

Part I: General Information

Date Prepared: May 9, 2006

Name: A. James O'Malley

Office Address: Harvard Medical School
Department of Health Care Policy
180 Longwood Avenue
Boston, MA 02115-5899

Home Address: 251 Chestnut Avenue #3, Jamaica Plain, MA 02130

Work E-mail: omalley@hcp.med.harvard.edu **Fax:** 617-432-2563

Place of Birth: New Zealand

Education:

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

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

Hospital or Affiliated Institution Appointments

2001- Faculty Statistician, Harvard Clinical Research Institute.
2000-01 Post Doctoral Fellow, Division of Biometrics, Department of Medicine, Brigham and Women's Hospital
1999 Post Doctoral Fellow, Cardiovascular Data Analysis Center, Beth-Israel Deaconess Medical Center

Other Professional Positions

1993-2003 Statistical Consultant, Government Department of Corrections, Christchurch, NZ
1998-99 Internship, Technical Assistance Program, Purdue University

- 1998-99 Statistical Design and Software Consultant, Department of Statistics, Purdue University
- 1997-99 Graduate Statistician, Purdue University
- 1997 Statistical Consultant, Corporate Services, Health Benefits, Christchurch, NZ

Major Committee Assignments

- 2006 Scientific Planning Committee, International Biometric Society Eastern North American Region (ENAR) Spring Meeting, Tampa, FL
- 2003-2006 Health Policy Statistics Section Assistant Editor, American Statistical Association
- 2005 Scientific Planning Committee, International Conference on Health Policy Research, Boston, MA

Professional Societies

- 2005- International Biometric Society
- 2004- AcademyHealth
- 1998- The American Statistical Association (ASA)
- 1995- The New Zealand Mathematical Society (NZMS)
- 1994- The New Zealand Statistical Association (NZSA)

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).

Editorial Boards

Board Member

- 2006 Member Special Emphasis Panel, National Institutes of Mental Health
- 2003-2004 Member Special Emphasis Panel, National Institutes of Mental Health
- 2002-2003 Assistant Editor Current Index of Statistics

Reviewer

- 2005- Bayesian Analysis
- 2005- Journal of Agricultural, Biological, and Environmental Statistics
- 2005- Biostatistics
- 2005- Health Services Research
- 2004- Medical Decision Making
- 2004- Biometrics
- 2004- International Journal for Quality in Health Care
- 2003- Weather and Forecasting Journal
- 2003- BMC Medical Research Methodology
- 2003- Journal of Biopharmaceutical Statistics

2002- The Australian and New Zealand Journal of Statistics
2002- Health Services and Outcomes Research Methodology
2001- The Journal of Health Economics
2000- Statistics in Medicine

Awards and Honors

2002 Young investigator travel award, 4th Scientific Forum on Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke.
1999 L.J. Cote Award for Excellence in Statistics (Purdue University)
1997 Charles Cook, Warwick House, Memorial Scholarship (University of Canterbury)
1996 Second place, Students' Paper Competition, New Zealand Statistical Association conference
1994-97 University of Canterbury Doctoral Scholarship
1993 University of Canterbury Senior Scholarship
1993 Cook Memorial Prize for Mathematics (University of Canterbury)
1992 Page Memorial Prize for Mathematics (University of Canterbury)
1990-92 John Wilson Scholarship (CBHS-U Canterbury)
1990-91 Bickerton-Widdowson Memorial Trust Fund Award (CBHS-U Canterbury)
1989 School Monitor, Christchurch Boys' High School (CBHS)

Part II: Research, Teaching, and Clinical Contributions

A. Narrative report 500 maximum

Research Areas (Methodological)

My main methodological interests encompass hierarchical modeling, multivariate modeling, causal inference, and Bayesian analysis. I have tended to work on challenging innovative problems at the intersection of two or more of these areas.

I am particularly interested in 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 they were ineligible to answer. My solution to this problem involved extending generalized variance function theory from a univariate to a multivariate setting. However, my main focus to date is the development of multivariate hierarchical models for modeling the relationship between the survey items at the domain level. As part of this work novel Bayesian models that incorporate prior information are compared to the classical maximum likelihood estimators.

