *Journal of the American Medical Association*, 281(20):1900-1905.

Supplemental Readings (optional)

Shekelle PG, Ortiz E, Rhodes S, et al. (2001). Validity of the agency for healthcare research and quality clinical practice guidelines. *Journal of the American Medical Association*, 286:1461-1467.

**July 20: Ethical Issues in Outcomes Management
Case Discussion**

Cooper RW, Frank GL, Hansen, M.M, et al. (2004). Key ethical issues encountered in healthcare organizations: the perceptions of staff nurses and nurse leaders. *Journal of Nursing Administration*, 34:149-156.

Goldsborough, MA, Miller M.A, Gibson, J, et al. (1999). Prevalence of leg wound complications after coronary artery bypass grafting: Determination of risk factors. *American Journal of Critical Care*, 8:149-153.

Lynn J, Baily MA, Bottrell M, et al. (2007). The ethics of using quality improvement methods in healthcare. *Annals of Internal Medicine*, 146:666-673.

Supplemental Readings (optional)

Jubb AM. (2002). Palliative care research: Trading ethics for an evidence base. *Journal of Medical Ethics*, 28:342-336.

EVALUATION METHODS

Class Participation

40 points (8 points/class)

Students will be graded on the following:

- Class attendance (2 points)
- Participation in discussion and completion of readings (3 points)
- Completion of data analysis module using SPSS (3 points)

Group Outcomes Analysis Assignment 60 points

Using SPSS, describe and analyze data (provided by instructor) and create graphics. Provide a one-page executive summary of your data analysis on the first page.

Students will be given a task list of analyses to complete. This list may include:

- Perform frequency analysis of categorical variables and descriptive analysis of continuous variables
- Create a bar chart.
- Create a pie chart to display a categorical variable.
- Create a histogram and a box plot to display the distribution of continuous variables.
- Perform the four statistical tests you have learned in this class: t-test, Chi square, ANOVA, and Pearson's correlation.

Note: Students will be given class time to work on the project.