## Peter J. Pronovost, M.D., Ph.D., F.C.C.M.

The Johns Hopkins University School of Medicine Curriculum Vitae

2005

## DEMOGRAPHIC INFORMATION Current Appointments

Associate Professor, Department of Anesthesiology and Critical Care Medicine The Johns Hopkins University School of Medicine, Baltimore, Maryland

Associate Professor, Department of Surgery
The Johns Hopkins University School of Medicine, Baltimore, Maryland

Associate Professor, Department of Health Policy and Management The Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland

Associate Professor, Department of Nursing The Johns Hopkins University School of Nursing, Baltimore, Maryland

Director, Division of Adult Critical Care Medicine The Johns Hopkins University School of Medicine, Baltimore, Maryland

Core Faculty, Program for Medical Technology & Practice Assessment The Johns Hopkins University School of Medicine, Baltimore, Maryland

Co-Director, Graduate Seminar in Health Care Management and Leadership Department of Health Policy and Management The Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland

### **Personal Data**

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## **Education and Training**

1983-1987	B.S.	Biology/Philosophy	Fairfield University, Fairfield, CT
1987-1991	M.D.	Medicine	Johns Hopkins University, Baltimore, MD
1991-1992	Intern	Emergency Medicine	Johns Hopkins University, Baltimore, MD
1992-1995	Resident	Anesthesiology & Critical (	Care Medicine Johns Hopkins Hospital, Baltimore, MD
1994-1996	Fellow	Critical Care Medicine	Johns Hopkins Hospital, Baltimore, MD
1997	Certificate	The Business of Medicine	Johns Hopkins University, Baltimore, MD
1997	Certificate	Organizational Learning	Massachusetts Institute of Technology, Boston, MA
1997-1999	Ph.D.	Clinical Investigation	The Johns Hopkins School of Hygiene and Public Health
			Baltimore, Maryland

# **Professional Experience**

1997 - 1998	Instructor, Department of Surgery, Johns Hopkins University School of Medicine Baltimore, MD
1997 – 1998	Instructor, Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University
	School of Medicine, Baltimore, MD
1998-present	Core Faculty, Program for Medical Technology School of Medicine and Practice Assessment
-	Johns Hopkins University School of Medicine, Baltimore, MD

1998 - 2001	Assistant Professor, Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University
	School of Medicine, Baltimore, MD

- 1998 2001 Assistant Professor, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
- 1998 2001 Assistant Professor, Department of Surgery, Johns Hopkins University School of Medicine, Baltimore
- 2001-present Faculty, Institute for Health Care Improvement, Boston, Massachusetts
- 2001-present Associate Professor, Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University School of Medicine, Baltimore, MD
- 2001-present Associate Professor, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
- 2001-present Associate Professor, Department of Surgery, Johns Hopkins University School of Medicine, Baltimore,
- 2003- 2005 Associate Professor, Department of Nursing, Johns Hopkins University School of Nursing, Baltimore 2004 present Co-Director, Cardiac Surgical Intensive Care Unit, Johns Hopkins University School of Medicine,
- 2004 present Co-Director, Cardiac Surgical Intensive Care Unit, Johns Hopkins University School of Medicine, Baltimore, MD
- 2005 present Professor, Department of Nursing, Johns Hopkins University School of Nursing, Baltimore, MD

#### RESEARCH ACTIVITIES

#### **Publications**

## Peer-reviewed original research articles

- 1. Swoboda S, Castro JA, Earsing KA, Lipsett PA and the SICU Study Group (Breslow MJ, Dorman T, Rosenfeld B, Campbell K, **Pronovost P**, Dodd-o J). Road trips and resources: there is a better way. *Crit Care.* (*Lond*) 1997; 1(3):105-10.
- 2. **Pronovost PJ**, Kazandijan VA. A new learning environment: combining clinical research with quality improvement. *J Eval Clin Pract*. 1999; 5(1):33-40.
- 3. **Pronovost PJ**, Jenckes MW, Dorman T, Garrett E, Breslow MJ, Rosenfeld BA, Lipsett PA, Bass E. Organizational characteristics of intensive care units related to outcomes of abdominal aortic surgery. *JAMA*. 1999; 281(14):1310-17.
- 4. **Pronovost P**, Angus DC. Using large-scale databases to measure outcomes in critical care. *Crit Care Clin.* 1999; 15(3):615-31.
- 5. **Pronovost P**, Dorman T, Sadovnikoff N, Garrett E, Breslow M, Rosenfeld B. The association between preoperative patient characteristics and both clinical and economic outcomes after abdominal aortic surgery. *J Cardiothorac Vasc Anesth.* 1999; 13(5):549-54.
- 6. **Pronovost P**, Angus DC: Determining the value of critical care. *Clin Pulm Med.* 1999; 6(5):302-8.
- 7. **Pronovost P**, Angus D, Miller M. Design consideration in clinical trials on acutely ill patients. *Res Pract*. 2000; 1:47-54.
- 8. Dorman T, Breslow MJ, **Pronovost PJ**, Rock P, Rosenfeld BA. Bundle-branch block as a risk factor in non-cardiac surgery. *Arch Intern Med.* 2000; 160(8):1149-52.
- 9. Lipsett P, Swoboda S, Dickerson J, Yitalo M, Gordon T, Breslow M, Campbell K, Dorman T, **Pronovost P**, Rosenfeld B. Survival and functional outcome after prolonged ICU care. *Ann Surg.* 2000; 231(2):262-68.
- 10. **Pronovost PJ**, Morlock L, Davis RO, Cunningham T, Paine L, Scheulen J. Using online and offline change models to improve ICU access and revenues. *Jt Comm J Qual Improv*. 2000; 26(1):5-17.
- 11. **Pronovost P**, Angus DC. Cost reduction and quality improvement: it takes two to tango. *Crit Care Med.* 2000; 28(2):581-83.
- 12. Berenholtz S, **Pronovost P**, Dorman T. Evidence-based Anesthesiology. Curr Anesthesiology Rep. 2000;2:425-31
- 13. Rosenfeld BA, Dorman T, Breslow MJ, **Pronovost P**, Jenckes M, Zhang N, Anderson G, Rubin H. Intensive care unit telemedicine: alternate paradigm for providing continuous intensivist care. *Crit Care Med.* 2000; 28(12):3925-31.
- 14. Docimo AB, **Pronovost PJ**, Davis RO, Concordia EB, Gabrish CE, Adessa MS, Bessman E. Using the online and offline change model to improve efficiency for fast-track patients in an emergency department. *Jt Comm J Qual Improv.* 2000; 26(9):503-14.
- 15. Amaravadi RK, Dimick JB, **Pronovost PJ**, Lipsett PA. ICU nurse-to-patient ratio is associated with complications and resource use after esophagectomy. *Intensive Care Med.* 2000; 26(12):1857-62.

16. Lipsett PA, Swoboda SM, Campbell KA, Cornwell E 3rd, Dorman T, **Pronovost PJ**. Sickness Impact Profile Score versus a Modified Short Form survey for functional outcome assessment: acceptability, reliability, and validity in critically ill patients with prolonged intensive care unit stays. *J Trauma*. 2000; 49(4):737-43.