A second focal point of my methodological research is the development of causal inference for both randomized clinical trials (RCTs) and observation studies. An intention-to-treat analysis that uses randomization as an instrument will lead to unreliable results whenever the outcomes and missing data indicators depend on unmeasured confounding variables. In work completed to date I have used parametric structural models to obtain causal inferences that are more precise than current approaches, and also demonstrated that these models are surprising robust to model miss-specification.

I have also been interested in models of non-commensurate (e.g. binary-valued and continuous) multivariate outcomes. To date 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 composite endpoints.

An emerging new methodological interest is the development of statistical methods for the analysis of social networks. The development of statistical methods for these data is still in its infancy with most methods relying on strong assumptions about the structure of the data that may compromise the accuracy of the results. I am currently developing new methods that do not make as restrictive assumptions but which are still feasible to implement.

Research Areas (Applications)

My applied research interests include cardiology, cancer, the measurement of quality, and the hospitalization of nursing home residents.

As part of the Consumer Assessment of Health Providers and Systems (CAHPS) study I have developed a strong interest in measuring quality. I have applied my work on multilevel covariance structures to estimate the dimensions of quality at the level of the health plan or hospital. In addition, I have also developed models for casemix adjustment of CAHPS data. Casemix adjustment is essential to CAHPS since inappropriate models can promote disparities from health plans or providers having an incentive to attract one type of patient over another.

In work related to cancer I have studied whether the level of reimbursement for chemotherapy has any bearing on the treatment oncologists provide to cancer patients. The results indicated that although the “profit potential” does not appear to influence the propensity to use chemotherapy, it may influence the expensiveness of the chemotherapy agent used. I am also interested in whether the use of androgen deprivation therapy is associated with a lower risk of undesirable events (bone fractures, development of diabetes, development of coronary-heart disease, and incidence of myocardial infarction) in men diagnosed with prostate cancer. Both of these problems have strong implications for policy makers.

Another area of focus is long-term care and how financial incentives or payments systems can be structured so that unnecessary hospitalizations among nursing home residents are avoided (enabling substantial savings in States’ Medicare expenditures). The challenge is to ensure that the system does not reward poor quality, which in the context of hospitalization requires that the system appropriately delineate between necessary and unnecessary hospitalizations. I have developed novel models of the necessity of hospitalization, and am using these to help develop an incentive system that rewards quality for nursing homes.

For several years I have worked on methodological and applied projects derived from the coronary-artery stent industry. My key contribution is the development of trial designs and methods of analysis that make more efficient use of the information in the data and therefore enable trials to be concluded faster (an important attribute for fast paced industries such as coronary-artery stents).

General Areas of Interest in Health Policy

My general areas of interest in health policy include: the use of financial incentives to improve the quality of care and services delivered by health care providers, the detection of and trends in disparities in the health care system, and the impact of technological advance on the quality of care.

B. Funding Information

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|---------|---|
| 2006-08 | (Hicks, LeRoi). National Heart, Lung and Blood Institute (NHLBI). Co-investigator/Senior Statistician. Community, Health Center, and Academic Medicine Partnership Project. |
| 2005-06 | R01 CA112367 (Ayanian, John and Landon, Bruce). NCI. Co-investigator/Senior Statistician. Improving Systems for Colorectal Cancer Screening. |

