

## CURRICULUM VITAE

**DATE PREPARED:** September 26, 2008

### **PART I: General Information**

**Name:** Mary Beth Landrum

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**Place of Birth:** London, England

### **Education:**

1987 B.S. (Chemical Engineering), Massachusetts Institute of Technology  
1992 M.S. (Biostatistics), University of Michigan  
1995 Ph.D. (Biostatistics), University of Michigan

### **Postdoctoral Training:**

01/95-12/98 Postdoctoral Fellow, Department of Health Care Policy, Harvard Medical School

### **Academic Appointments:**

1998-2005 Assistant Professor of Biostatistics, Department of Health Care Policy, Harvard Medical School, Boston, MA  
2005- Associate Professor of Biostatistics, Department of Health Care Policy, Harvard Medical School, Boston, MA

### **Major Committee Assignments:**

#### **HMS / HSDM**

2005 Medical Education Design Subgroup, Harvard Medical School  
2006- Postdoc Advisory Committee, Harvard Medical School

#### **National**

2000-2004 AMI Performance Measures Writing Group, American College of Cardiology/American Heart Association

- 2001-2005 Health Care Technology and Decision Sciences Study Section, Agency for Health Care Research and Quality
- 2002-2003 Program Committee, Eastern North American Region of the International Biometric
- 2005- Health Services Research Subcommittee, Cancer and Leukemia Group B (CALGB)
- 2005-2007 Health Policy Statistics Section, American Statistical Association
- 2005-2006 Adding Clinical Data Elements to Administrative Data, Agency for Health Care Policy and Research
- 2005-2006 Quality Indicators Composite Measure Workgroup , AHRQ
- 2007- Evaluating Trends in Old-Age Disability (TRENDS), University of Michigan Center on the Demography of Aging
- 2007- Health Policy Statistics Section, American Statistical Association

**International**

- 2004-2005 Scientific Planning Committee International Conference on Health Care Policy, American Statistical Association Health Policy Statistics Section

**Professional Societies:**

- 1995- International Biometric Society, Member
- 1995- American Statistical Association, Member
- 2000- Academy Health, Member

**Editorial Boards:**

- 1998- Ad-Hoc Reviewer, Science
- 1999- Ad-Hoc Reviewer, Journal of Health Services Research and Policy
- 2000- Ad-Hoc Reviewer, Journal of Clinical Outcomes Management
- 2000- Ad-Hoc Reviewer, Journal of the American Medical Association
- 2000- Ad-Hoc Reviewer, Health Service Research
- 2000- Ad-Hoc Reviewer, Health Services and Outcomes Research Methodology
- 2000- Ad-Hoc Reviewer, Health Services Research
- 2001- Ad-Hoc Reviewer, Medical Care
- 2001- Ad-Hoc Reviewer, Journal of Health Economics
- 2002- Ad-Hoc Reviewer, Statistics in Medicine
- 2002- Ad-Hoc Reviewer, International Journal for Quality in Health Care
- 2002- Ad-Hoc Reviewer, American Journal of Medicine
- 2003- Ad-Hoc Reviewer, Quality of Life Research
- 2004- Ad-Hoc Reviewer, Journal of the American Statistical Association
- 2005- Ad-Hoc Reviewer, American Journal of Epidemiology
- 2005- Ad-Hoc Reviewer, Inquiry
- 2008- Ad-Hoc Reviewer, American Journal of Public Health

**Awards and Honors:**

- 1990 Regents Fellowship (full tuition and stipend), University of Michigan
- 1991 Dow Chemical Student Prize for performance as a first-year student, Department of Biostatistics, University of Michigan
- 1992 Dow Chemical Student Prize for performance on Ph.D. qualifying examination, Department of Biostatist, University of Michigan
- 1994 Rackham Predoctoral Fellowship (full tuition and stipend), University of Michigan
- 1995 Student Travel Award to the Spring Meeting, Eastern North American Region of the International Biometric

