Part I: General Information

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Education:

1994	B.Sc. (Hons)	Statistics	University of Canterbury (New Zealand)
1999	M.S.	Applied Statistics	Purdue University
1999	Ph.D.	Statistics	University of Canterbury (New Zealand)

Post-Doctoral Training:

1999-2001 Post Doctoral Fellow in Statistics, Department of Health Care Policy, Harvard Medical School, Boston, Massachusetts

Academic Appointments

2006- Associate Professor of Statistics, Department of Health Care Policy, Harvard Medical School

2001-2006 Assistant Professor of Statistics, Department of Health Care Policy, Harvard Medical School

Hospital or Affiliated Institution Appointments

1999 Post Doctoral Fellow, Cardiovascular Data Analysis Center, Beth-Israel Deaconess Medical Center

2000-01 Post Doctoral Fellow, Division of Biometrics, Department of Medicine, Brigham and Women's Hospital

2001- Faculty Statistician, Harvard Clinical Research Institute

Other Professional Positions

1993-2003 Statistical Consultant, Government Department of Corrections, Christchurch, NZ

1997 Statistical Consultant, Corporate Services, Health Benefits, Christchurch, NZ

1997-99 Graduate Statistician, Purdue University

1998-99 Statistical Design and Software Consultant, Department of Statistics, Purdue University
1998-99 Internship, Technical Assistance Program, Purdue University

Major Committee Assignments

National

2003-2004 Study section, Special Emphasis Panel, National Institute of Mental Health
2006 Study section, Special Emphasis Panel, National Institute of Mental Health
2006-2008 Study section, Mental Health Services in Mental Health Specialty Settings, National Institute of Mental Health
2007 Study section, Transition to Adulthood RFA, Special Emphasis Panel, National Institute of Mental Health
2007 Study section, Special Emphasis Panel, National Institute of Mental Health and National Institute on Alcohol Abuse and Alcoholism
2008 Study section, Use of Pooled Administrative Data for Policy Relevant Health Services Research, National Institute of Mental Health
2008 Study section, Pooled State Administrative Data RFA, National Institute of Mental Health
2009 Study section, Methodology and Measurement in the Behavioral and Social Sciences, Biobehavioral and Behavioral (BBBP) Integrated Review Group, National Institute of Health
2009 Study section, Developing and Advanced Centers in Services Research, National Institute of Mental Health

Local

2007/08 Tools and Technology Strategic Planning Committee, Harvard Medical School

Professional Societies

1994- The New Zealand Statistical Association (NZSA)
1995- The New Zealand Mathematical Society (NZMS)
1998- The American Statistical Association (ASA)
- Section on Health Policy Statistics
  - Assistant Editor (2003-2006)
  - Chair-Elect (2007)
  - Chair (2008)
  - Past-Chair (2009)
- Scientific Planning Committee, International Conference on Health Policy Statistics (2005, 2008, 2010)
- Conference Co-chair, International Conference on Health Policy Statistics, October, 2011

2004- AcademyHealth
2005- International Biometric Society

- Scientific Planning Committee, International Biometric Society Eastern North American Region (ENAR) Spring Meeting (2006, 2008)

Community Service Related to Profession Work:

2005 Guest Teacher, Mason Elementary School, Roxbury, Boston, MA. Taught lesson on data analysis to Grade 4 class (16 students, time = 1.5 hours/lesson, preparation time = 4 hours/lesson, lessons = 1).

2007 Guest Teacher, Hennigan Elementary School, Jamaica Plain, Boston, MA. Taught lesson on fractions and bar graphs to Grade 4 class (20 students, time = 1.5 hours/lesson, preparation time = 4 hours/lesson, lessons = 1).

Editorial Boards

Associate Editor

2009-2012 Statistics in Medicine

Assistant Editor

2002-2003 Current Index of Statistics

Reviewer

2000- Statistics in Medicine
2001- The Journal of Health Economics
2002- Health Services and Outcomes Research Methodology
2002- The Australian and New Zealand Journal of Statistics
2003- Weather and Forecasting Journal
2003- BMC Medical Research Methodology
2003- Journal of Biopharmaceutical Statistics
2004- Medical Decision Making
2004- Biometrics
2004- International Journal for Quality in Health Care
2005- Bayesian Analysis
2005- Journal of Agricultural, Biological, and Environmental Statistics
2005- Biostatistics
2005- Health Services Research
2007- Journal of Statistical Planning and Inference
2007- Journal of Official Statistics
2008- Journal of Quantitative Analysis in Sports
2008- Journal of the Royal Statistical Society
2009- Circulation
2009- Journal of the American Statistical Association