- 17. Lipsett PA, Swoboda SM, Dickerson J, Ylitalo M, Gordon T, Breslow M, Campbell K, Dorman T, **Pronovost P**, Rosenfeld B. Survival and functional outcome after prolonged intensive care unit stay. *Ann Surg.* 2000; 231(2):262-68.
- 18. Dimick JB, **Pronovost PJ**, Heitmiller RF, Lipsett PA. Intensive care unit physician staffing and hospital volume are related to improved outcomes for esophageal resection. *Surg Forum*. 2000; 51(L1):493-95.
- 19. **Pronovost PJ**, Williams MA. Telemedicine and end-of-life care: what's wrong with this picture? *J Clin Ethics*. 2001; 12(1):64-8.
- 20. **Pronovost P**, Angus DC. Economics of end-of-life care in the intensive care unit. *Crit Care Med.* 2001; 29(2 Suppl):N46-51.
- 21. Dimick JB, Cattaneo S, Lipsett PA, **Pronovost PJ**, Heitmiller RJ. Hospital volume is related to clinical and economic outcomes of esophageal resection in Maryland. *Ann Thorac Surg.* 2001; 72(2):334-39.
- 22. **Pronovost PJ**, Berenholtz SM, Dorman T, Merritt WT, Martinez EA, Guyatt GH. Evidence-based medicine in anesthesiology. *Anesth Analg.* 2001; 92(3):787-94.
- 23. Dimick JD, **Pronovost PJ**, Heitmiller RF, Lipsett PA. Intensive care unit physician staffing is associated with decreased length of stay, hospital costs, and complications after esophageal resection. *Crit Care Med.* 2001; 29(4):753-58.
- 24. **Pronovost PJ**, Dang D, Dorman T, Lipsett PA, Garrett EA, Jenckes M, Bass EB. Intensive care unit nurse staffing and the risk for complications after abdominal aortic surgery. *Eff Clin Pract*. 2001; 4(5):199-206.
- 25. Akinci SB, **Pronovost P**, Dorman T. Sequential compression devices can cause erroneous cardiac output measurements. *Anesthesiology*. 2001; 95(4):1027-28.
- 26. Berenholtz S, **Pronovost P**, Lipsett P, Dawson P, Dorman T. Assessing the effectiveness of critical pathways on reducing resource utilization in the surgical intensive care unit. *Intensive Care Med.* 2001; 27(6):1029-36.
- 27. **Pronovost PJ**, Miller MR, Dorman T, Berenholtz SM, Rubin H. Developing and implementing measures of quality of care in the intensive care unit. *Curr Opin Crit Care*. 2001; 7(4):297-03.
- 28. **Pronovost PJ**, Waters H, Dorman T. Impact of critical care physician workforce for intensive care unit physician staffing. *Curr Opin Crit Care*. 2001; 7(6):456-59.
- 29. Dimick JB, **Pronovost PJ**, Upchurch GR Jr. The volume-outcome effect for abdominal aortic surgery: difference in case-mix or complications? *Surg Forum.* 2001; 52(LII):483-85.
- 30. **Pronovost P**, Garrett E, Dorman T, Jenckes M, Webb III TH, Breslow M, Rosenfeld B, Bass E. Variation in complication rates and opportunities for improvement in quality of care for patients having abdominal aortic surgery. *Langenbecks Arch Surg.* 2001; 386(4):249-56.
- 31. Dimick JB, Swoboda SM, **Pronovost PJ**, Lipsett PA. Effect of nurse-to-patient ratio in the intensive care unit on pulmonary complications and resources use after hepatectomy. *Am J Crit Care*. 2001; 10(6):376-82.
- 32. Rubin HR, **Pronovost P**, Diette GB. From a process of care to a measure: the development and testing of a quality indicator. *Int J Qual Health Care*. 2001; 13(6):489-96.
- 33. Dimick JB, **Pronovost PJ**, Lipsett PA. The effect of ICU physician staffing and hospital volume on outcomes after hepatic resection. *J Intensive Care Med*. 2002; 17:41-7.
- 34. Randolph AG, **Pronovost P**. Reorganizing the delivery of intensive care could improve efficiency and save lives. *J Eval Clin Pract.* 2002; 8(1):1-8.
- 35. Berenholtz SM, **Pronovost PJ**, Mullany D, Garrett E, Ness PM, Dorman T, Klag MJ. Predictors of transfusion for spinal surgery in Maryland 1997-2000. *Transfusion*. 2002; 42(2):183-89.
- Dang D, Johantgen ME, **Pronovost PJ**, Jenckes, MW, Bass, EB. Post-operative complications: does intensive care unit staff nursing make a difference? *Heart Lung*. 2002; 31(3):219-28.
- 37. Wu CL, Berenholtz SM, **Pronovost PJ**, Fleisher LA. Systematic review and analysis of postdischarge symptoms after outpatient surgery. *Anesthesiology*. 2002; 96(4):994-1003.
- 38. Weller JF, Elliott RA, **Pronovost PJ**. Spinal anesthesia for a patient with familial hyperkalemic periodic paralysis. *Anesthesiology*. 2002; 97(1):259-60.
- 39. Berenholtz SM, Dorman T, Ngo K, **Pronovost PJ**. Qualitative review of intensive care unit quality indicators. *J Crit Care*. 2002; 17(1):1-12.
- 40. Dimick JB, **Pronovost PJ**, Cowan JA, Ailawadi G, Upchurch GR Jr. The volume-outcome effect for abdominal aortic surgery: differences in case-mix or complications? *Arch Surg.* 2002; 137(7):828-32.

41. Darer J, **Pronovost P**, Bass EB. Use and evaluation of critical pathways in hospitals. *Eff Clin Pract.* 2002; 5(3):114-19.

- 42. Wu A, **Pronovost P**, Morlock L. ICU incident reporting systems. *J Crit Care*. 2002; 17(2):86-94.
- 43. Kaufmann SC, Wu CL, **Pronovost PJ**, Jermyn RM, Fleisher LA. The association of intraoperative neuraxial anesthesia on anticipated admission to the intensive care unit. *J Clin Anesth.* 2002; 14(6):432-36.
- 44. Nilsson KR, Berenholtz SM, Dorman T, Garrett E, Lipsett P, Kaufman HS, **Pronovost PJ**. Preoperative predictors of blood transfusion in colorectal cancer surgery. *J Gastrointest Surg.* 2002; 6(5):753-62.
- 45. **Pronovost PJ**, Jenckes M, To M, Dorman T, Lipsett PA, Berenholtz S, Bass EB. Reducing failed extubations in the intensive care unit. *Jt Comm J Qual Improv.* 2002; 28(11):595-604.
- 46. Kim LJ, Martinez EA, Faraday N, Dorman T, Fleisher LA, Perler BA, Williams GM, Chan D, **Pronovost PJ**. Cardiac troponin I predicts short-term mortality in vascular surgery patients. *Circulation*. 2002; 106(18):2366-71.
- 47. **Pronovost PJ**, Angus DC, Dorman T, Robinson KA, Dremsizov TT, Young TL. Physician staffing patterns and clinical outcomes in critically ill patients: a systematic review. *JAMA*. 2002; 288(17):2151-62.
- 48. Martinez EA, **Pronovost P**. Perioperative beta-blockers in high-risk patients. *J Crit Care*. 2002; 17(2):105-13.
- 49. Dorman T, **Pronovost**, **PJ**. Intensive care unit errors: Detection and reporting to improve outcomes. *Curr Opin Anaesth*. 2002; 15(2):147-51.
- 50. Dimick JB, **Pronovost PJ**, Cowan JA Jr, Lipsett PA. Postoperative complication rates after hepatic resection in Maryland hospitals. *Arch Surg.* 2003; 138(1):41-6.
- 51. Angus DC, Carlet J, **2002 Brussels Roundtable Participants**. Surviving intensive care: a report from the 2002 Brussels Roundtable. *Intensive Care Med.* 2003; 29(3):368-77.
- 52. Dimick JB, **Pronovost PJ**, Cowan JA, Lipsett PA. Surgical volume and quality of care for esophageal resection: do high-volume hospitals have fewer complications? *Ann Thorac Surg.* 2003; 75(2):337-41.
- 53. Rockeymoore MB, Holzmueller CG, Milstein A, Dorman T, **Pronovost PJ**. Updating the Leapfrog Group Intensive Care Unit Physician Staffing Standard. *J Clin Outcomes Manag*. 2003; 10(1):31-7.
- 54. Dy SM, Garg PP, Nyberg D, Dawson PB, **Pronovost PJ**, Morlock L, Rubin HR, Diener-West M, Wu AW. Are Critical Pathways Effective for Reducing Postoperative Length of Stay? *Med Care*. 2003; 41(5):637-48.
- 55. Beckmann U, Bohringer C, Carless R, Gillies DM, Runciman WB, Wu AW, **Pronovost P**. Evaluation of two methods for quality improvement in intensive care: facilitated incident monitoring and retrospective medical chart review. *Crit Care Med.* 2003; 31(4):1006-11.
- 56. Dimick JB, **Pronovost PJ**, Cowan JA, Lipsett PA. Complications and costs after high-risk surgery: where should we focus quality improvement initiatives? *J Am Coll Surg*. 2003; 196(5):671-78.
- 57. Berenholtz S, Dorman T, **Pronovost PJ**. Improving Quality and Safety in the ICU. *Contemp Crit Care*. 2003; 1(1):1-9.
- 58. Martinez EA, Kim LJ, Faraday N, Rosenfeld B, Bass EB, Perler BA, Williams GM, Dorman T, **Pronovost PJ**. Sensitivity of Routine Intensive Care Unit Surveillance for Detecting Myocardial Ischemia. *Crit Care Med*. 2003; 31(9):2302-2308.
- 59. Berenholtz SM, **Pronovost PJ**. Barriers to translating evidence into practice. *Curr Opin Crit Care*. 2003; 9(4):321-25.
- 60. Kozlow JH, Berenholtz SM, Garrett E, Dorman T, **Pronovost PJ**. Epidemiology and Impact of Aspiration Pneumonia in Patients Undergoing Surgery in Maryland, 1999-2000. *Crit Care Med*. 2003; 31(7):1930-37.
- 61. **Pronovost PJ**, Berenholtz SM, Ngo K, McDowell M, Holzmueller CG, Haraden C, Resar R, Rainey T, Nolan T, Dorman T. Developing and Pilot Testing Quality Indicators in the Intensive Care Unit. *J Crit Care*. 2003; 18(3):145-55.
- 62. Dimick JB, **Pronovost PJ**, Cowan JA Jr, Lipsett PA, Stanley JC, Upchurch GR Jr. Variation in postoperative complication rates after high-risk surgery in the United States. *Surgery*. 2003; 134(4):534-40.
- 63. Dimick JB, Cowan JA Jr, Stanley JC, Henke PK, **Pronovost PJ**, Upchurch GR Jr. Surgeon specialty and provider volumes are related to outcome of intact abdominal aortic aneurysm repair in the United States. *J Vas Surg.* 2003; 38(4):739-44.
- 64. **Pronovost P**, Berenholtz S, Dorman T, Lipsett PA, Simmonds T, Haraden C. Improving communication in the ICU using daily goals. *J Crit Care*. 2003; 18(2):71-5.
- 65. Newhouse RP, Mills ME, Johantgen M, **Pronovost PJ**. Is there a relationship between service integration and differentiation and patient outcomes? *Int J Integr Care*. 2003; 3:e15. King S, **Pronovost PJ**. Rekindling the central fire: Stories can change your life. *J Innov Manag*. 2003; 8(4):66-80.