## **Part II: Research, Teaching, and Clinical Contributions**

### **B. Funding Information**

- 1995-2000 Investigator, AHCPR, RO1 HS08071, Validating guidelines for the care of AMI patients.
- 1998-2000 Investigator, AHCPR, RO1 HS09718, Impact of physician specialty on post-MI care and outcomes.
- 1998-2000 Investigator, USQA, Use of cholesterol lowering agents after myocardial infarction.
- 1998-2000 Investigator, MERCK, 028646, Understanding the use of cholesterol lowering agents after myocardial infarction.
- 1998-2001 Investigator, AHCPR/AAHP, U01 HS09936, Effect of health plans on hypertension and diabetes care.
- 1999-2000 Investigator, AHCPR, R01 CA/AG70818, Adjuvant tamoxifen therapy in old age.
- 1999-2000 Investigator, VA Connecticut Healthcare, Profiling the VA national mental health program.
- 1999-2002 Investigator, AHCPR, R01 HS10408, Organizational determinants of HIV care improvement.
- 1999-2002 Investigator, Doris Duke Foundation, 19990579, The effect of physician specialty on quality of breast cancer care.
- 1999-2003 Investigator, VA/Price Coopers Waterhouse, Program evaluation of cardiac care programs in the VHA.
- 2000-2003 Investigator, N.I.H., R01 CA91753, Developing quality indicators for advanced cancer care.
- 2000-2005 Investigator, AHCPR, P01 HS10803, Structuring markets and competition in health care.
- 2001-2003 Investigator, Department of Army, DAMD17-01-0527, Managed care penetration and the use of screening mammography by uninsured women.
- 2001-2004 Investigator, N.I.H., R01 CA925880, Managed care penetration and cancer care.
- 2001-2004 Investigator, N.I.H., R01 MH61424, Modeling treatment use and effectiveness in mental illness.
- 2001-2006 Co-P.I., NCI, U01 CA93344, CanCORS Statistical Coordinating Center.

- 2003-2004 P.I., National Bureau of Economic Research, Causes and consequences of disability decline among the elderly.
- 2003-2005 P.I., John Snow, Inc., Developing methods and tools to assess the impact of quality improvement programs.
- 2004- Investigator, N.I.H., NIA R01 AG019805, Understanding Disability Among the Elderly
- 2004-2008 Investigator, N.I.H., 2R01 CA91753-04, Validating quality indicators for end-of-life cancer care.
- 2005- Investigator, N.I.H., R01 CA104118, Local therapy of breast cancer in community populations
- 2005- Investigator, Veterans Administration, Study of cancer care in the VA
- 2005- P.I., N.I.H., R21 AG027421, A pilot survey to measure disability in the elderly population
- 2006- Investigator, PHARMA, Feasibility of value based management
- 2006- Investigator, Commonwealth Fund, Improving medicare hospital performance measures and payment methods

**Local Invited Presentations**

**Seminar**

- 1996 Modeling Expert Opinion to Develop Medical Guidelines, Quality of Care Research Seminar, Harvard School of Public Health
- 1998 Applying Bayesian Ideas to the Development and Validation of Medical Practice Guidelines, Applied Statistics Colloquium Series, Boston University
- 1998 Applying Bayesian Ideas to the Development and Application of Medical Practice Guidelines, Bayesian Methodology Working Group, Harvard School of Public Health
- 2002 Statistical Approaches to Measuring Quality using Multiple Quality Indicators: Cardiology and Mental Health, MGH Divisional Meeting for General Pediatrics
- 2002 Cross-Sectional Profiles of Medical Providers using Multiple Quality Indicators, Psychiatric Biostatistics Seminar Series, Harvard School of Public Health
- 2003 Methodologic Issues in Profiling Medical Providers, Research Workshop in Applied Statistics, Harvard University
- 2005 The Role of Information in Medical Markets: An analysis of Publicly Reported Outcomes in Cardiac Surgery, Boston University, Health

Statistics Seminar Series

- 2006 Estimating Causal Effects with Observational Data: A Comparison of Propensity Score and Instrumental Variable Analyses, Department of Biostatistics Seminar Series, Dana Farber Cancer Institute
- 2006 Declining Disability: The Role of Intensive Medical Care for Cardiovascular Disease, Robert Wood Johnson Fellows in Health Policy Seminar Series, Harvard University
- 2007 Estimating Causal Effects with Observational Data: A Comparison of Propensity Score and Instrumental Variable Analyses, Program in Cancer Outcomes Research Training Seminar Series, Massachusetts General Hospital
- 2007 Estimating Causal Effects with Observational Data: A Comparison of Propensity Score and Instrumental Variable Analyses , Dana-Farber Center for Outcomes and Policy Research Seminar Series