Awards and Honors

1990-91	Bickerton-Widdowson Memorial Trust Fund Award (Christchurch Boys' High School – University of Canterbury)
1990-92	John Wilson Scholarship (Christchurch Boys' High School – University of Canterbury)
1992	Page Memorial Prize for Mathematics (University of Canterbury)
1993	University of Canterbury Senior Scholarship
1993	Cook Memorial Prize for Mathematics (University of Canterbury)
1994-97	University of Canterbury Doctoral Scholarship
1996	Second place, Students' Paper Competition, New Zealand Statistical Association conference
1997	Charles Cook, Warwick House, Memorial Scholarship (University of Canterbury)
1999	L.J. Cote Award for Excellence in Statistics (Purdue University)
2002	Young investigator travel award, 4th Scientific Forum on Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke.

Part II: Research, Teaching, and Clinical Contributions

A. Narrative report

Overall Summary

My methodological interests encompass hierarchical-multivariate modeling, social network analysis, causal inference, and Bayesian analysis. Specific problems often fall at the intersection of two or more of these areas. A recent paper (paper 46) was nominated for the 2009 Mitchell prize, awarded annually by the International Society for Bayesian Analysis for the best use of Bayesian analysis to solve an important applied problem. The paper entwined methodology for multivariate, multilevel modeling with an important problem in the measurement of quality of health care. Applied research interests include the relationship between social networks and health, measuring quality in health care, mental health, cardiology, cancer, and hospitalization of nursing home residents. I was invited to present my work comparing different approaches for estimating the causal effect of atypical versus conventional drugs on mental health costs at the 2009 Bayesian Biostatistics conference, the March 2009 meeting of the Boston Chapter of the American Statistical Association (ASA) and upcoming 2009 NCDEU (New Research Approaches for Mental Health Interventions) meeting. My general interests span several areas of health policy, including the use of financial incentives to improve the quality of care and services delivered by health care providers, the detection of and trends in health care disparities, and the impact of technology on the quality of care. I devote roughly 90% of my time to research, 5% to teaching, and 5% to department or university administrative service.

Area of Excellence (Research)

Methodological Research

One of my primary interests is developing likelihood methods for the estimation of multilevel covariance structures. Such methods are often needed in surveys where individuals' responses provide information about domains (e.g. health plans, hospitals). To form valid inferences at the domain-level one must account for sampling variation at the individual-level, and structured missing data due to respondents skipping questions not relevant to them. This problem was solved by extending generalized variance functions from a univariate to a multivariate setting. This enabled the development of multivariate, hierarchical models for modeling the relationship between the survey items at the domain level. I have compared novel Bayesian models that incorporate prior information to classical maximum likelihood estimators (46). I am currently working on extensions to multivariate three-level models and to covariance matrices with specific structures.

The development of causal inference for both randomized and observational studies is another major research area. I developed parametric structural models to obtain causal inferences that are more precise than current approaches for randomized trials with noncompliance and missing data and demonstrated that these models are surprising robust to model miss-specification (10). My current focus is on observational studies where I am comparing classic instrumental variables methods for estimating causal effects to fully parametric Bayesian structural equations models.

This requires development of new methods and careful application of existing techniques to cross-sectional data (manuscript under review). In the future I plan to extend the methodology to longitudinal data.

My most recent major area of interest is the development of statistical methods for the analysis of social networks. Analysis of social network data is still a new topic for statisticians; the virtues of different modeling approaches are intensely debated at conferences and in the literature. I am the principle investigator of the statistical methods for longitudinal analysis of social networks project in a P01 grant funded by NIH (PI: Christakis). A review/tutorial paper that I was invited to write on social network analysis for researchers in health policy and health services was recently published (45). An applied paper using Framingham Heart Study friendship network to investigate the role of health behaviors on tie dissolution and formation is currently under review at the journal Social Networks. I am currently working on multiple projects to develop methods for longitudinal analysis of large sparse networks.

