

2005 QPRC Program
Data, Quality Transformation, and the Healthcare Supply Chain

Tuesday, May 17: Pre-Conference Short Course

Title: A Short Course in Data Mining Using the SAS Enterprise Miner
Instructors: Professors Morgan Wang and Mark Johnson, Department of Statistics,
University of Central Florida

Health care decision makers can acquire massive amounts of data that should be useful in a variety of contexts if only they could house the data in a convenient framework amenable to statistical analysis. Data mining (DM) methods provide a mechanism for extracting information from large sets. This short course will introduce the participants to the large array of available statistical methodologies currently implemented in software packages. The following is the course outline:

- 1 Introduction to data mining (presumes no previous exposure to DM)
 - Overview (scope, capability, expectations)
 - What you may already know about DM (cluster and discriminant analysis, outlier detection, step-wise methods)
- 2 Case study from start to finish
 - Health care example background (pending client approval)
 - Issues of interest
 - Data preparation
 - Software in Action
 - Conclusions from the data mining methods
 - Conclusions for the client
- 3 Primer on a Data Mining Software Tool
- 4 Additional case studies highlighting specific data mining methods
- 5 Research directions

SAS Institute will provide a 30-day trial version of the Enterprise Miner for each participant in the short course.

Motivated participants should be able to apply the methodology to their application area at the completion of the course (assuming a basic understanding of statistical methods and some computer savvy in learning a new, but user-friendly package).

The course will commence at 9:30 and will formally finish at 4:00pm (with a one hour lunch break). The presenters will be available from 4-5 pm to advise the participants on their specific applications data mining tools (enterprise, warehouse, etc.)

**Wednesday, May 18:
Healthcare Policy, Data, Information, and Statistics**

7:30AM-8:30AM Continental Breakfast

8:30AM-10:00AM Plenary Session: Conference welcome and overview; Keynote:
Ken Thorpe on the Healthcare Transformation

Dr. Kenneth Thorpe, Robert Woodruff Professor, Chair of the Department of Health Policy and Management, and Director of the Rollins Center on Health Outcomes and Quality. He is formerly Deputy Assistant Secretary for Health Policy in the U.S. Department of Health and Human Services under President Clinton. In that capacity, Dr. Thorpe coordinated all financial estimates and program impacts of President Clinton's health care reform proposals for the White House. Dr. Thorpe will provide an overview of the immense problems facing the United States, outlining the key roles to be played by statisticians, quality and data professionals, and management and political leaders in their solution.

10:00AM-10:30AM Morning Break

10:30AM-12:15PM Concurrent Sessions

Concurrent Session 1: Genetic modeling and the IBM/Mayo partnership.
“Taking Genomics to the Market: How Close to Primetime?”

Dr. Piet C. de Groen, Mayo Clinic
Deb Sutherland and Jeff Tenner, IBM (not confirmed)

Concurrent Session 2: Advances in dimension reduction, with application to
bioinformatics and health care data (Lexin Li)

Lexin Li, Postdoctoral Fellow, University of California, Davis
Dimension reduction methods for microarray censored survival
data.

Shuangge Ma, Postdoctoral Fellow, University of Washington,
Seattle. Regularized ROC Estimation: With Applications to
Disease Classification Using Microarray Data

Xiangrong Yin, Assistant Professor, University of Georgia, Athens
Dimension reduction without a model via modeling methods

Discussant: Dennis Cook, Department of Statistics, University of Minnesota

Concurrent Session 3: Performance measurement and provider profiling in healthcare organizations

Session organizer: Rick Carlson, HealthPartners

"Key Measures: the evolution of a balanced scorecard for a Medical Group"

Richard R. Carlson
HealthPartners Medical Group

"Pay For Performance in a Physician Group"

Beth Averbeck, MD
HealthPartners Medical Group

Title to be announced
Speaker to be announced
UnitedHealth Group, Inc.