66. **Pronovost PJ**, Weast B, Holzmueller, CG, Rosenstein BJ, Kidwell RP, Haller KB, Feroli ER, Sexton JB, Rubin HR. Evaluation of the culture of safety: survey of clinicians and managers in an academic medical center. *Qual Saf Health Care* 2003; 12(6):405-10.

- 67. **Pronovost PJ**, Weast B, Schwarz M, Wyskiel RM, Prow D, Milanovich SN, Berenholtz S, Dorman T, Lipsett P. Medication Reconciliation: A practical tool to reduce the risk of medication errors. *J Crit Care*. 2003;18(4):201-5
- 68. Dimick JB, **Pronovost PJ**, Cowan JA Jr, Wainess RM, Upchurch GR Jr. Should older patients be selectively referred to high-volume center for abdominal aortic surgery? *Vascular*. 2004;12(1):51-6.
- 69. Miller MR, **Pronovost PJ**, Burstin HR. Pediatric patient safety in the ambulatory setting. *Ambul Pediatr*. 2004; 4(1):47-54.
- 70. **Pronovost PJ**, Weast B, Bishop K, Paine L, Griffith R, Rosenstein BJ, Kidwell RP, Haller KB, Davis R. Patient Safety Senior Executive Adopt-a-Work Unit: A Model for Safety Improvement. *Jt Comm J Qual Saf.* 2004; 30(2):59-68.
- 71. Erdek M, **Pronovost PJ**. Improving assessment and treatment of pain in the critically ill. *Int J Qual Health Care*. 2004; 16(1):59-64.
- 72. Berenholtz SM, Milanovich S, Faircloth A, Prow DT, Earsing K, Lipsett P, Dorman T, **Pronovost PJ**. Improving Care for the Ventilated Patient. *Jt Comm J Qual Saf.* 2004; 30(4):195-204.
- 73. **Pronovost PJ**, Needham DM, Waters H, Birkmeyer CM, Calinawan JR, Birkmeyer JD, Dorman T. Intensive Care Unit Physician Staffing: Financial modeling of the Leapfrog Standard. *Crit Care Med.* 2004; 32(6):1247-53.
- 74. **Pronovost P**, Hobson DB, Earsing K, Lins ES, Rinke ML, Emery K, Berenholtz SM, Lipsett PA, Dorman T. A Practical Tool to Reduce Medications Errors During patient Transfer from an Intensive Care Unit. *J Clin Outcomes Manag.* 2004; 11(1):26, 29-33.
- 75. Chan MY, **Pronovost PJ**. Clinical utility of biomarkers in myocardial injury. *Curr Opin Anaesthesiol*. 2004; 17(1):49-55.
- 76. Lubomski LH, **Pronovost PJ**, Thompson DA, Holzmueller CG, Dorman T, Morlock LL, Dickman F, Fahey M, Wu, AWW. Building a better incident reporting system: Perspectives from a multi-site project. *J Clin Outcomes Manag.* 2004; 11(5):275-80.
- 77. **Pronovost PJ**, Wu AW, Sexton JB. Acute decompensation after removing a central line: practical approaches to increasing safety in the intensive care unit. *Ann Intern Med.* 2004; 140(12):1025-33.
- 78. Needham DM, Bronskill SE, Sibbald WJ, **Pronovost PJ**, Laupacis A. Mechanical ventilation in Ontario, 1992-2000: incidence, survival, and hospital bed utilization of noncardiac surgery adult patients. *Crit Care Med*. 2004; 32(7):1504-09.
- 79. Beckman U, Gillies DM, Berenholtz SM, Wu AW, **Pronovost P**. Incidents relating to the intra-hospital transfer of critically ill patients. An analysis of the reports submitted to the Australian Incident Monitoring Study in Intensive Care. *Intensive Care Med.* 2004; 30(8):1579-85.
- 80. **Pronovost PJ**, Thompson DA. Reducing defects in the use of interventions. *Intensive Care Med*. 2004; 30(8):1505-7.
- 81. **Pronovost PJ**, Rinke ML, Emery K, Dennison C, Blackledge C, Berenholtz SM. Interventions to reduce mortality among patients treated in Intensive Care Units. *J Crit Care*. 2004;19(3):158-64.
- 82. Paine LA, Baker DR, Rosenstein B, **Pronovost PJ**. The Johns Hopkins Hospital: Identifying and addressing risks and safety issues. *Jt Comm J Qual Saf.* 2004; 30(10):543-50.
- 83. Berenholtz SM, **Pronovost PJ**, Lipsett PA, Hobson D, Earsing K, Farley JE, Milanovich S, Garrett-Mayer E, Winters BD, Rubin HR, Dorman T, Perl TM. Eliminating catheter-related bloodstream infections in the intensive care unit. *Crit Care Med.* 2004; 32(10):2014-20.
- 84. Needham DM, Thompson DA, Holzmueller CG, Dorman T, Lubomski LH, Wu AW, Morlock LL, **Pronovost PJ**. A system factors analysis of airway events from the Intensive Care Unit Safety Reporting System (ICUSRS). *Crit Care Med*. 2004; 32(11):2227-33.
- 85. Faraday N, Martinez EA, Scharpf RB, Kasch-Semenza L, Dorman T, **Pronovost PJ**, Perler B, Gerstenblith G, Bray PF, Fleisher LA. Platelet gene polymorphisms and cardiac risk assessment in vascular surgical patients. *Anesthesiology*. 2004; 101(6):1291-97.
- 86. Shermock KM, Horn E, Lipsett PA, **Pronovost PJ**, Dorman T. Number needed-to-treat and cost of recombinant human erythropoietin to avoid one transfusion-related adverse event in critically ill patients. *Crit Care Med*. 2005; 33(3):497-503.

87. Needham DM, Bronskill SE, Calinawan JR, Sibbald WJ, **Pronovost PJ**, Laupacis A. Projected incidence of mechanical ventilation in Ontario to 2026: Preparing for the aging baby boomers. *Crit Care Med.* 2005; 33(3):574-79.