I have also been interested in models of non-commensurate (e.g. mixed binary and continuous) multivariate outcomes (#5). I have considered the case where correlation arises both because the outcomes are multivariate but also because they are clustered (e.g. by health center, data source). I have also developed computer simulation experiments for determining the optimal sample size for studies involving these types of outcomes (#3).

Applied Research

As part of the Consumer Assessment of Health Providers and Systems (CAHPS) study I have developed a strong interest in measuring and reporting quality. Using the methods for multilevel-covariance analysis in (46), the dimensions of quality at the level of the health plan or hospital (16) can be estimated. I have also developed models for casemix adjustment of CAHPS data (15). Casemix adjustment is essential to CAHPS as inappropriate models can promote disparities by giving providers an incentive to attract one type of patient over another.

I am currently collaborating with experts in medical sociology, sociology, medicine, and epidemiology to study the relationship between social networks, neighborhoods, and health. My role is to develop network models to tease apart network effects (e.g., induction and homophily) and to separate the effects of social ties (network effects) from contextual (neighborhood) effects. The work involves longitudinal analysis of the Framingham heart study friendship, marital, and co-worker networks accounting for health behaviors, diet, and living location. I am also working on a study on the effect of the location of supermarkets and fast food restaurants on residents' health status, where the ultimate goal is to also control for network effects.

I am part of a collaboration on cancer to examining whether the use of androgen deprivation therapy is associated with an elevation of adverse events (bone fractures, development of diabetes, development of coronary-heart disease, and incidence of myocardial infarction) in men diagnosed with prostate cancer (26, 36, 41). Our results provide strong evidence of such adverse effects. In past work, I collaborated with health economists and oncologists to show that the level of reimbursement for chemotherapy influences the treatment oncologists provide to cancer

patients (23) and that chemotherapy has an adverse effect on an individual's odds of returning to work (47).

My research in long-term care investigates how financial incentives or payment systems can be structured to minimize unnecessary hospitalizations of nursing home residents, yielding substantial savings in State Medicare expenditures. The challenge is to ensure that the system does not reward poor quality, which in the context of hospitalization requires appropriate delineation between necessary and unnecessary hospitalizations. I have developed novel models of the necessity of hospitalization (35), and am using these to help develop an incentive system that rewards quality for nursing homes (34).

I have also developed novel trial designs and analyses for coronary-artery stents and more recently other medical devices (18, 21). Such trial designs enable optimal use of the information in the data and, therefore, more-timely trials for fast paced industries such as coronary-artery stents. I have also instigated and collaborated on several research projects involving scientific properties of coronary-artery stents (12, 13, 42).

Teaching and Education

Although I don't teach a regular class, I generally accept all teaching and mentoring responsibilities and have an open door policy on giving statistical advice (especially in the case of students). Over several years I have given guest lectures in graduate level courses in the Department of Biostatistics at the Harvard School of Public Health, in the core seminar of the Health Policy program (a joint Government, Medical School, and School of Public Health program), and to Medical Fellows in the Fundamentals of Clinical Trials course in the Scholars in Clinical Science program. One of my primary roles on collaborative projects is educating collaborators with backgrounds in medicine, economics, and sociology (e.g., Nicholas Christakis, Bruce Landon, Nancy Keating, Leroi Hicks, David Grabowski, David Stevenson, Laura Mauri, Alanna Coolong) in one-to-one meetings by explaining how to design a study and the associated statistical analysis to satisfy the objectives. My role as a collaborator on projects is crucial to the direction of the research and enhances my understanding and interest in the medical or health policy issues under study, continuously developing my collaborative capabilities.

I was the primary mentor to Brian Neelon, a postdoctoral fellow in statistics in the Department of Health Care Policy from 2007-2009. During this time, Brian completed two research papers in statistics and now has a well established research program. I am also on the advisory committee for Lindsay Sabik, a Ph.D. student in the Health Policy program, and have informally helped numerous other students with their research.

B. Funding Information

2001-03 HCF-98-C-00057-0043 (PI: Cleary). Bearing Point. Co-investigator. Implementation of Medicare CAHPS

2001-05 HS10803-2 (PI: Newhouse). Agency for Healthcare Quality and Research. Co-investigator/Senior Statistician. Structuring Markets and Competition in Health Care.

2001-05 1 R01 HS10645-01A1 (PI: Buchanan). Agency of Healthcare Quality and Research. Co-investigator/Senior Statistician. Hospitalization of Nursing Facility Residents.