**Advisees/Trainees**

<i>Training Duration</i>	<i>Name</i>	<i>Current Position</i>
2003-2007	Kate Stewart	PhD Student
2006-	Fan Li	Post-Doctoral Fellow

**2. Regional, national, or international contributions**

**a. Invited Presentations**

**Regional**

- 1999 Applying Bayesian Ideas to the Assessment of Quality of Care, Statistics Colloquium Series, Univeristy of Connecticut, Storrs CT
- 2001 Cross-Sectional Profiles of Medical Providers using Multiple Quality Indicators, Division of Biostatistics, University of Pennsylvania, Philadelphia, PA
- 2003 Cross-Sectional Profiles of Medical Providers using Multiple Quality Indicators, Department of Biostatistics, Yale Medical School, New Haven CT
- 2005 The Role of Information in Medical Markets: An Analysis of Publicly

Reported Outcomes in Cardiac Surgery, Rockefeller Center for Public Policy, Dartmouth University, Hanover NH

- 2005 Estimating Causal Effects with Observational Data: A Comparison of Propensity Score and Instrumental Variable Analyses, Cancer Prevention and Control Colloquia Series, National Cancer Institute, Washington DC
- 2006 The Role of Information in Medical Markets: An Analysis of Publicly Reported Outcomes in Cardiac Surgery, Robert Wood Johnson Postdoctoral Fellows in Health Policy Seminar, University of Michigan, Ann Arbor
- 2006 Declining Disability: The Role of Intensive Medical Care for Cardiovascular Disease, NIA and ASPE, Washington DC

**National**

- 1997 Assessing Quality of Care Following a Heart Attack, International Conference of Health Policy Research, Washington DC
- 1997 An Imputation Strategy for the Analysis of Incomplete Longitudinal Data, Annual Meeting of the Population Association of American, Washington DC
- 1999 Cross-Sectional Profiles of Medical Providers using Multiple Quality Indicators, International Conference on Health Policy Research, Santa Monica CA
- 2001 Profiles of Medical Providers Using Multiple Quality Indicators, Joint Statistical Meetings, Atlanta GA
- 2003 The Role of Information in Medical Markets: An Analysis of Publicly Reported Outcomes in Cardiac Surgery, International Conference of Health Policy Research, Chicago IL
- 2005 The Role of Information in Medical Markets: An Analysis of Publicly Reported Outcomes in Cardiac Surgery, Academy Health Meetings, Boston MA
- 2005 The Role of Information in Medical Markets: An Analysis of Publicly Reported Outcomes in Cardiac Surgery, International Conference on Health Policy Research
- 2007 Intensive medical care and cardiovascular disease disability reductions, TRENDS network, University of Michigan

2008 Causes of the decline in disability using the MCBS, TRENDS Network, University of Michigan

### **International**

2004 The Role of Information in Medical Markets: An Analysis of Publicly Reported Outcomes in Cardiac Surgery, Joint Statistical Meetings, Toronto CA

2005 The Impact of Medicare on Health Outcomes and Disparities Among the Eldery, International Health Economics Association Meetings, Barcelona Spain