- 88. Wu AW, Holzmueller CG, Lubomski LH, Thompson DA, Fahey M, Dorman T, Morlock LL, Engineer L, Dickman F, Steinwachs DM, **Pronovost PJ**. Development of the ICU Safety Reporting System. *Journal of Patient Safety*. 2005; 1(1):23-32.
- 89. **Pronovost P**, Weast B, Rosenstein B, Sexton JB, Holzmueller CG, Paine L, Davis R, Rubin HR. Implementing and Validating a Comprehensive Unit-Based Safety Program. *Journal of Patient Safety*. 2005; 1(1):33-40.
- 90. Newhouse RP, Johantgen M, **Pronovost PJ**, Johnson E. Perioperative nurses and patient outcomes—mortality, complications, and length of stay. *AORNJ*. 2005; 31(5):508-509, 513-522, 525-28.
- 91. Holzmueller CG, **Pronovost PJ**, Dickman F, Thompson DA, Wu AW, Lubomski LH, Fahey M, Steinwachs DM, Engineer L, Jaffrey A, Morlock LL, Dorman T. Creating the Web-based Intensive Care Unit Safety Reporting System (ICUSRS). *J Am Med Inform Assoc*. 2005; 12(2):130-39.
- 92. **Pronovost P**, Goeschel C. Improving ICU care: It takes a team. *Healthc Exec*. 2005; 20(2):15-22.
- 93. Dy SM, Garg P, Nyberg D, Dawson PB, **Pronovost PJ**, Morlock L, Rubin H, Wu AW. Critical pathway effectiveness: Assessing the impact of patient, hospital care, and pathway characteristics using qualitative comparative analysis. *Health Serv Res.* 2005; 40(2):499-516.
- 94. Weiss ES, Makary MA, Wang T, Syin D, **Pronovost PJ**, Chang D, Cornwell EE 3rd. Prevalence of Blood-Borne Pathogens in an Urban, University-Based General Surgical Practice. *Ann Surg.* 2005; 241(5):803-807; discussion 807-09.
- 95. Needham DM, Dowdy DW, Mendez-Tellez PA, Herridge MS, **Pronovost PJ**. Studying outcomes of intensive care unit survivors: measuring exposures and outcomes. *Intensive Care Med*. 2005; 31(9):1153-60.
- 96. Dowdy DW, Needham DM, Mendez-Tellez PA, Herridge MS, **Pronovost PJ**. Studying outcomes of intensive care unit survivors: the role of the cohort study. *Intensive Care Med*. 2005; 31(7):914-921.
- 97. Dowdy DW, Eid MP, Sedrakyan A, Mendez-Tellez PA, **Pronovost PJ**, Herridge MS, Needham DM. Quality of life in adult survivors of critical illness: A systematic review of the literature. *Intensive Care Med.* 2005; 31(5):611-20.
- 98. Resar R, **Pronovost P**, Simmonds T, Rainey T, Nolan T. Using a Bundle Approach to Improve ventilator care processes and observations on ventilator-associated pneumonia. *Jt Comm J Qual Patient Saf.* 2005; 31(5):243-48.
- 99. Needham DM, Scales DC, Laupacis A, **Pronovost PJ**. A systematic review of the Charlson Comorbidity Index using Canadian administrative databases: A perspective on risk adjustment in critical care research. *J Crit Care*. 2005; 20(1):12-9.
- 100. **Pronovost PJ**, Thompson DA, Holzmueller CG, Dorman T, Rudolph BA. Evaluating the impact of the Leapfrog Group's standard for intensive care unit physician staffing. *Semin Anesth Perioper Med Pain*. 2005; 24:50-8.
- 101. Miller MR, **Pronovost P**, Donithan M, Zeger S, Zhan C, Morlock L, Meyer G. Relationship between performance measurement and accreditation: implications for quality of care and patient safety. *Am J Med Qual*. 2005; 20(5):239-52.
- 102. Burda S, Hobson D, **Pronovost PJ**. What is the patient really taking? Discrepancies between surgery and anesthesiology preoperative medical histories. *Qual Saf Health Care*. 2005; 14(6):414-6.

### **Inventions, patents, copyrights:**

Copyright: 6/21/04 Short Term Goals Form to Manage Daily Work of Patient Care (Daily Goals©)

## **Extramural Sponsorship**

### **Current Grants**

9/30/01 – 8/31/05 ICU Safety Reporting System (ICUSRS)

1U18HS11902

Agency for Health Care Research and Quality

Role: PI; 25%

Long-Term Outcomes of Specific Ventilator Strategies (SCCOR: Ventilator Associated Lung 7/1/03 - 6/30/09Injury: Molecular Approaches) P50HL0739994 NIH/ NHLBI Role: PI; 15% 9/30/03 - 9/29/05Statewide Efforts to Improve Care in Intensive Care Units 1UC1HS014246 Agency for Health Care Research and Quality Role: PI: 20% 5/1/04 - 5/31/05New Jersey Hospital Association Collaborative to Improve Quality and Patient Safety in the ICU New Jersey Hospital Association Role: PI; 10% Assessing Climate across Ascension System 6/25/04 - 6/24/06Ascension Health System Role: Co-Investigator, 2% 9/23/04 - 9/17/07Multidisciplinary Clinical Research Career Development 1 K12 HD049104 NIH/NICHD Role: Mentor, 1% 12/04 - 12/09Long-Term Outcomes of Specific Ventilator Strategies M01-RR00052 Johns Hopkins University School of Medicine General Clinical Research Center Grant, National Center for Research Resources/National Institutes of Health Role: PI; None \* (\*funding provided project testing-related expenses in the GCRC) 4/14/05 - 6/30/07Research and Publication Agreement U.S. Pharmacopeia (MEDMARX Project) Role: Co-Investigator, 8% **Pending** 1/01/06 - 6/30/09Preventable Mortality in Maryland Medicaid SMI 1 R01-MH074070-01A1 National Institute of Mental Health Role: Co-Investigator, 3% **Previous Grants** 7/1/98 - 6/30/99Reducing the rate of failed extubation in the ICU MCIC Vermont, Inc. Role: PI; 25% 7/1/99 - 6/30/00Evidence-based Review of Chronic Regional Pain Syndromes Reflex Dystrophy Syndrome Research Fellowship Role: Mentor, % N/A Impact of Critical Pathways on Reportable Adverse Events and Liability Claims Experience 9/1/99 - 8/31/00MCIC Vermont, Inc. Role: Co-Investigator; 10%

Reducing Bacteremias by Improving the Use of Central Venous Catheters

Johns Hopkins University Clinician Scientist Award

Role: PI: 75%

7/1/00 - 6/30/02

8/1/02 – 1/31/04 Evaluating the Impact of the Leapfrog Group's Standard for Intensive Care Unit Physician Staffing

20020637

The Commonwealth Fund

Role: PI; 15%

6/16/03 – 12/31/04 Develop Measures of the Quality of Sepsis Care

6152344

VHA Foundation, Inc.

Role: PI; 10%

### Research Program Building/Leadership

this section was not required at the time of Dr Pronovost's promotion

#### **EDUCATIONAL ACTIVITIES**

## Educational Publications Peer-reviewed articles

- 1. Hanson CW 3<sup>rd</sup>, Durbin CG Jr, Maccioli GA, Deutschman CS, Sladen RN, **Pronovost PJ**, Gattinoni L. The anesthesiologist in critical care medicine: past, present, and future. *Anesthesiology*. 2001; 95(3):781-8.
- 2. **Pronovost PJ,** Angus DC: Cost reduction and quality improvement. It takes two to tango. *Crit Care Med.* 2000; 28(2):581-3.
- 3. **Pronovost PJ**. Reductions in postoperative mortality with regional anesthesia. ACP J Club. 2001; 135(1):1.
- 4. Rubin HR, **Pronovost P**, Diette GB. The advantages and disadvantages of process-based measures of health care quality. *Int J Qual Health Care*. 2001; 13(6):469-74.
- 5. **Pronovost PJ**, Wu AW, Dorman T, Morlock L. Building safety into ICU care. *J Crit Care*. 2002; 17(2):78-85.
- 6. Dennison CR, **Pronovost P**. The Johns Hopkins Hospital Comprehensive Patient Safety Program: An Overview. *Int Nurs Rev*, Japanese edition. 2003; 26(4):42-6.
- 7. **Pronovost PJ**, Nolan T, Zeger S, Miller M, Rubin H. How can clinicians measure safety and quality in acute care? *Lancet*. 2004; 363(9414):1061-67.
- 8. **Pronovost PJ**, Holzmueller CG. Partnering for quality. *J Crit Care*. 2004 Sep;19(3):121-9.
- 9. Levy MM, **Pronovost PJ**, Dellinger RP, Townsend S, Resar RK, Clemmer TP, Ramsay G. Sepsis change bundles: Converting guidelines into meaningful change in behavior and clinical outcome. *Crit Care Med.* 2004; 32(11):S595-7.
- 10. **Pronovost PJ**. An interview with Peter Pronovost. *Jt Comm J Qual Saf*. 2004; 30(12):659-64.
- 11. Needham DM, Pronovost PJ. Affordable health care. Crit Care Med. 2004; 32(12):2564.
- 12. **Pronovost PJ**, Thompson DA, Holzmueller CG, Lubomski LH, Morlock LL. Defining and measuring patient safety. *Crit Care Clin*. 2005; 21(1):1-19.
- 13. Thompson D, Holzmueller C, Hunt D, Cafeo C, Sexton B, **Pronovost P**. A morning briefing: setting the stage for a clinically and operationally good day. *Jt Comm J Qual Patient Saf.* 2005; 31(8):476-9.
- 14. Needham DM, Sinopoli DJ, Thompson DA, Holzmueller CG, Dorman T, Lubomski LH, Wu AW, Morlock LL, Makary MA, **Pronovost PJ**. A system factors analysis of "line, tube, and drain" incidents in the intensive care unit. *Crit Care Med*. 2005; 33(8):1701-7.
- 15. Thompson DA, Lubomski L, Holzmueller C, Wu A, Morlock L, Fahey M, Dickman F, Dorman T, **Pronovost P**. Integrating the intensive care unit safety reporting system with existing incident reporting systems. *Jt Comm J Qual Patient Saf.* 2005; 31(10):585-93.