2001-05 1 R01 MH61434-01A1 (PI: Normand). National Institutes of Mental Health. Co-investigator. Modeling Treatment Use and Effectiveness in Mental Illness.

2002-06 U01 HS13653 (PI: Landon). Agency for Healthcare Quality and Research. Co-investigator/Senior Statistician. Impact of the HRSA Health Disparities Collaboratives.

2002-07 1 U18 HS13190-01 (PI: Cleary). Agency for Healthcare Quality and Research. Co-investigator. CAHPS II.

2003-06 0030185 (PI: Landon). Commonwealth/HRSE Co-Fund. Co-investigator/Senior Statistician. Impact of the HRSA Health Disparities Collaboratives.

2004-05 (PI: McNeil). Blue Cross Blue Shield Association. Co-investigator/Senior Statistician. Evaluation of generic drug promotion efforts by BCBS of Michigan.

2004-05 ZOL446G US94 (PI: Keating). Novartis Pharmaceuticals Corp. Co-investigator/Senior Statistician. Cancer Therapy-Induced Bone Loss (CTIBL) and Fracture Risk in Men with Prostate Cancer: SEER Medicare Linked Database Study.

2005-07 R01 AG024448-02 (PI: Christakis). National Institute on Aging. Co-investigator. Social Network Study of Health Effects in Aging.

2004-07 500-01-0020 (PI: Cleary). Westat. Co-investigator. Implementation of Medicare CAHPS – MMC Survey.

2005-07 (PI: Grabowski). Commonweath Fund. Co-investigator/Senior Statistician. Use of incentive-based payment system to reduce hospitalization rates of nursing home residents.

2005-08 2 R01 MH061434 (PI: Normand). Co-investigator. National Institutes of Mental Health. Modeling Treatment Use and Effectiveness in Mental Health.

2005-06 R01 CA112367 (PIs: Ayanian and Landon). NCI. Co-investigator/Senior Statistician. Improving Systems for Colorectal Cancer Screening.

2006-08 (PI: Hicks). National Heart, Lung and Blood Institute (NHLBI). Co-investigator/Senior Statistician. Community, Health Center, and Academic Medicine Partnership Project.

2006-11 Subcontract RAND (PI Zaslavsky). Co-investigator. Design and Data Analysis of the Medicare Health Plan CAHPS Survey's.

2007-08 (PI: McNeil). Blue Cross Blue Shield Association. Co-investigator/Senior Statistician. Blue Cross Blue Shield Consumer Engagement.

2007-10 Award #58729 Robert Wood Johnson Foundation (PI: Christakis). Co-investigator. Development of Network Data and Methods for Study of Health and Health Care.

2007-11 R01 NIA (PI Landon). Co-investigator/Senior Statistician. Financial Incentives and Variations in the Care of Medicare Beneficiaries.

2008-13 P01 NIA (PI: Christakis). Principle Investigator of Project 8, Methods for the Analysis of Longitudinal Social Network Data, Social Networks and Neighborhoods.

2008-10 R01 CA127652 NCI (PI: Keating). Co-investigator/Senior Statistician. Fractures, Heart Disease, Stroke on Aromatase Inhibitors.

2008-10 Prostate Cancer Foundation Grant (PI: Keating). Co-investigator/Senior Statistician. Fractures, Heart Disease, Stroke on Androgen Deprivation.

2008-11 R01 NIA (PI: Grabowski). Co-investigator/Senior Statistician. Leveraging Medicare Payment and Reporting Quality to Improve Nursing Home Quality.

2009-12 CMS/L&M (PI: Grabowski). Co-investigator/Senior Statistician. Task order: Evaluation of the Nursing Home VPD (Parts 2, 3, 4 and 6).

2009-12 R01 NIA (PI: Huskamp). Co-investigator/Senior Statistician. Medicare Part D Plan Generosity and Dual – Eligibility Nursing Home Residents.

C. Report of Teaching

1. Local contributions

Statistics and Mathematics Department Courses (Previous Institutions)

1997 Introduction to Statistics (Stat 111). Department of Mathematics and Statistics, University of Canterbury, Christchurch, New Zealand.

Recitation Instructor, 20 students, Preparation Time = 2 hrs/wk, Contact Time = 2 hrs/wk.