## **Part III: Bibliography**

### **Original Articles**

1. Ayanian JZ, Landrum MB, Normand SL, Guadagnoli E, McNeil BJ. Rating the appropriateness of coronary angiography--do practicing physicians agree with an expert panel and with each other? *New England Journal of Medicine*. 1998;338(26):1896-904.
2. Landrum MB, Normand SL. Applying Bayesian ideas to the development of medical guidelines. *Statistics in Medicine*. 1999;18(2):117-37.
3. Landrum MB, McNeil BJ, Silva L, Normand SL. Understanding variability in physician ratings of the appropriateness of coronary angiography after acute myocardial infarction. *Journal of Clinical Epidemiology*. 1999;52(4):309-19.
4. Landrum MB, Bronskill S, Normand SL. Analytic methods for constructing cross-sectional profiles of health care providers. *Health Services and Outcomes Research Methodology*. 2000;1(1):23-48.
5. Guadagnoli E, Landrum MB, Peterson EA, Gahart MT, Ryan TJ, McNeil BJ. Appropriateness of coronary angiography after myocardial infarction among Medicare beneficiaries. Managed care versus fee for service. *New England Journal of Medicine*. 2000;343(20):1460-6.
6. Landrum MB, Becker MP. A multiple imputation strategy for incomplete longitudinal data. *Statistics in Medicine*. 2001;20(17-18):2741-60.
7. Landrum MB, Ayanian JZ. Causal effect of ambulatory specialty care on mortality following myocardial infarction: A comparison of propensity score and instrumental variable analyses. *Health Services and Outcomes Research Methodology*. 2001;2(3-4):221-245.
8. Normand ST, Landrum MB, Guadagnoli E, Ayanian JZ, Ryan TJ, Cleary PD, McNeil BJ. Validating recommendations for coronary angiography following acute myocardial infarction in the elderly: a matched analysis using propensity scores. *Journal of Clinical Epidemiology*. 2001;54(4):387-98.

9. Guadagnoli E, Landrum MB, Normand SL, Ayanian JZ, Garg P, Hauptman PJ, Ryan TJ, McNeil BJ. Impact of underuse, overuse, and discretionary use on geographic variation in the use of coronary angiography after acute myocardial infarction. *Medical Care*. 2001;39(5):446-58.
10. Keating NL, Weeks JC, Landrum MB, Borbas C, Guadagnoli E. Discussion of treatment options for early-stage breast cancer: effect of provider specialty on type of surgery and satisfaction. *Medical Care*. 2001;39(7):681-91.
11. Seddon ME, Ayanian JZ, Landrum MB, Cleary PD, Peterson EA, Gahart MT, McNeil BJ. Quality of ambulatory care after myocardial infarction among Medicare patients by type of insurance and region. *American Journal of Medicine*. 2001;111(1):24-32.
12. Gurwitz JH, Guadagnoli E, Landrum MB, Silliman RA, Wolf R, Weeks JC. The treating physician as active gatekeeper in the recruitment of research subjects. *Medical Care*. 2001;39(12):1339-44.
13. Cutler DM, Gruber J, Hartman RS, Landrum MB, Newhouse JP, Rosenthal MB. The economic impacts of the tobacco settlement. *Journal of Policy Analysis and Management*. 2002;21(1):1-19.
14. Ayanian JZ, Landon BE, Landrum MB, Grana JR, McNeil BJ. Use of cholesterol-lowering therapy and related beliefs among middle-aged adults after myocardial infarction. *Journal of General Internal Medicine*. 2002;17(2):95-102.
15. Keating NL, Guadagnoli E, Landrum MB, Borbas C, Weeks JC. Treatment decision making in early-stage breast cancer: should surgeons match patients' desired level of involvement? *Journal of Clinical Oncology*. 2002;20(6):1473-9.
16. Bronskill SE, Normand SL, Landrum MB, Rosenheck RA. Longitudinal profiles of health care providers. *Statistics in Medicine*. 2002;21(8):1067-88.
17. Ayanian JZ, Landrum MB, McNeil BJ. Use of cholesterol-lowering therapy by elderly adults after myocardial infarction. *Archives of Internal Medicine*. 2002;162(9):1013-9.
18. Silliman RA, Guadagnoli E, Rakowski W, Landrum MB, Lash TL, Wolf R, Fink A, Ganz PA, Gurwitz J, Borbas C, Mor V. Adjuvant tamoxifen prescription in women 65 years and older with primary breast cancer. *Journal of Clinical Oncology*. 2002;20(11):2680-8.
19. Garg PP, Landrum MB, Normand SL, Ayanian JZ, Hauptman PJ, Ryan TJ, McNeil BJ, Guadagnoli E. Understanding individual and small area variation in the underuse of coronary angiography following acute myocardial infarction. *Medical Care*. 2002;40(7):614-26.
20. Ayanian JZ, Landrum MB, Guadagnoli E, Gaccione P. Specialty of ambulatory care physicians and mortality among elderly patients after myocardial infarction. *New England Journal of Medicine*. 2002;347(21):1678-86.
21. Landrum MB, Normand ST, and Rosenheck RA. Ranking of related multivariate means: Monitoring psychiatric care in the Department of Veterans Affairs. *Journal of the American Statistical Association*. 2003;98(461):7-16.
22. Ganz PA, Guadagnoli E, Landrum MB, Lash TL, Rakowski W, Silliman RA. Breast