- 2005-08 2 R01 MH061434 (Normand, Sharon-Lise). Co-investigator. National Institutes of Mental Health. Modeling Treatment Use and Effectiveness in Mental Health.
- 2005-07 (Grabowski, David). Commonwealth Fund. Co-investigator/Senior Statistician. Use of incentive-based payment system to reduce hospitalization rates of nursing home residents.
- 2004-07 500-01-0020 (Cleary, Paul). Westat. Co-investigator. Implementation of Medicare CAHPS – MMC Survey.
- 2005-07 R01 AG024448-02 (Christakis, Nicholas). National Institute on Aging. Co-investigator. Social Network Study of Health Effects in Aging.
- 2004-05 ZOL446G US94 (Keating, Nancy). 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.
- 2004-05 (McNeil, Barbara). Blue Cross Blue Shield Association. Co-investigator/Senior Statistician. Evaluation of generic drug promotion efforts by BCBS of Michigan.
- 2003-06 0030185 (Landon, Bruce). Commonwealth/HRSE Co-Fund. Co-investigator/Senior Statistician. Impact of the HRSA Health Disparities Collaboratives.
- 2002-07 1 U18 HS13190-01 (Cleary, Paul). Agency for Healthcare Quality and Research. Co-investigator. CAHPS II.
- 2002-06 U01 HS13653 (Landon, Bruce). Agency for Healthcare Quality and Research. Co-investigator/Senior Statistician. Impact of the HRSA Health Disparities Collaboratives.
- 2001-05 1 R01 MH61434-01A1 (Normand, Sharon-Lise). National Institutes of Mental Health. Co-investigator. Modeling Treatment Use and Effectiveness in Mental Illness.
- 2001-05 1 R01 HS10645-01A1 (Buchanan, Joan). Agency of Healthcare Quality and Research. Co-investigator/Senior Statistician. Hospitalization of Nursing Facility Residents.
- 2001-05 HS10803-2 (Newhouse, Joseph). Agency for Healthcare Quality and Research. Co-investigator/Senior Statistician. Structuring Markets and Competition in Health Care.

- 2001-04 Brigham and Women's Hospital – Rick Kuntz (O'Malley, James). Principal Investigator. Statistical Methods for Clinical Trials and Scientific Study of Coronary-Artery Stents.
- 2001-03 HCF-98-C-00057-0043 (Cleary, Paul). Bearing Point. Co-investigator. Implementation of Medicare CAHPS.

C. Report of Current Research Activities (Need to list current grants)

Research is continuing on statistical methods for the CAHPS and the application of these to various projects (e.g. the development of survey instruments for the CAHPS hospital and ambulatory studies). My research in causal inference has extended from RCTs to observational studies, and also to from cross-sectional to longitudinal data. I am currently involved in two projects studying the factors affecting the hospitalization of nursing home patients, multiple projects related to cancer, and multiple projects involving disparities in quality of care. I am beginning a new project with the objective of developing statistical methods for social networks.

D. Report of Teaching

1. Local contributions

Harvard University Short Courses, Workshops, and Seminar Series

- 2006-7 Workshop on Statistical Methods for Medical Device Clinical Trials, Harvard Clinical Research Institute, Organizer, 30 attendees, Preparation Time = 5 hrs/lecture, Contact Time = 2 hrs/lecture, Lectures = 5 per year plus 5 guests lecturers (expected).
- 2006-7 Workshop on Statistical Methods for Health Policy Researchers, Harvard University (Harvard Medical School, Kennedy School of Government, School of Public Health), Organizer, 10 attendees, Preparation Time = 5 hrs/lecture, Contact Time = 2 hrs/lecture, Lectures = 4 per workshop, Workshops = 1 per semester (expected).

Harvard University Courses

- 2006-7 Fundamental Methods of Clinical Trials, Scholars in Clinical Science Program, Harvard Medical School, Lecturer, 20 students, Preparation Time = 5 hrs/lecture, Contact Time = 2 hrs/lecture, Lectures = 2 per year (expected).
- 2001-3 Core seminar in Health Policy (HPC 597), Harvard University (Harvard Medical School, Kennedy School of Government, School of Public Health), Lecturer, 20 students, Preparation Time = 5 hrs/lecture, Contact Time = 2 hrs/lecture, Lectures = 1 per year.

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

Statistics and Mathematics Department Courses

- 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.
- 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.
- 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.

Professional Leadership Roles Related to Teaching

- Kirsten Smith Post-doctoral fellow in Medical Sociology, 2005-current, Department of Health Care Policy, Harvard Medical School. Statistical mentor.
- Alanna Coolong Interventional Cardiology Fellow 2006-current, Departments of Cardiology and Clinical Biometrics, Brigham and Women's Hospital. Statistical advisor.
- Zhaojing Gong Ph.D. Student in Statistics 2003-current, University of Canterbury, Christchurch, New Zealand. Advisor in Statistics (external).
- Stephanie Shimada Graduate Student 2001-2005. Statistical mentor. Currently post-Doctoral fellow in Health Services Research, New Bedford VA, New Bedford, MA.