1997 Applied Probability (Stat 231). Department of Mathematics and Statistics, University of Canterbury, Christchurch, New Zealand. Substitute Instructor, 40 students, Preparation Time = 8 hrs, Contact Time = 2 hrs.

1997 Calculus for Engineers (Math 161), Department of Mathematics, Purdue University, West Lafayette, IN. Recitation Instructor, 50 students (2 classes), Preparation Time = 4 hrs/wk, Contact Time = 4 hrs/wk.

1999 Statistics and Society (Stat 113), Department of Statistics, Purdue University, West Lafayette, IN. Course Developer and Instructor, 20 students, Preparation Time = 5 hrs/wk, Contact Time = 10 hrs/wk.

Harvard University Medical School and HSPH Courses

2001 Multiple Regression Analysis for Health Policy and Management (Bio 225c), Department of Biostatistics, Harvard School of Public Health, Substitute Lecturer, 25 students, Preparation Time = 2 hrs/lecture, Contact Time = 1 hrs/lecture, Lectures = 1.

2001-2 Fundamental Methods of Clinical Trials, Scholars in Clinical Science Program, Harvard Medical School, Lecturer, 20 medical students, Preparation Time = 5 hrs/lecture, Contact Time = 2 hrs/lecture, Lectures = 1 per year.

2001-3 Core seminar in Health Policy (HPC 597), Harvard University (Harvard Medical School, Kennedy School of Government, School of Public Health), Lecturer, 20 graduate students, Preparation Time = 5 hrs/lecture, Contact Time = 2 hrs/lecture, Lectures = 1 per year.

2007 Fundamental Methods of Clinical Trials, Scholars in Clinical Science Program, Harvard Medical School, Lecturer, 20 medical students, Preparation Time = 5 hrs/lecture, Contact Time = 2 hrs/lecture, Anticipated lectures = 1 per year.

2007 Group Sequential and Adaptive Design (Bio276), Harvard University (Harvard Medical School), Lecturer, 8 graduate students, Preparation Time = 5 hrs/lecture, Contact Time = 2 hrs/lecture, Anticipated lectures = 1 per year.

Local Invited Teaching Presentations

2000 The Minimum Detectable Concentration of an Assay. Seminar Series in Statistics, Department of Health Care Policy, Harvard Medical School, Boston, Massachusetts

2001 Design & Analysis of Medical Device Clinical Trials. Bayesian Methodology Working Group Seminar, Department of Biostatistics, Harvard School of Public Health, Boston, Massachusetts.

2002 Analysis & Design of Medical Device Clinical Trials. Harvard University, Technology Assessment Group, Effective and Affordable Health Care Seminar. Faculty Club, Harvard University, Boston, Massachusetts.

2003 Statistical methods for developing recommendations for use of coronary-artery stents. Harvard University, Technology Assessment Group, Effective and Affordable Health Care Seminar. Faculty Club, Harvard University, Boston, Massachusetts.

2004 New statistical methods for detecting improvements in and developing recommendations for using medical devices: Coronary-artery stents. Harvard University, Technology Assessment Group, Effective and Affordable Health Care Seminar. Faculty Club, Harvard University, Boston, Massachusetts.

2004 Design and Analysis of Medical Device Clinical Trials. Department of Radiology, Harvard Medical School, Boston, Massachusetts.

2005 Statistical Methods for Evaluating the Consumer Assessments of Health Plans Study. Harvard University, Technology Assessment Group, Effective and Affordable Health Care Seminar. Faculty Club, Harvard University, Boston, Massachusetts.

2005 Hierarchical Factor Analysis for Survey Data with Structured Nonresponse. Bayesian Methodology Working Group Seminar, Department of Biostatistics, Harvard School of Public Health, Boston, Massachusetts.

2006 Likelihood Methods for Longitudinal Randomized Trials: Accounting for Treatment-Noncompliance and Missing Outcomes. Harvard University, Technology Assessment Group, Effective and Affordable Health Care Seminar. Faculty Club, Harvard University, Boston, Massachusetts.

2007 Bayesian Methods for Analyzing Data Cardiology and Radiology. Clinical Research Program, Children's Hospital, Boston, Massachusetts.

2007 Deriving a Model of the Time Between Hospital Stays for Nursing Home Residents. Harvard University, Technology Assessment Group, Effective

and Affordable Health Care Seminar. Faculty Club, Harvard University, Boston, Massachusetts.