- cancer in older women: quality of life and psychosocial adjustment in the 15 months after diagnosis. *Journal of Clinical Oncology*. 2003;21(21):4027-33.
23. Keating NL, Landrum MB, Landon BE, Ayanian JZ, Borbas C, Guadagnoli E. Measuring the quality of diabetes care using administrative data: is there bias? *Health Services Research*. 2003;38(6 Pt 1):1529-45.
  24. Keating NL, Landrum MB, Ayanian JZ, Winer EP, Guadagnoli E. Consultation with a medical oncologist before surgery and type of surgery among elderly women with early-stage breast cancer. *Journal of Clinical Oncology*. 2003;21(24):4532-9.
  25. Persell SD, Keating NL, Landrum MB, Landon BE, Ayanian JZ, Borbas C, Guadagnoli E. Relationship of diabetes-specific knowledge to self-management activities, ambulatory quality of care, and metabolic outcomes. *Preventive Medicine*. 2004;39:746-752.
  26. Keating, NL, Landrum MB, Landon BE, Ayanian JZ, Borbas C, Wolf R, Guadagnoli E. The influence of physicians' practice characteristics and satisfaction on quality of care among patients with diabetes. *Medical Care*. 2004;42:829-839.
  27. Earle CC, Neville BA, Landrum MB, Ayanian JZ, Block SD, Weeks JC. Trends in the aggressiveness of cancer care near the end of life. *Journal of Clinical Oncology*. 2004;22(2):315-21.
  28. Landon BE, Wilson, IB, McInnes K, Landrum MB, Hirschhorn L, Marsden PV, Gustafson D, Cleary PD. The impact of a quality improvement collaborative on the outcome of care of patients with HIV infection: The EQHIV study. *Annals of Internal Medicine*. 2004;140(11):887-896.
  29. Meara E, Landrum MB, Ayanian JZ, McNeil BJ, Guadagnoli E. Effect of market share of managed care on appropriate use of coronary angiography among traditional Medicare beneficiaries. *Inquiry*. 2004;41(2):144-158.
  30. Landrum MB, Guadagnoli E, Zummo R, Chin D, McNeil, BJ. Care following acute myocardial infarction in the Veterans Administration Medical Centers: A comparison with Medicare. *Health Services Research*. 2004;39(6 Pt 1):1773-1792.
  31. Keating NL, Landrum MB, Ayanian JZ, Winer E, Guadagnoli E. The association of ambulatory care with breast cancer stage at diagnosis among Medicare beneficiaries. *Journal of General Internal Medicine*. 2005;20:38-44.
  32. Keating NL, Landrum MB, Meara ER, Ganz P, Guadagnoli E. Do increases in the market share of managed care influence quality of care in the fee-for-service sector? *Journal of the National Cancer Institute*. 2005;97:257-264.
  33. Landon BE, Wilson IB, McInnes K, Landrum MB, Hirschhorn LR, Marsden PV, Cleary PD. Physician specialization and the quality of care for HIV infection. *Archives of Internal Medicine*. 2005;165(10):1133-1139.
  34. Earle CC, Neville BA, Landrum MB, Souza JM, Weeks JC, Block SD, Grunfeld E, Ayanian JZ. Evaluating claims-based indicators of the intensity of end-of-life cancer care. *International Journal of Quality in Health Care*. 2005;17:505-509.
  35. Keating NL, Norredam M, Landrum MB, Huskamp H, Meara ER. Physical and mental health status of older long-term cancer survivors. *Journal of the American Geriatric Society*. 2005;53:2145-2152.