"Future Directions for Measurement"

Patrick O'Connor, MD
HealthPartners Research Foundation

12:15PM-1:30PM Lunch

1:30PM-3:00PM Concurrent Sessions

Concurrent Session 1: Data mining and performance measurement within the health insurance market

HungChing Chan and Terry Bernhardt, Medica Health Plan: Use of Health Insurance Claims Data to Measure Physician Performance – A Health Plan's Experience

Mike Nelson, i3 Magnifi, Ingenix, United Health Group: Using a Health Insurance Claims Data for Pharmacoeconomics and Market Research

Concurrent Session 2: Data Mining in the health care field

Morgan Wang, Department of Statistics, University of Central Florida: Health Care Issues Suitable for Data Mining Approach

Ying Zhang, Department of Statistics University of Iowa; Data Mining: Applications and Research

X. You, Department of Statistics, University of Central Florida: Optimal Tree/MLE-based Methods in Data Mining

3:00PM-3:15PM Break

3:15PM-4:45PM Plenary Session

Leadership Healthcare Panel: Solving the Healthcare Crisis: What is the role of data, statistics, and technology?

Ken Thorpe, Stephen Parente, Jim Ehlen,

5:30PM-6:30PM Reception

6:30PM Conference Banquet

Awarding of Mary Natrella Scholarships
Awarding of 2005 Honoree for Contributions to Quality and Productivity: Professor R. Dennis Cook, University of Minnesota

Speaker: Lloyd Dobyns, writer and narrator, formerly of NBC News, will preview the video production, "How to Heal a Hospital." Mr. Dobyns is a leading reporter on economic and management issues and an expert on the Deming philosophy. He has collaborated with Ms. Crawford-Mason in TV and video productions, including the landmark documentary, "If Japan Can...Why Can't We?" Mr. Dobyns is also co-author with Ms. Crawford-Mason of Quality Or Else: The Revolution in World Business and Thinking About Quality–Progress, Wisdom, and the Deming Philosophy.

**Thursday, May 19:
Quality and Productivity in Healthcare Delivery**

7:30AM-8:30AM Continental Breakfast

8:30AM-10:00AM Plenary Session:

Dr. Richard Shannon, M.D., “Quality Systems for Healthcare Delivery”

Dr. Shannon is Chairman, Department of Medicine, Allegheny General Hospital, and the Claude R Joyner Professor of Medicine, Drexel University College of Medicine. Dr. Shannon is a Director of the Pittsburgh Regional Health Initiative (PRHI), which is led by Paul O’Neill, former Secretary of the Treasury under President Bush. Dr. Shannon will report on the path-breaking work by PRHI to implement a systems and data-based approach to improve safety and patient outcomes in Pittsburgh area hospitals.

10:00AM-10:30AM Morning Break

10:30AM-12:15PM Concurrent Sessions

Concurrent Session 1: National Quality of Care Research Initiatives

Session Organizer: James Buckman, Juran Center for Leadership in Quality, University of Minnesota

Richard Shannon, M.D. (and others) “The Pittsburgh Regional Health Initiative”

Sandy Potthoff, Department of Healthcare Management, University of Minnesota, “Safest in America”

Adam Atherly, Department of Health Policy and Management, Emory University, “Georgia Hospital Consortium Quality of Care Initiative”

Concurrent Session 2: Advances in Healthcare Quality Control

Session Organizer: Doug Hawkins, Department of Statistics, University of Minnesota

William Woodall, Department of Statistics, Virginia Tech, "The Use of Control Charts in Health Care Monitoring and Public Health Surveillance"

Jim Benneyan, Department of Mechanical, Industrial and Manufacturing Engineering (title forthcoming)

Stefan Steiner, Department of Statistics and Actuarial Science, University of Waterloo (title forthcoming)

Concurrent Session 3: Developments in the Design of Experiments

Session Organizer: William Li, Operations and Management Science Department, University of Minnesota

Abhyuday Mandal, Natrella Scholarship Winner, School of Industrial and Systems Engineering, Georgia Institute of Technology, “Sequential Elimination of Level Combinations by Means of Modified Genetic Algorithms”

Machael Zhu, Department of Statistics, Purdue University, “Optimal Compound Orthogonal Arrays and Single Arrays for Robust Parameter Design Experiments.”