2008 Comparing Traditional Instrumental Variables Methods to Parametric Simultaneous Equations Models. Harvard University, Technology Assessment Group, Effective and Affordable Health Care Seminar. Faculty Club, Harvard University, Boston, Massachusetts.

Teaching Leadership Roles in Department and Affiliated Institutions

2006-7 Seminar series "Key Statistical Methods for Clinical Trials of Medical Devices", Harvard Clinical Research Institute, Organizer, 30 attendees, Preparation Time = 5 hrs/lecture, Contact Time = 2 hrs/lecture, Personal lectures = 2 plus organized 9 guests lecturers.

Names of advisees or trainees

Laura Mauri	Statistical mentor. Interventional Cardiology Fellow 2001-2002. Currently Instructor of Medicine, Brigham and Women's Hospital, Harvard Clinical Research Institute, Boston, MA.
Gregory Giugliano	Statistical support. Interventional Cardiology Fellow 2001-2002. Associate Director and Associate Professor of Medicine, Cardiology Research and Cardiac Catheterization Laboraties at Baystate Medical Associates, Springfield, MA.
William Downey	Statistical support. Interventional Cardiology Fellow 2001-2002. Private practice, Greensboro, North Carolina.
Douglas Levy	Statistical mentor. Graduate Student 2001-2004. Currently post-Doctoral Fellow in Health Services Research, Department of Health Policy and Management, Harvard School of Public Health, Boston, MA.
Stephanie Shimada	Statistical mentor. Graduate Student 2001-2005. Currently post-Doctoral fellow in Health Services Research, New Bedford VA, New Bedford, MA.
Zhaojing Gong	Advisor (external). Ph.D. Student in Statistics 2003-2008, University of Canterbury, Christchurch, New Zealand.
Alexander Lipka	Statistical Support (external). M.S. Student in Statistics 2006-2008, Purdue University, West Lafayette, IN.

Alanna Coolong	Statistical mentor. Interventional Cardiology Fellow 2006-current, Departments of Cardiology and Clinical Biometrics, Brigham and Women's Hospital.
Kirsten Smith	Statistical support. Post-doctoral fellow in Medical Sociology, 2005-2007, Department of Health Care Policy, Harvard Medical School.
Melitta Jakab	Statistical support. Graduate Student 2002-2007. Department of Health Care Policy, Harvard Medical School, Boston, MA.
Brian Neelon	Statistical Mentor. Post-doctoral fellow in Statistics 2007-2009, Department of Health Care Policy, Harvard Medical School.
Lindsay Sabik	Statistical Mentor. Graduate Student 2005-current. Department of Health Care Policy, Harvard Medical School, Boston, MA.

2. Regional, national, or international contributions

Regional

1993 A Novel DOE (design of experiment) for Comparing Multiple Designs of Tires. Weekly Management Staff Meeting, Firestone Tire and Rubber Company, Christchurch, New Zealand.

1996 Where to From Here? Staff Training Workshop, Psychological Services Division, Department of Corrections, Christchurch, New Zealand

2003 Application of Models for Multivariate Mixed Outcomes to Medical Device Trials: coronary Artery Stenting. Research seminar, Center for Health Quality, Outcomes & Economics Research. VA, Bedford, Massachusetts.

2007 The Tennis formula: How it can be used in Professional Tennis. New England Symposium on Statistics in Sports, Cambridge, MA

2009 Health Behaviors and the Formation and Dissolution of Close Friendships. Statistical Modeling for Networks in the Biological, Computational, and Social Sciences, Cambridge, MA.

2009 Traditional Instrumental Variables Methods versus Likelihood and Bayesian Approaches for Comparing Antipsychotic Medications. March meeting of the Boston Chapter of the American Statistical Association, Cambridge, MA.

2009 Discussant, Bayesian Methods in Clinical Trials. Biostatistics Visiting Scholar Day, Department of Biostatistics, School of Public Health, Boston University, Boston, MA

2009 Introduction to Matlab: Seminar to Programmers in the Department of Health Care Policy, Harvard Medeical School, Boston, MA

National

1995 The Application of Predictive Models of Recidivism to Parole Board Decision Making. Working group on parole board decision making led by Justice Thorpe, New Zealand Parole Board, Auckland, New Zealand.