36. Keating, NL Landrum, MB Guadagnoli, E Winer, EP Ayanian, JZ. Factors related to underuse of surveillance mammography among breast cancer survivors. *Journal of Clinical Oncology*. 2006;24:85-94.
37. Keating NL, Landrum MB, Meara E, Ganz PA, Guadagnoli E. Managed care market share and primary treatment for cancer. *Health Services Research*. 2006;41:9-22.
38. Keating NL, Landrum MB, Guadagnoli E, Winer EP, Ayanian JZ. Surveillance testing among survivors of early-stage breast cancer. *Journal of Clinical Oncology*. 2007;25:1074-1081.
39. Keating NL, Landrum MB, Landon BE, Ayanian JZ, Borbas C, Guadagnoli E . The influence of cost containment strategies and physicians' financial arrangements on patients' trust and satisfaction. *Journal of Ambulatory Care Management*. 2007;30:92-104.
40. Busch AB, Huskamp HA, Landrum MB. Quality of care in a Medicaid population with bipolar I disorder. *Psychiatric Services*. 2007;58(6):848-854.
41. Huskamp HA, Deverka PA, Landrum MB, Epstein RS, McGuigan KA. The effect of three-tier formulary adoption on medication continuation and spending among elderly retirees. *Health Services Research*. 2007;42(5):1926-1942.
42. Hasnain-Wynia R, Baker DW, Nerenz D, Feinglass J, Beal AC, Landrum MB, Behal R, Weissman JS. Disparities in Health Care Driven by Where Minority Patient Seek Care: Examination of the Hospital Quality Alliance Measures. *Archives of Internal Medicine*. 2007;167:1233-1239.
43. Rosenthal MB, Landrum MB, Meara E, Huskamp HA, Conti RM, Keating NL. Using performance data to identify preferred hospitals. *Health Services Research*. 2007;42:2109-2119.
44. Keating NL, Landrum MB, Guadagnoli E, Winer EP, Ayanian JZ. Care in the months before death and hospice enrollment among women with advanced breast cancer. *J Gen Intern Med*. 2008;23(1):11-18.
45. Landrum MB, Meara E, Chandra A, Guadagnoli E, Keating NL. Is spending more always wasteful? The appropriateness of care and outcomes among colorectal cancer patients. *Health Affairs*. 2008;27(1):159-168.
46. Keating NL, Landrum MB, Klabunde CN, Fletcher RH, Rogers SO, Doucette WR, Tisnado D, Clauser S, Kahn KL. Adjuvant chemotherapy for stage III colon cancer: do physicians agree about the importance of patient age and comorbidity? *J Clin Oncol*. 2008;26(15):2532-2537.
47. Earle CC, Landrum MB, Souza JM, Neville BA, Weeks JC, Ayanian JZ. Review series (Quality): The aggressiveness of cancer care near the end of life: Is it a quality of care issue? *J Clin Oncol*. 2008;26(23):3860-3866.

### **Proceedings of Meetings**

1. Cutler DM, Huckman RS, Landrum MB. The role of information in medical markets: An analysis of publicly reported outcomes in cardiac surgery. In: *Papers and Proceedings; American Economic Review*;2004. p. 342-346.

2. Li, F, Zaslavsky, A, Landrum, MB. Propensity score analysis with hierarchical data. In: Proceedings of the Joint Statistical Meetings; Alexandria, VA: American Statistical Association;2007. p. .

### **Books, Monographs, and Textbooks**

1. Landrum MB, Normand SL. Developing and applying medical practice guidelines following acute myocardial infarction: A case study using Bayesian probit and logit models. In: Generalized Linear Model: A Bayesian Perspective. New York: Marcel Dekker;2000. p. 36-52. (Dey DK, Ghosh SK, Mallick BK, eds.)
2. Cutler, DM Landrum, MB Stewart, KA. Intensive medical care and cardiovascular disease disability reductions. In: Health in Older Ages: The Causes and Consequences of Declining Disability Among the Elderly. Forthcoming Chicago IL: University of Chicago;2007. (Wise DA, Cutler DM, eds.)
3. Landrum MB, Stewart KA, Cutler DM. Heterogeneity in the clinical pathways to disability. In: Health in Older Ages: The Causes and Consequences of Declining Disability Among the Elderly. Forthcoming Chicago IL: University of Chicago;2007. (Wise DA, Cutler DM, eds.)
4. Cutler, DM Landrum, MB Stewart, KA. How do the better educated do it? Socioeconomic status and the ability to cope with underlying impairment. In: In Developments in the Economics of Aging. Forthcoming Chicago, IL: University of Chicago;2007. (Wise, DA ed..)