- Douglas Levy Graduate Student 2001-2004. Statistical mentor. Currently post-Doctoral Fellow in Health Services Research, Department of Health Policy and Management, Harvard School of Public Health, Boston, MA.
- Laura Mauri Interventional Cardiology Fellow 2001-2002. Statistical advisor. Currently Instructor of Medicine, Brigham and Women's Hospital, Harvard Clinical Research Institute, Boston, MA.
- Gregory Giugliano Interventional Cardiology Fellow 2001-2002. Statistical advisor. Associate Director and Associate Professor of Medicine, Cardiology Research and Cardiac Catheterization Laboratories at Baystate Medical Associates, Springfield, MA.
- William Downey Interventional Cardiology Fellow 2001-2002. Statistical advisor. Private practice, Greensboro, North Carolina.

2. Regional, national, or international contributions

a. Invited presentations

- 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
- 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.
- 2005 Discussant: Session on Causal Inference with Longitudinal Data, International Conference on Health Policy Research, Boston, MA.
- 2005 Hierarchical Factor Analysis for Survey Data with Structured Nonresponse, International Conference on Health Policy Research, Boston, MA.
- 2005 Discussant: Session on Multiple Imputation in Mental Health Services Research. Joint Statistical Meetings, American Statistical Association, Minneapolis, Minnesota.

- 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.
- 2004 Design and Analysis of Medical Device Clinical Trials.
Department of Radiology, Harvard Medical School, Boston, Massachusetts.
- 2004 Accounting for Treatment-Noncompliance and Missing Outcomes in Randomized Trials: Sensitivity to Model Assumptions.
Worcester Polytechnic, Worcester, Massachusetts.
- 2004 Invited Session, Modeling Treatment Use & 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 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.
- 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.
- 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.
- 2002 Bayesian Hierarchical Transformation Models for Receiver Operating Characteristic Curve Analysis.
Joint Statistical Meetings, American Statistical Association. New York, New York.

- 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 Analysis & Design of Medical Device Clinical Trials.
Harvard University, Technology Assessment Group, Effective and Affordable Health Care Seminar.
Faculty Club, Harvard University, Boston, Massachusetts.
- 2001 Discussant, Section on Design & Analysis of Medical Device Trials: Regulatory, Industry, and Clinical Perspectives.
International Biometric Society Eastern North American Region (ENAR) Spring Meeting, Charlotte, North Carolina.
- 2001 Design & Analysis of Medical Device Clinical Trials. Bayesian Methodology Working Group Seminar, Department of Biostatistics, Harvard School of Public Health, Boston, Massachusetts.
- 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
- 2000 The Minimum Detectable Concentration of an Assay.
Seminar Series in Statistics, Department of Health Care Policy, Harvard Medical School, Boston, Massachusetts
- 1999 Modeling Recidivism: A Real Story.
Departmental Seminar, Department of Mathematics and Statistics, University of Canterbury, Christchurch, New Zealand.
- 1996 Where to From Here?
Staff Training Workshop, Psychological Services Division, Department of Corrections, Christchurch, New Zealand
- 1996 High Risk Offenders: A Step Towards More Accurate Prediction.
Australasian Criminological Conference, Wellington, New Zealand
- 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.