1996 High Risk Offenders: A Step Towards More Accurate Prediction. Australasian Criminological Conference, Wellington, New Zealand

1999 The Minimum Detectable Concentration of an Assay. Seminar, National Center for Atmospheric Research, Boulder, Colorado.

1999 The Minimum Detectable Concentration of an Assay. Seminar, Division of Biostatistics, Department of Medicine, Indiana University, Indianapolis, Indiana.

2000 Status Report on the Development of an Objective Performance Criterion for Medical Devices. Board Meeting, Advanced Medical Technology Association, Washington DC.

2000 On the use of Prior Information in Medical Device Testing: Methods and Examples. Workshop on Development of an Objective Performance Criterion for Medical Devices, Center for Devices and Radiological Health, Food and Drug Administration, Rockville, Maryland

2001 Discussant, Section on Design and Analysis of Medical Device Trials: Regulatory, Industry, and Clinical Perspectives. International Biometric Society Eastern North American Region (ENAR) Spring Meeting, Charlotte, North Carolina.

2001 Bayesian Sample Size Calculations for Historically-Controlled Clinical Trials with Adjustment for Covariates. Seminar, Division of Biostatistics, Department of Medicine, Indiana University, Indianapolis, Indiana.

2002 Historical Controlled Medical Device Clinical Trials: Design, Analysis, and Communicating with the FDA and Industry. Department of Statistics, Research seminar. Purdue University, West Lafayette, Indiana.

2002 Bayesian Hierarchical Transformation Models for Receiver Operating Characteristic Curve Analysis. Joint Statistical Meetings, American Statistical Association. New York, New York.

2003 Modeling Treatment Use and Effectiveness in Mental Illness, Accounting for Treatment Noncompliance and Missing Outcomes in Randomized Trials. International Biometric Society Eastern North American Region (ENAR). Spring Meeting, Pittsburgh, Pennsylvania.

2004 Accounting for Treatment-Noncompliance and Missing Outcomes in Randomized Trials: Sensitivity to Model Assumptions. Worcester Polytechnic, Worcester, Massachusetts.

2005 Discussant: Session on Multiple Imputation in Mental Health Services Research. Joint Statistical Meetings, American Statistical Association, Minneapolis, Minnesota.

2005 Hierarchical Factor Analysis for Survey Data with Structured Nonresponse, International Conference on Health Policy Research, Boston, MA.

2005 Discussant: Session on Causal Inference with Longitudinal Data, International Conference on Health Policy Research, Boston, MA.

2006 A Tiered Treatment Design for a Historical Controlled Medical Device Clinical Trial. Joint Statistical Meetings, American Statistical Association, Seattle, WA.

2006 Statistical Trending with Application to the Hospital CAHPS Survey. A Decade of Advancing Patient-Centered Care: The 10th National CAHPS User Group Meeting, Baltimore, Maryland.

2006 Hierarchical Factor Analysis for Survey Data with Structured Nonresponse, International Biometric Society Eastern North American Region (ENAR) Spring Meeting, Tampa, Florida

2007 Optimal Survey Design When Nonrespondents are Subsampled for Followup. Joint Statistical Meetings, American Statistical Association, Salt Lake City, Utah.

2008 The Role of Health Behaviors in the Formation and Dissolution of Friendship Ties. Seminar Series on Social Network Analysis, Brown University, Rhode Island.

2008 Optimal Survey Design When Nonrespondents are Subsampled for Followup, International Biometric Society Eastern North American Region (ENAR) Spring Meeting, Crystal City, Washington DC.

2008 Recent Experiences Applying Bayesian Analysis to Medical Device Trials. Statistical Issues for Medical Devices and Diagnostics, Medical Technology Learning Institute, Bethesda, MD

2009 Traditional Instrumental Variables Methods versus Likelihood and Bayesian Approaches for Comparing Antipsychotic Medications. Bayesian Biostatistics Conference, Houston, TX

2009 The Role of Health and Health Behaviors in the Formation and Dissolution of Friendship ties. International Biometric Society Eastern North American Region (ENAR) Spring Meeting, San Antonio, TX

2009 Causal Inference in Observational Studies. 49th Annual NCDEU meeting, Hollywood (Ft Lauderdale Area), FL

International

1999 Modeling Recidivism: A Real Story. Departmental Seminar, Department of Mathematics and Statistics, University of Canterbury, Christchurch, New Zealand.