## **Invited Reviews, Editorials:**

- Pronovost PJ, Berenholtz S. Invited commentary on: A multicenter, randomized, controlled clinical of transfusion requirements in critical care. *J Club Crit Care Assem Amer Thorac Soc*. June 1999; www.thoracic.org/assemblies/cc/club30501.html.
- 2. **Pronovost PJ**. Invited commentary on: A qualitative study of increasing beta-blocker use after myocardial infarction: Why do some hospitals succeed? *J Club Crit Care Assem Amer Thorac Soc*, May 2001; www.thoracic.org/assemblies/cc/club30501.html
- 3. **Pronovost PJ**. Invited commentary on: Review: epidural or spinal anesthesia reduces post-operative mortality and morbidity. *ACP J Club*. 2001; 135:1.
- 4. **Pronovost PJ**. Invited commentary on: Teaching critical appraisal skills has attitudinal and skill benefits but

- evidence about effects on health outcomes is unclear. Evid Based Healthc. 2001; 5:107.
- 5. Berenholtz SM, **Pronovost PJ**. Invited commentary on: Effect of treatment with low doses of hydrocortisone and fludrocortisone on mortality in patients with septic shock. J Club Crit Care Assem Am Thorac Soc. 2002 Aug; <a href="https://www.thoracic.org/assemblies/cc/ccjcframe.html">www.thoracic.org/assemblies/cc/ccjcframe.html</a>

#### **Editorials**

- 1. **Pronovost P.** Quality corner: A section in the Journal of Critical Care devoted to improve quality and safety. *J Crit Care.* 2003; 18(1):1-2.
- 2. Wu A, **Pronovost P.** Telling Patients the Truth. *Health Affairs*. (Millwood). 2003; 22(3):249; author reply 249.
- 3. **Pronovost P.** Readers dispute hepatitis facts. *Radiol Technol*. 2003; 75(2):166; author reply 166.
- 4. Needham DM, **Pronovost PJ**. The importance of understanding the costs of critical care and mechanical ventilation. *Crit Care Med*. 2005; 33(6):1434-35.
- 5. **Pronovost PJ,** Sexton B. Assessing safety culture: guidelines and recommendations. *Qual Saf Health Care*, 2005; 14:231-3.

### **Book Chapters and Monographs**

- 1. **Pronovost P**, Breslow M. Perioperative monitoring. In: *Current Surgical Therapy*, Sixth Edition, Cameron JL (ed). Philadelphia: Mosby-Year Book, Inc., 1998; 1075-1078.
- 2. Hamlin M, **Pronovost P**. Pathophysiology and interpretation of gas exchange and gas transport. In: *Study Guide* 2000. *Emergency Medicine*, *A comprehensive study guide*. 5<sup>th</sup> ed., (Tintinalli JE, Kelen GD, Stapczynski JS, eds). New York: McGraw Hill, 1998.
- 3. Martinez E, **Pronovost PJ.** Evidence-based anesthesiology. In: *Evidence-Based Surgery*. Gordon TA, Cameron JL (eds) C Decker Inc. Hamilton Ontario, Canada, 1999.
- 4. **Pronovost P**, Angus DC. Evidence-based critical care. In: *Evidence-Based Medicine: How to practice and teach EBM* (2<sup>nd</sup> Ed). Sackett DL, Richardson WS, Rosenberg W, Haynes RB (eds). Edinburgh: Churchill Livingstone, 1999.
- 5. **Pronovost P,** Angus DC. The economics of death in the ICU. In: *Managing Death in the Intensive Care Unit: the Transition from Cure to Comfort.* Curtis JR, Rubenfeld GD (eds). Oxford University Press: New York, 2000.
- 6. Angus DC, **Pronovost P**. Hypothesis generation: Asking the right question, getting the correct answer. In: *Update in Intensive Care and Emergency Medicine*. Sibbald WJ, Bion JE (eds), Vincent J-L (series ed), Springer-Verlag: Berlin, 2000; 167-184.
- 7. **Pronovost P**, Berenholtz S, Fleisher L. Evidence based anesthesiology. In: *Conducting research in anaesthesia and intensive care medicine*. Zbinden AM, Thomson D (eds) Butterworth-Heinemann, Boston, MA, 2001.
- 8. **Pronovost PJ**, Morlock L, Dorman T. Creating safe systems of ICU care. In *Year Book of Intensive Care and Emergency Medicine*, Vincent JL (ed), Springer Verlag: Berlin, 695-708, 2001.
- 9. **Pronovost PJ**, Morlock LL, Cassirier C, Malitz FE. Creating and maintaining safe systems of medical care: The role of risk management. In: *Clinical Risk Management*, (2<sup>nd</sup> edition). Charles Vincent (ed). British Medical Journal, 2001
- 10. Hartsell TL, **Pronovost P**. Cardiovascular Pharmacology. In: *Current Surgical Therapy*, 7<sup>th</sup> edition, John Cameron (ed), Mosby: St. Louis, 2001; 1302-1306.
- 11. **Pronovost PJ**, Berenholtz SM. A Practical Guide to Measuring Performance in the Intensive Care Unit. *VHA*, *Inc.* 2002 Research Series, Volume 2, Irving, Texas, 2002 <a href="https://www.vha.com/research/public/research\_icu.pdf">https://www.vha.com/research/public/research\_icu.pdf</a>
- 12. Berenholtz S, **Pronovost P**. Measuring Performance in the Intensive Care Unit. In: *Society of Critical Care Medicine* 7<sup>th</sup> Critical Care Refresher Course 2003. Zimmerman J (Editor), Society of Critical Care Medicine, Des Plaines, IL, 2003.
- 13. **Pronovost PJ**, Berenholtz SM. Improving Sepsis Care in the Intensive Care Unit: An Evidence-Based Approach. *VHA*, *Inc.* 2004 Research Series, Irving, Texas, 2004. https://www.vha.com/research/public/sepsis icu.pdf
- 14. Grogan K, **Pronovost P**. Blood Gases: Pathophysiology and Interpretation. In: *Emergency Medicine: A comprehensive study guide*, 6<sup>th</sup> edition, Tintinalli JE, Kelen GD, Stapczynski JS, McGraw Hill: NY, 2004;159-166.
- 15. Syin D, **Pronovost PJ**. Statistics. In: *General Surgery Review*, Martin A. Makary (ed), Ladner-Drysdale: Washington, DC, 2004; 373-385.
- 16. **Pronovost PJ**, Berenholtz S. Quality improvement. Chapter 81. In: Anesthesia, 6th ed., *In Miller RD* (ed), Elsevier, Inc., Philadelphia, PA, 2004.

17. Dimick JB, Efron DT, **Pronovost PJ**. Endocrine Changes with Critical Illness. In: *Current Surgical Therapy*. 8<sup>th</sup> edition, John Cameron (ed), Elsevier, Inc., Philadelphia, PA, 2004; 1174-1179.

- 18. **Pronovost PJ**, Miller M, Winters B, Hunt E. Measuring and improving safety. In: *Medical emergency teams: A guide to implementation and outcome measurement*, Devita M, Hillman KM, Bellomo R (eds). New York, Springer-Verlag, 2005.
- 19. **Pronovost PJ**, Rozovsky FA. Benchmarking: Evidence-Based outcome Information and Standards of Care. Chapter 6, pg 96. In: *The Handbook of Patient Safety Compliance: A Practical Guide for Health Care Organizations*, 1<sup>st</sup> ed., published by Jossey-Bass, A Wiley Imprint, San Francisco, California, 2005.

#### **Books**

1. Moen RD, **Pronovost PJ**. Quality Measurement – A Practical Guide for the ICU by HCPro, Inc., Copyright 2003 HCPro, Inc., Marblehead, MA.