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

Part III: Bibliography

Original Articles

1. Marcantonio ER, **O'Malley AJ**, Murkofsky RL, Caudry DJ, Buchanan JL. Medical Directors' Attitudes about the Hospitalization of Nursing Home Residents. In Press: The Journal of Aging and Health.
2. **O'Malley AJ**, Landon BE, Guadagnoli E. The Use of Multiple Informants Data in Health Services Research. In Press: Health Services Research.
3. **O'Malley AJ**, Frank RG, Kaddis A, Rothenberg BM, McNeil, BJ. Impact of Alternative Interventions on Changes in Generic dispensing rates. In Press: Health Services Research.
4. Jacobson MG, **O'Malley AJ**, Earle C, Pakes J, Gaccione P, Newhouse J. Is the Utilization of Cancer Chemotherapy Drugs influenced by Medicare Reimbursement? In Press: Health Affairs.
5. Buchanan JL, Murkofsky RL, **O'Malley AJ**, Karon S, Zimmerman D, Caudry DJ, Marcantonio ER. Nursing Home Capabilities and Decisions to Hospitalize: A Survey of Medical Directors and Directors of Nursing. In Press: Journal of the American Geriatrics Society.
6. Holmes DR, Teirstein P, Satler L, Sketch M, **O'Malley AJ**, Popma JJ, Kuntz RE, Fitzgerald PJ, Wang H, Caramanica E, Cohen SA. Sirolimus-Eluting Stents vs Vascular Brachytherapy for In-Stent Restenosis Within Bare-Metal Stents. Journal of the American Medical Association 2006, 295, 1264-1273.
7. **O'Malley AJ**, Zou KH. Bayesian Multivariate Hierarchical Transformation Models for ROC Analysis. Statistics in Medicine 2006, 25, 459-479.
8. **O'Malley AJ**, Zaslavsky AM. Variance-Covariance Functions for Domain Means of Ordinal Survey Items. Survey Methodology 2005, 31, 169-182.
9. Serruys PW, Ong ATL, Morice M-C, De Bruyne B, Colombo A, Macaya C, Richardt G, Fajadet J, Hamm C, Dawkins K, **O'Malley AJ**, Bressers M, Donohoe D. Arterial Revascularization Therapies Study Part II - Sirolimus-Eluting Stents for the Treatment of Patients with Multivessel De Novo Coronary Artery Lesions. EuroIntervention, 2005, 2, 147-156.
10. Keller S, **O'Malley AJ**, Hays RD, Morales R, Zaslavsky AM, Hepner KA, Cleary PD. Methods Used to Streamline the CAHPS[®] Hospital Survey. Health Services Research, 2005, 40, 2057-2077.

11. **O'Malley AJ**, Zaslavsky AM, Hays RD, Hepner K, Keller S, Cleary PD. Exploratory Factor Analyses of the CAHPS[®] Hospital Pilot Survey Responses across and within Medical, Surgical, and Obstetric services. *Health Services Research*, 2005, 40, 2078-2095.
12. **O'Malley AJ**, Zaslavsky AM, Elliot M, Zaborski L, Cleary PD. Case-Mix Adjustment of the CAHPS[®] Hospital Survey. *Health Services Research*, 2005, 40, 2162-2181.
13. 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.
14. Mauri L, **O'Malley AJ**, Popma JJ, Moses JW, Leon MB, Holmes DR, Teirstein PS, Cutlip DE, Firth B, Kuntz RE. Stent Length Considerations in the Drug-Eluting Stent Era: Analysis of Sirolimus-eluting and Bare Metal Stents. *American Journal of Cardiology* 2005, 95, 1140-1145.
15. Mauri L, Orav EJ, **O'Malley AJ**, Popma JJ, Moses JW, Leon MB, Holmes DR, Teirstein PS, Schofer J, Breithardt G, Cutlip DE, Firth B, Donahoe D, Kuntz RE. The Mechanics of Late Loss after Sirolimus-eluting Stenting. *Circulation* 2005, 111, 321-327.
16. Horvitz-Lennon M, **O'Malley AJ**, Frank RG, Normand S-LT. Revisiting Psychiatric Outcomes in the 21st Century: Moving Beyond Intention to Treat. *Psychological Medicine*, 2005, 35, 961-970.
17. **O'Malley AJ**, Normand SLT. Likelihood methods for treatment noncompliance and subsequent nonresponse in clinical trials. *Biometrics*, 2005, 61, 325-334.
18. 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.
19. Mauri L, **O'Malley AJ**, Popma JJ, Ho KKL, Cutlip DE, Chauhan MD, Baim DS, Cohen DJ, Kuntz RE. The Effect of Variations in Stent Length and Lesion Length on Coronary Restenosis. *American Journal of Cardiology*, 2004, 93, 1341-1346.
20. **O'Malley AJ**, Normand S-LT. Statistics: Keeping Pace with the Medical Technology Revolution. *Chance* 2003; 16(4):41-44.
21. Hunt MO, **O'Malley AJ**, Evans J, Feist W, McCabe G, Cassens D. Weathering of painted wood construction: Façade restoration. *Forest Products Journal*, 2003, 53, 51-60.
22. **O'Malley AJ**, Deely JJ. Bayesian Measures of the Minimum Detectable Concentration of an Assay. *Australian and New Zealand Journal of Statistics* 2003, 45, 43-65.
23. **O'Malley AJ**, Normand S-L, Kuntz RE. Models for Multivariate Mixed Outcomes with