2004 Accounting for Treatment Noncompliance and Noncompliance in Randomized Trials: Sensitivity to Model Assumptions. Statistics Colloquium, School of Public Health, University of Queensland, Australia.

2007 Optimal Survey Design When Nonrespondents are Subsampled for Followup. New Zealand Statistical Association Conference, Christchurch, New Zealand.

2007 Bayesian Approaches to Multilevel Covariance Analysis. Symposium in Honour of John Deely, Christchurch, New Zealand.

Part III: Bibliography

Original Articles

1. Tandberg D, Deely JJ, **O'Malley, AJ**. Generalized Likelihood Ratios for Quantitative Diagnostic Test Scores. The American Journal of Emergency Medicine 1997; 15:694-699.

2. **O'Malley AJ**, Zou KH, Fielding JR, Tempany CMC. Bayesian Regression Methodology for Estimating a Receiver Operating Characteristic Curve with Two Radiologic Applications: Prostate Biopsy and Spiral CT of Ureteral Stones. Academic Radiology 2001; 8:713-725.

3. **O'Malley AJ**, Normand S-L, Kuntz RE. Sample Size Calculation for a Historically-Controlled Clinical Trial with Adjustment for Covariates. Journal of Biopharmaceutical Statistics 2002, 12, 227-247.

4. **O'Malley AJ**, Deely JJ. Bayesian Measures of the Minimum Detectable Concentration of an Immunoassay. Australian and New Zealand Journal of Statistics 2003, 45, 43-65.

5. **O'Malley AJ**, Normand S-L, Kuntz RE. Application of Models for Multivariate Mixed Outcomes to Medical Device Trials: Coronary Artery Stenting. Statistics in Medicine 2003, 22, 313-336.

6. Hunt MO, **O'Malley AJ**, Feist WC, McCabe GP, Evans JW, Cassens DL. Weathering of painted wood construction: Façade restoration. Forest Products Journal, 2003, 53, 51-60.

7. **O'Malley AJ**, Normand S-LT. Statistics: Keeping Pace with the Medical Technology Revolution. Chance 2003; 16(4):41-44.

8. Mauri L, **O'Malley AJ**, Cutlip DE, Ho KKL, Popma JJ, Chauhan MS, Baim DS, Cohen DJ, Kuntz RE. Effects of Stent Length and Lesion Length on Coronary Restenosis. American Journal of Cardiology, 2004, 93, 1340-1346.

9. Levy DE, **O'Malley AJ**, Normand S-LT. Covariate Adjustment in Clinical Trials with Non-Ignorable Missing Data and Non-Compliance. Statistics in Medicine 2004, 23, 2319-2339.

10. **O'Malley AJ**, Normand SLT. Likelihood methods for treatment noncompliance and subsequent nonresponse in randomized trials. Biometrics, 2005, 61, 325-334.

11. Horvitz-Lennon M, **O'Malley AJ**, Frank RG, Normand S-LT. Improving traditional intention-to-treat analyses: a new approach. Psychological Medicine, 2005, 35, 961-970.

12. Mauri L, Orav EJ, **O'Malley AJ**, Popma JJ, Moses JW, Leon MB, Holmes DR, Teirstein PS, Schofer J, Breithardt G, Cutlip DE, Firth BG, Donahoe DJ, Kuntz RE. Relationship of

Late Loss in Lumen Diameter to Coronary Restenosis in Sirolimus-Eluting Stents. Circulation 2005, 111, 321-327.

13. Mauri L, **O'Malley AJ**, Popma JJ, Moses JW, Leon MB, Holmes DR, Teirstein PS, Cutlip DE, Donahoe D, Kuntz RE. Comparison of Thrombosis and Restenosis Risk from Stent Length of Sirlimus-Eluting Stents Versus Bare Metal Stents. American Journal of Cardiology 2005, 95, 1140-1145.

14. Zou KH, **O'Malley AJ**. A Bayesian hierarchical non-linear regression model in receiver operating characteristic analysis of clustered continuous diagnostic data. Biometrical Journal, 2005, 47, 417-427.

15. **O'Malley AJ**, Zaslavsky AM, Elliot MN, Zaborski L, Cleary PD. Case-Mix Adjustment of the CAHPS® Hospital Survey. Health Services Research, 2005, 40, 2162-2181.

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