#### Other Media

- 1. Video: "Intensive Care Unit Safety Reporting System (ICUSRS)"
- 2. Video: "From Rhetoric to Reality: Improving Patient Safety"

### **Teaching**

#### **Classroom Instruction**

- 2/98 "Leadership," Expert Panel, The Johns Hopkins Business of Medicine, Course Instructor
- 5/98 "Managed Care," Expert Panel, The Johns Hopkins Business of Medicine, Course Instructor
- 6/98 "Managing Health Services Organization: Improving Outcomes and Costs," The Summer Institute in Health Policy and Management, The Johns Hopkins School of Hygiene & Public Health, Course Instructor
- 9/98 "Managing Health Services Organization," Department of Health Policy and Management, The Johns Hopkins School of Hygiene & Public Health, Course Instructor
- 9/98 "Managed Care," Expert Panel, The Johns Hopkins Business of Medicine, Course Instructor
- 2/99 "Leadership and Organizational Behavior," Expert Panel, The Johns Hopkins Business of Medicine, Course Instructor
- 4/99 "Trends in Health Care, Managing Medicine in the 21<sup>st</sup> Century: Benchmarking and Other Quality Improvement Tools," The Johns Hopkins Medical Institutions, Course Instructor
- 6/99 "Managing Health Services Organization: Improving outcomes and cost," The Summer Institute in Health Policy and Management, The Johns Hopkins School of Hygiene & Public Health, Course Instructor
- 7/99 "Methods in Clinical Research," Welch Center, The Johns Hopkins University School of Medicine, Course Instructor
- 8/99 "Trends in Health Care, Managing Medicine in the 21<sup>st</sup> Century: "Benchmarking and Other Quality Improvement Tools," The Johns Hopkins Medical Institutions, Course Instructor
- 9/99 "Managing Health Services Organization," Department of Health Policy and Management, The Johns Hopkins School of Hygiene & Public Health, Course Instructor
- 6/00 "Managing Health Services Organization: Improving outcomes and cost," The Summer Institute in Health Policy and Management, The Johns Hopkins School of Hygiene & Public Health, Course Instructor
- 7/00 "Methods in Clinical Research," Welch Center, The Johns Hopkins School of Medicine, Course Instructor
- 9/00 "Managing Health Services Organization," Department of Health Policy and Management, The Johns Hopkins School of Hygiene & Public Health, Course Instructor
- 1/01 "Resuscitation Fluids: An Evidence-based Review," Fourth Year Medical Student Course: Rational Therapeutics, The Johns Hopkins University, Course Instructor
- 3/01 "Patient Safety Nets in the ICU," The United States Health Care System: Undergraduate Course in Health Policy, The Johns Hopkins University, Course Instructor
- 4/01 "Clinical Epidemiology," Medical Student Course, The Johns Hopkins University School of Medicine, Course Instructor
- 5/01 "Quality of ICU Care," Using Patient Outcomes to Improve Quality of Care. Department of Health Policy and Management, The Johns Hopkins Bloomberg School of Public Health, Course Instructor
- 5/01 "Quality of Care in ICUs," 4<sup>th</sup> quarter Course Lecture: Using Patient Outcomes to Improve the Quality of Health Care, The Johns Hopkins University School of Medicine, Course Instructor

6/01 "Managing Health Services Organizations," Fifth Annual Summer Institute in Health Policy and Management, The Johns Hopkins University, Course Co-Instructor

- 8/01 "Pragmatic Sciences in Quality Improvement," Quality Improvement in Health Care Update. Summer Course, Harvard School of Public Health, Course Instructor
- Spring/02 "Science of Clinical Investigation," Graduate Course in the Department of Epidemiology, The Johns Hopkins Bloomberg School of Public Health, Course Co-Instructor
- 3/02 "Development and Impact of Critical Care Medicine (ICUs)," Undergraduate Course Lecture: Introduction to Health Policy and Management, The Johns Hopkins Bloomberg School of Public Health, Course Instructor
- 2/04 "Patient Safety: From Rhetoric to Realty,," Department of Pediatric Emergency Medicine, The Johns Hopkins University School of Medicine, Course Instructor
- 4/04 "Evaluating Adverse Events," Resident Lecture, Department of Anesthesiology and Critical Care Medicine, The Johns Hopkins University School of Medicine, Course Instructor
- 8/04 "Developing Measures of Quality of Care," Methods in Clinical Research, Welch Center, The Johns Hopkins University School of Medicine, Course Instructor
- 1/05 "Patient Safety and Medical Errors," Winter Institute, Department of Health Policy and Management, The Johns Hopkins Bloomberg School of Public Health, Course Instructor
- 2/05 "Patient Safety: From Rhetoric to Reality," Hurd Hall, The Johns Hopkins University School of Medicine, Course Instructor
- 2/05 "Patient Safety: From Rhetoric to Realty,," Department of Pediatric Emergency Medicine, The Johns Hopkins University School of Medicine, Course Instructor
- Spring/05 "Improving Clinical and Economic Performance in Organizations," Graduate Seminar in Health Care Management and Leadership, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Co-Director and Course Instructor
- 5/05 "Finding Harmony Between Academic Research and Entrepreneurship," Johns Hopkins School of Nursing, Baltimore, MD, Course Instructor
- 7/05 "Developing Measures of Quality of Care," Methods in Clinical Research, Welch Center, The Johns Hopkins University School of Medicine, Course Instructor

### **Clinical Instruction**

July – June Surgical Intensive Care Unit (SICU): Attending physician in SICU, provided teaching to medical students, anesthesia and surgery residents, and critical care fellows

July – June Operative Anesthesia: Attending physician in operating room, provided teaching to medical students, anesthesia residents, and anesthesia fellows

#### **Continuing Medical Education Instruction**

- 10/99 "Fundamentals of Critical Care Provider Course," The Johns Hopkins University School of Medicine, Baltimore, Maryland, Course Instructor
- 3/00 "Evidence-Based Preoperative Testing," *Perioperative Management*, Department of Anesthesiology & Critical Care Medicine, The Johns Hopkins University School of Medicine, Marco Island, FL: Course Co-Director
- 8/00 "Evidence-Based Preoperative Testing," *Perioperative Management*, Department of Anesthesiology & Critical Care Medicine, The Johns Hopkins University School of Medicine, Aspen CO, Course Co-Director
- 3/02 "Evidence-Based Preoperative Testing," *Perioperative Management*, Department of Anesthesiology & Critical Care Medicine, The Johns Hopkins University School of Medicine, Marco Island, FL, Course Co-Director
- 3/00 "Are you Providing Safe Care?" *Perioperative Management*, Department of Anesthesiology & Critical Care Medicine, The Johns Hopkins University School of Medicine, Marco Island, FL, Course Co-Director
- 10/02 Johnson & Johnson/Wharton Advanced Management Education Conference, University of Pennsylvania, Philadelphia, PA, Workshop Leader
- 3/03 "Managing Critical Care Medicine Systems," Annual New York Metropolitan Symposium, New York, NY. Co-Chair
- 5/03 "Improving Patient Safety: From Rhetoric to Reality," The Johns Hopkins University School of Medicine and The Health Research & Educational Trust, Baltimore, MD, Course Director
- Fall/03 "Evidence Based Medicine to Improve Quality of Care," The Science of Clinical Investigation, through the Graduate Training Program in Clinical Investigation, The Johns Hopkins Bloomberg School of Public Health, Course Instructor

- 7/04 "A Practical Approach to Improving Patient Safety," the Mayo Clinic, Rochester, MN, Course Instructor
- 11/04 "Practical Tools for Improving Patient Safety," Department of Pharmacy Grand Rounds, The Johns Hopkins University School of Medicine, Course Instructor
- Spring/05 "Evidence-Based Medicine," The Science of Clinical Investigation, through the Graduate Training Program in Clinical Investigation, The Johns Hopkins Bloomberg School of Public Health, Course Instructor
- 11/05 "New Teams How Will You Know You Are Safer? Focus on climate and clinical interventions/BSI and VAP. NJHA Quality Institute with Saint Barnabas Health Care System, North Brunswick, NJ