Application to Medical Device Trials: Coronary Artery Stenting. *Statistics in Medicine* 2003, 22, 313-336.

24. **O'Malley AJ**, Normand S-L, Kuntz RE. Sample Size Calculation for an Historically-Controlled Clinical Trial with Adjustment for Covariates. *Journal of Biopharmaceutical Statistics* 2002, 12, 227-247.
25. **O'Malley AJ**, Zou KH, Fielding JR, Tempany CMC. Bayesian Regression Methodology for Estimating a Receiver Operating Characteristic Curve with two Clinical Applications: Spiral CT of Ureteral Stones and Prostate Biopsy. *Academic Radiology* 2001; 8:713-725.
26. Tandberg WD, Deely JJ, **O'Malley, AJ**. Generalized Likelihood Ratios for Quantitative Diagnostic Test Scores. *The American Journal of Emergency Medicine* 1997; 15:694-699.

Proceedings of Meetings

1. **O'Malley AJ**, Zaslavsky AM. Implementation of cluster-level covariance analysis for survey data with structured nonresponse. In: *ASA Proceedings of the Health Policy Section* 2004, 1907-1914.
2. **O'Malley AJ**, Zaslavsky AM. Cluster-Level Factor Analysis for Survey Data with Structured Nonresponse. In: *ASA Proceedings of the Biopharmaceutical Section* 2003, 3095-3106.
3. **O'Malley AJ**, Normand S-LT. Likelihood Methods for All-Or-Nothing Treatment Noncompliance and Subsequent Nonresponse in Randomized Trials. In: *ASA Proceedings of the Biometrics Section* 2003, 3087-3106.
4. **O'Malley, AJ**, Zou, KH. Bayesian Hierarchical Transformation Models For Receiver Operating Characteristic Curve Analysis. In: *ASA Proceedings of the Health Policy Statistics Section*. 2002, 2541-2550.
5. Zou KH, **O'Malley AJ**. Bayesian Regression Methodology for Receiver Operating Characteristic Curve Analysis. In: *Applied Stochastic Models and Data Analysis, Proceedings of 10th International Symposium*. 2001, pp. 1043-1048.
6. **O'Malley AJ**, Normand S-LT, Kuntz RE. Power Calculation For Historically-Controlled Clinical Trials. In: *ASA Proceedings of the Bayesian Statistical Sciences Section*. 2000. pp. 72-77.
7. **O'Malley AJ**. Radioimmunoassay Analysis: An Overview. In: Neyland J, Clark M, editors. *Proceedings of the NZSA Conference: Research in the Learning of Statistics*. 1996. pp.62-6.
8. Bakker L, **O'Malley AJ**, Riley D. High Risk Offenders: A Step towards more accurate prediction. *Proceedings of the Australasian Criminological Conference*. 1996.

Chapters in Books

1. **O'Malley AJ**. Development and Communication of Bayesian Methodology for Medical Device Clinical Trials. Applied Bayesian Statistical Studies in Biology and Medicine, edited by M. DiBacco and G. D'Amore and F. Scalfari, Norwell, MA: Kluwer, 2004, Chapter 10: 189-218.