Bradley Jones, SAS Institute, “Issues in the Design and Analysis of Optimal Split Plot Experiments.”

12:15PM-1:30PM Lunch

1:30PM-3:00PM Concurrent Sessions

Concurrent Session 1: Experiences with Lean Six Sigma in Healthcare Organizations.

Session Organizer: James Buckman, Juran Center for Leadership in Quality, University of Minnesota

David Wessner, CEO, Park Nicollet (not confirmed)

Randy Linton, CEO, Luther Midelfort Mayo Health System (not confirmed)

Susan Meyer Goldstein and Rachna Shah, Operations and Management Science, University of Minnesota (title forthcoming)

Concurrent Session 2: Identifying and Preventing Medical Errors.

Session Organizer: KK Sinha, Operations and Management Science Department, University of Minnesota

Rick Linsk, St. Paul Pioneer Press, "Preventable Deaths in Nursing Homes"

Timothy Clapp, College of Textiles, North Carolina State University, "Error-Proofing Healthcare."

Concurrent Session 3: Statistical Methods for Disease Monitoring.

Session Organizer: Chris Nachtsheim, Operations and Management Science Department, University of Minnesota

Gideon Zamba, Department of Statistics, University of Iowa, "A Syndromic Surveillance Model for ILI and Intentional Release of Biological Agents Based on Sequential Bayesian Control Technique."

Landon H. Sego, Natrella Scholarship Winner, Department of Statistics, Virginia Polytechnic Institute and State University, "Continuously Monitoring a Small Incidence Rate."

3:00PM-3:15PM

Break

3:15PM-4:30PM

Plenary Session

Healthcare Panel on Quality and Safety in Healthcare Delivery

Richard Shannon, Blan Godfrey, CEOs, (TBA)

5:30PM-9:00PM

Mississippi Riverboat Cruise and Dinner

Buses leave from Carlson School of Management at 5:30PM

**Friday, May 20:
Quality and Productivity in Healthcare Delivery**

7:30AM-8:30AM Continental Breakfast

8:30AM-10:00AM Concurrent Sessions

Concurrent Session 1: Six Sigma and Lean Sigma in the Medical Device
(and insurance?) Industry(ies)

Session organizer: Frederick Faltin, The Faltin Group

Steve Czarniak, George Omae, Boston Scientific Corporation, "Six Sigma DMAIC Case Study: Cardiovascular Catheter Dimensional Variation Reduction Results in Cost Avoidance."

Christopher Robinson, Guidant Corporation, "Lean Six Sigma at Guidant Corporation---Manufacturing, Design, and the Supply Chain."

Concurrent Session 2: Six Sigma Philosophy

Session organizer: John Ramberg, University of Arizona

Rick L. Edgeman, Department of Statistics, University of Idaho, "Six Sigma from Products to Pollution to People: Philosophy & Vision for the Engineering, Natural and Social Environments"

Fred Spiring, Department of Statistics, The University of Manitoba, "Some Applications of Process Capability Measures Within a Six Sigma Philosophy"

Manoj Sharma (Ford Motor Company, Reliability) and John S. Ramberg (Professor Emeritus, University of Arizona), "Juran's Pareto Principle and Six Sigma."

Concurrent Session 3: 2005 QPRC Lifetime Honoree Presentation

Session organizer: Chris Nachtsheim, University of Minnesota

Dennis Cook, Department of Statistics, University of Minnesota, "Regression and Design; Past, Present, Future (tentative title)."

10:00AM-10:30AM Morning Break

10:30AM-12:00PM Closing Plenary

Panel/floor discussion on conference implications and directions
for future research

Panel (to be announced)

12:00 PM Box lunches distributed

12:30PM-3:00PM Post-Conference Meeting of QPRC Steering Committee and
Planning Committee (closed)