### **Mentoring**

## Advisees

Auvisees	
1997 – 2007	Robin Newhouse, PhD, RN, CNA, CNOR, Associate Professor, The Johns Hopkins University School of Nursing, Recipient of Agency for Health Care Research and Quality K-08 Award, "Rural
	Hospital Nursing: Environment, Effects, and Evidence"
1998 - 2002	Charles Reuland, BA, Administration, Department of Medicine
1999 - 2002	Betty Chang, MD, Fellow, Division of Pulmonary & Critical Care Medicine
1999 - 2000	Elizabeth Garrett, BA, Assistant Professor, Johns Hopkins University
1999 - 2002	Bryanna Vega, MPH, PhD Candidate, Johns Hopkins University
1999 - 2002	Deborah Dang, MSN, Director, Nurse Professional Programs, Johns Hopkins University
1999 - present	Sean M. Berenholtz, MD, Assistant Professor, Department of Anesthesia and Critical Care Medicine. Recipient of Clinical Scientist Award and K23 from NIH
2000 - 2001	Justin Dimick, MD, Surgical Resident, University of Michigan.
2000 - 2002	Somchai Laowaltana, MD, PhD, The Johns Hopkins University
2001 - 2002	Nicole Huang, MPH, PhD Candidate, Johns Hopkins University
2001 - present	Elizabeth Hunt, MD, MPH, Assistant Professor, Department of Pediatrics and Critical Care Medicine, PhD Candidate. Recipient of Clinical Scientist Award and K23 submitted to AHRQ
2002 - present	Elizabeth A. Martinez, MD, Assistant Professor, Department of Anesthesia and Critical Care Medicine, Recipient of Clinical Scientist Award and SCCM Patient Safety Award
2002 - present	Lilly Engineer, MD, MHA, Program Manager, Medication Monitoring for Vulnerable Populations via IT – AHRQ funded Ambulatory Safety and Quality grant
2002 – present	Michael Chan, MD, Fellow, Department of Internal Medicine, Cardiology
2002 - present	Lewis Rubinson, MD, Fellow, Pulmonary and Critical Care Medicine
2002 - present	Pedro Mendez-Tellez, MD, Assistant Professor, Department of Anesthesiology and Critical Care
	Medicine, NIH K08 submitted
2003 - present	David Baker, MBA, DrPH Candidate, Johns Hopkins Bloomberg School of Public Health
2003 - present	Cyrus Engineer, MHA, MHS, Technical Officer, World Health Organization (WHO), Faculty, Carey Business School, DrPH Candidate, Johns Hopkins University
2003 - 2004	David Thompson, RN, MS, PhD, Assistant Professor, Department of Anesthesiology and Critical Care Medicine, The Johns Hopkins University, NIH K02 and K08 submitted
2003 - 2004	Dale M. Needham, BA, MAcc, CA, MD, PhD, FRCPC, Staff Intensivist, Pulmonary & Critical Care Medicine, Recipient of the Canadian Institutes of Health Research (CIHR) Award
2003 - present	Thomas Stelfox, MD, Fellow, Department of Health Policy at Harvard University
2003 - present	Jonathan Sevransky, MD, Assistant Professor, Department of Pulmonary and Critical Care Medicine, The Johns Hopkins University, Recipient of NIH K23 Award
2003 - present	Julius Cuong Pham, MD, Assistant Professor, Department of Anesthesiology and Critical Care Medicine, The Johns Hopkins University, NIH K12 submitted
2004 - present	Jamie Schwartz, MD, Fellow, Pediatric Anesthesia and Critical Care Medicine, The Johns Hopkins University, NIH K12 submitted
2004 - present	Robert Stevens, MD, Assistant Professor, Department of Anesthesiology and Critical Care Medicine, The Johns Hopkins University, NIH K12 submitted
2004 - present	Cheryl Dennison, CRNP, PhD, Assistant Professor, Department of Nursing, The Johns Hopkins University School of Nursing, NIH NINR 5K23 NR009193
2004 - present	Gail L. Daumit, MD, Assistant Professor, Department of Epidemiology and Health Policy and Management, The Johns Hopkins Medical Institutions, Recipient of Young Investigator Award,

National Alliance for Research on Schizophrenia and Depression, "Patient safety for persons with severe mental illness: Medical injuries during hospitalization." Recipient of NIMH RO1 (2006)

2004 - present Dickson Cheung, MD, Chair, Section of Quality Improvement and Patient Safety, American College

of Emergency Physicians

2005 - present Yasser Dahab, MD, Anesthesia Resident, Johns Hopkins Hospital

2005 - present Sanjay Desai, MD, Director, Medical ICU, Washington Hospital Center, Assistant Professor Johns

Hopkins University

2005 - present Allison Lipitz, BS, PhD student, Johns Hopkins School of Public Health

## **Thesis Committees**

1998 - 2000	Elizabeth Garrett, PhD, Department of Biostatistics, The Johns Hopkins University School of Hygiene and Public Health, Doctoral Thesis: "Graphical Diagnostic Tools for Standard Latent Class
	and Latent Class Regression Model Assessment with an Application in Describing Depression and Validating Diagnostic Criteria for Depression"
1998 - 2000	Robin Newhouse, RN, PhD, Department of Nursing, University of Maryland, Doctoral Thesis: "The
	Relationship of Organizational Service Integration and Differentiation to Readmission, Length of Stay, Mortality and Costs for Patients with a Diagnosis of Congestive Heart Failure"
1998 - 2002	Bryanna Vega, RN, MSN, PhD, Department of Nursing, The Johns Hopkins University, Doctoral
1000 0000	Thesis: "Critical Pathways and Claims Complications"
1999 - 2002	Deborah Dang, MSN, PhD, School of Nursing, The Johns Hopkins University, Doctoral Thesis: "Nursing Unit Characteristics in the ICU and Patient Outcomes"
1999 - 2002	Charles Reuland, ScD, Department of Health Policy and Management, The Johns Hopkins
	Bloomberg School of Public Health, Doctoral Thesis: "Effect of a Handheld Decision Support Tool on Selected Outcomes"
1999 - 2002	Betty Chang, MD, PhD, Department of Health Policy and Management, The Johns Hopkins
2000 2002	Bloomberg School of Public Health, Doctoral Thesis: "Pulmonary Disease in Scleroderma"
2000 - 2002	Somchai Laowaltana, MD, PhD, The Johns Hopkins University, Doctoral Thesis: "Predictions of Adverse Cardiac Outcomes After Stroke Based on Stroke Location and Diabetic Autonomic
	Neuropathy"
2001 - 2002	Nicole Huang, MPH, PhD, Department of Health Policy and Management, The Johns Hopkins Bloomberg School of Public Health, Doctoral Thesis: "Non-Price Competitions in Patient Outcomes"
2002 - 2004	David Thompson, RN, MS, PhD, Department of Anesthesiology and Critical Care Medicine, The
	Johns Hopkins University School of Medicine, Doctoral Thesis: "Predictors of Clinical & Economic
2002 - 2004	Outcomes in Intra-abdominal Surgery Patients with Hospital-Acquired Pneumonia"  Dale M. Needham, MD, PhD, Department of Pulmonary and Critical Care Medicine, The Johns
2002 2001	Hopkins University, Doctoral Thesis: "Mechanical Ventilation in Ontario: Incidence, Survival,
2002	Hospital Bed Utilization and Projected Incidence of Non-Cardiac Surgery Adult Patients"
2003 - present	Lilly Engineer, MD, MHA, The Johns Hopkins Bloomberg School of Public Health, Doctoral Thesis: "Determining the Influence of Hospital Characteristics, Market Conditions, and Financial
-004	Performance on Clinical Quality in a Sample of U.S. Rural Hospitals"
2004 - present	Jeanette R.M. White, MD, Assistant Professor, Johns Hopkins University School of Medicine and The Johns Hopkins Bloomberg School of Public Health, Doctoral Thesis: "Preventing Adverse
	Events in the Pediatric Intensive Care Unit: Prospectively Targeting Factors that Led to Intravenous
	Potassium Chloride Order Errors"
2005 - present	Elizabeth Hunt, MD, Assistant Professor, Anesthesiology Critical Care Medicine, Johns Hopkins
	University, Doctoral Thesis: "An Evaluation of the Quality Resuscitation Delivered During Simulated
2005 - present	Pediatric In-Hospital Cardiopulmonary Arrests"  Julius C. Pham, MD, Assistant Professor, Departments of Emergency Medicine and Anesthesia
F	Critical Care Medicine, Johns Hopkins University School of Medicine, Doctoral Thesis: "The State of

**Educational Program Building/Leadership** 

Healthcare Quality in Emergency Medicine"

these sections were not required at the time of Dr Pronovost's promotion

### **CLINICAL ACTIVITIES**

## **Certification**

Medical Licensure, State of Maryland, D0046479

Board Examination, Diplomat of the American Board of Anesthesiology, 1995

Board Examination, Special Certificate of Competency in Critical Care Medicine, 1997

Specialty Certifications: ACLS

ATLS FCCS CCERF

## **Service Responsibilities**

Critical Care: Attending Physician in the Surgical Intensive Care Unit, Weinberg Surgical Intensive Care Unit

and Cardiac Surgical Intensive Care Unit, 20% effort

Operative Anesthesia: Attending physician in the Division of Adult Critical Care Medicine, 10% effort

Clinical Program Building/Leadership these sections were not required at the time of