Technical Reports (not peer review)

1. **O'Malley AJ**, Normand S-L, Kuntz RE. Estimation of the Objective Performance Criterion for Medical Device Clinical Trials: Coronary-Artery Stenting. Technical Series in Statistics, Department of Health Care Policy, Report #HCP 2001-3.
2. **O'Malley AJ**, Becker R. Guidelines on the Sample Size for checking the Accuracy of Employee Records (Client's name confidential). Technical Assistance Program, Purdue University Publication. 1998. Report no.: TAP980417.
3. **O'Malley AJ**, Becker R. Quality Improvement Plan for a Small Manufacturing Company (Client's name confidential). Technical Assistance Program, Purdue University Publication. 1998. Report no.: TAP980605.
4. Bakker L, **O'Malley AJ**, Riley D. End of the Road: Identifying High Risk Traffic Offenders. Psychological Service, Department of Corrections, New Zealand. 1998 Publication no.: ISBN 0-478-11304-8.
5. Bakker L, **O'Malley AJ**, Riley D. Storm Warning: Statistical Models for Predicting Violence. Psychological Service, Department of Corrections, New Zealand Publication. 1998. Publication no.: ISBN 0-478-11303-X.
6. **O'Malley AJ**. Statistical Models for Recidivism. Research Report for Psychological Service, Department of Corrections, Christchurch, New Zealand. 1996.

Dissertation

O'Malley AJ. Some New Considerations for the Statistical Analysis of an Assay [dissertation]. Christchurch, New Zealand: University of Canterbury; 1999.

Refereed Abstracts

1. **O'Malley AJ**, Marcantonio ER, Murkofsky RL, Caudry DJ, Buchanan JL. Deriving and Validating a Model of the Necessity to Hospitalize Nursing Home Residents. AcademyHealth Meeting (June 2005).

2. Hassett M, Pakes J, **O'Malley AJ**, Newhouse J, Earle CMC. Chemotherapy-related serious adverse events and health care expenditures among commercially insured women with breast cancer. 2005 Annual meeting of the American Society of Clinical Oncology (May 2005).
3. Murkofsky RL, Marcantonio ER, **O'Malley AJ**, Caudry DJ, Buchanan JL. Hospitalization of Nursing Home Residents: Findings from an expert panel. Society of General Internal Medicine (SGIM) meeting (2003).
4. **O'Malley AJ**, Mauri L, Kuntz RE, Normand S-LT. New statistical methods for detecting improvements in and developing recommendations for using medical devices: Coronary artery stents. *Circulation* 2002, 106, p. 119.

Manuscripts Submitted (Not part of CV but kept here for convenience.)

1. Landon BE, Normand SLT, Lessler A, **O'Malley AJ**, Schmaltz S, Loeb J, McNeil B. Quality of Care for the Treatment of Acute Medical Conditions in United States Hospitals. Submitted: *Annals of Medicine*
2. Murkofsky RL, Marcantonio ER, **O'Malley AJ**, Caudry DJ, Buchanan JL. The Hospitalization of Nursing Home Residents: Findings from an Expert Panel. Submitted: *Journal of Gerontology*.
3. Hicks LS, **O'Malley AJ**, Lieu TA, Keegan T, Cook NK, McNeil, BJ, Landon BE, Guadagnoli E. Determinants of Quality of Chronic Disease Management Among Community Health Centers in the United States. Submitted: *Health Affairs*.
4. Hasset MJ, **O'Malley AJ**, Pakes JR, Newhouse JP, Earle CC. Frequency and cost of chemotherapy-related serious adverse effects in a population sample of women with breast cancer. Submitted: *Journal of the National Cancer Institute*.
5. Keating NL, **O'Malley AJ**, Smith MR. Diabetes and Cardiovascular Disease During Androgen Deprivation Therapy for Prostate Cancer. Submitted: *Journal of the American Medical Association*.
6. Zou KH, **O'Malley AJ**, Mauri L. Receiver Operating Characteristic (ROC) Analysis for Evaluating Diagnostic Tests and Predictive Models. Submitted: *Circulation*.
7. **O'Malley AJ**, Marcantonio ER, Murkofsky RL, Caudry DJ, Buchanan JL. Deriving a Model of the Necessity to Hospitalize Nursing Home Residents. Submitted: *Research on Aging*.
8. **O'Malley AJ**, Smith MH, Sadler WA. A Restricted Maximum Likelihood Procedure for Estimating the Variance Function of an Assay. Submitted: *Australian and New Zealand Journal of Statistics*.