Clinical Extramural Funding Dr. Pronovost's promotion

SYSTEM INNOVATION and QUALITY IMPROVEMENT ACTIVITIES this section was not required at the

time of Dr. Pronovost's promotion

### **ORGANIZATIONAL ACTIVITIES**

## **Institutional Administrative Appointments**

1996-present	Quality Management Network: A Consortium of Hospitals and Health Systems
1997-1998	Co-Chair, Alert Status Re-engineering Committee, The Johns Hopkins Hospital, Baltimore, MD, Results:
	Alert hours reduced by 90%
1997-1998	Metrics Group of the Service Excellence Committee, The Johns Hopkins Hospital, Baltimore, MD
1997-1998	Referring Physician Group of the Service Excellence Committee, The Johns Hopkins Hospital, Baltimore,
1997-1999	Clinical Practice Association Board of Governors Operations Committee, The Johns Hopkins University
	School of Medicine, Baltimore, MD. Developed practice standards, evaluated customer satisfaction with
	telephone access
1997-2003	Director, ICU Quality Management, The Johns Hopkins Hospital, Baltimore, MD
1997-present	JCAHO, The Johns Hopkins Hospital, Baltimore, MD
1997-present	Performance Measurement Team, The Johns Hopkins Hospital, Baltimore, MD
1998-present	Performance Improvement Council, The Johns Hopkins Hospital, Baltimore, MD
1999-2002	Bioterrorism Task Force, The Johns Hopkins Hospital, Baltimore, MD
2000-present	Operation SWAT Team, The Johns Hopkins Hospital, Baltimore, MD
2000-2002	Performance Improvement Task Force, The Johns Hopkins Hospital, Baltimore, MD
2000-2002	Supply Chain Management Executive Oversight Committee, The Johns Hopkins Hospital, Baltimore
2001-present	Co-chair, Patient Safety Committee, The Johns Hopkins Hospital, Baltimore, MD
2001-2003	Chair, Organizational Assessment of Subcommittee of Patient Safety Committee, Baltimore, MD
2002-present	Committee Member, Johns Hopkins Leadership Development Program, Johns Hopkins Medicine,
	Baltimore, MD
2003- present	Johns Hopkins Hospital Clinical Oversight Committee, Johns Hopkins Medicine, Baltimore, MD
2004-present	Johns Hopkins University Multidisciplinary Advisory Committee, Johns Hopkins University School of
_	Medicine, Baltimore, MD

#### **Editorial Activities**

#### **Editorial Board**

Journal of Clinical Outcomes Management

Journal of Critical Care, Section Editor, Quality and Safety

Agency for Healthcare Research & Quality (AHRQ) Web M&M

Critical Care

Joint Commission Journal on Quality and Patient Safety

The Patient – Patient Centered Outcomes Research (International Journal), New Zealand

Journal of Hospital Medicine – Society of Hospital Medicine

Editorial Board of ICU Management

### **Journal Peer Review**

2005-present

Journal of the American Medical Association (JAMA)

Anesthesiology

Critical Care Medicine

Journal of General Internal Medicine

Medical Care

Journal of Investigative Medicine

American Review of Respiratory Diseases and Critical Care Medicine

Journal of Evidence-based Healthcare

American College of Physicians Journal Club

Journal of Health Policy, Politics, Law Review

Annals of Internal Medicine

Health Services Research

International Journal for Quality in Healthcare

Journal of Clinical Epidemiology

### **Advisory Committees, Review Groups**

riavisory con	mintees, never Groups
1999-2004	Joint Committee on Clinical Investigation, The Institutional Review Board for Johns Hopkins University School of Medicine. Anesthesia Representative, The Johns Hopkins University School of Medicine,
	Baltimore, MD
1999-present	Advisory Board Training to the Graduate Program in Clinical Investigation, The Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
2001-2004	Society of Critical Care Medicine Patient Safety Foundation. Founding Member and Board of Trustees
2001-2003	Quality Care Search Committee, Department of Health Policy & Management, The Johns Hopkins Bloomberg School of Public Health
2002-2004	Committee on Critical Care Practice, American Society of Critical Care Anesthesiologists, Park Ridge, IL
2002-present	Claims and Risk Management Committee, MCIC Vermont, Inc.
2002-present	Advisory Panel, Web M&M
2002-2007	ICU Core Measure Advisory Panel, Joint Commission on Accreditation of Healthcare Organizations (JCAHO), Chairman, Oakbrook Terrace, IL
2002	
2003-present	Safety Committee, MCIC Vermont, Inc., Atlanta, GA
2003-present	Advisory Board of National Quality Forum, Committee on Data Integrity and Availability, Washington, DC
2004-present	Review Board, HCPro, Inc., Marblehead, MA
2004-present	Advisory Board, Biomedical Research & Education Foundation, Stamford, CT
2005-present	National Quality Forum, National Voluntary Consensus Standards Maintenance Committee, Washington, DC
2005-present	National Board of Advisors, Center for Healthcare Governance, Chicago, IL
2005-present	Patient Safety Research Coordinating Center Steering Committee, Agency for Healthcare Research &
_	Quality Patient Safety Grantee Member, Rockville, MD
2005-present	Clinical Quality Improvement Committee, Johns Hopkins Hospital, Baltimore, MD
2005-present	Expert Reviewer, Contract Proposals, Agency for Healthcare Research & Quality, Rockville, MD
* * * *	

Advisory Panel, Central Line Associated Bloodstream Infections Quality Improvement Collaborative,

Greater New York Hospital Association and United Hospital Fund, New York, NY

### **Professional Societies**

1992-present
 1992-present
 1992-present
 1992-present
 Member, American Society of Anesthesiologists
 1992-present
 Member, Society of Critical Care Medicine

1994-present Member, American Society of Critical Care Anesthesiologists

### **Conference Organizer/Session Chair**

### **Consultantships**

### RECOGNITION

## Awards, Honors

- 1984 NCAA Division 1 Swimming Qualified for Nationals
- 1985 Alpha Sigma Nu (The Jesuit National Honor Society)
- 1985 Alpha Epsilon Delta (The Premedical National Honor Society)
- 1987 Magna Cum Laude
- 1987 Research Scholarship in Preventive Cardiology
- 1991 MAP-Reader's Digest International Fellowship for work in Nigeria
- 1991 Center for AIDA Research (CFAR) Scholarship to present at the International AIDS Conference
- 1999 Delta Omega (Public Health National Honor Society)
- 1999 American Medical Association AAMC Clinical Research Focus Group
- 2000 Clinician Scientist Award
- 2001 Clinician Scientist Award
- 2001 Society for Critical Care Medicine Research Review Award
- 2001 Leapfrog Group Health Care Purchasing Standard based on my research
- 2002 Presidential Citation, Contributions to SCCM in 2001
- 2002 Fellow, American College of Critical Care Medicine
- 2003 Presidential Citation, Contributions to SCCM in 2002
- 2003 William F. Rienhoff Scholars Award
- 2003 American Society of Anesthesiologists Presidential Scholar Award
- 2004 Presidential Citation, Contributions to SCCM in 2003
- 2004 Physician Hero, Health Care Heroes Award
- The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and the National Quality Forum (NQF) John M. Eisenberg Patient Safety Award for Research

## **Invited Talks, Panels**

- 5/94 "Pathophysiology of Shock," The Johns Hopkins Hospital Trauma Conference, Baltimore, MD
- 5/95 "Pathophysiology of Shock," The Johns Hopkins Hospital Trauma Conference, Baltimore, MD
- 2/96 "Appropriate use of Pulmonary Artery Catheters," Perioperative Monitoring Conference, The Johns Hopkins Hospital, Baltimore, MD
- 5/96 "Pathophysiology of Shock," The Johns Hopkins Hospital Trauma Conference, Baltimore, MD
- 1/97 "Hemodynamic Support in the Intensive Care Unit," St. Agnes Hospital, Baltimore, MD
- 1/97 "Organization Learning," Managing Health Services Organization, Department of Health Policy & Management, The Johns Hopkins University School of Public Health, Baltimore, MD
- 3/97 "Alert Status A Model for Re-engineering," Managing Health Services Organization, Department of Health Policy & Management, The Johns Hopkins University School of Public Health, Baltimore, MD
- 5/97 "Pathophysiology of Shock," The Johns Hopkins Hospital Trauma Conference, Baltimore, MD
- 10/97 "Being a Charge Agent," The Johns Hopkins University Continuing Studies: Business of Medicine, The Johns Hopkins University, Baltimore, MD
- 11/97 "Applying Systems Thinking in a Hospital," The Johns Hopkins University Continuing studies, The Johns Hopkins University, Baltimore, MD

1/98 "Alert Status - Managing Health Services Organization," Summer Institute in Health Policy and Management, The Johns Hopkins University, Baltimore, MD

- 2/98 "Outcomes Research: Do Intensivists Improve Outcome?" University of Pittsburgh, Critical Care Medicine Grand Rounds, Pittsburgh, PA
- 2/98 "Organizational Characteristics of ICU's Related to Outcomes in Abdominal Aortic Surgery Patients," University of Pittsburgh, Health Services Research Group, Pittsburgh, PA
- 5/98 "Pathophysiology of Shock," The Johns Hopkins Hospital Trauma Conference, Baltimore, MD
- 10/98 "Organization of Physician Services. Managing Health Service Organization," Department of Health Policy and Management, Johns Hopkins University School of Hygiene and Public Health, Baltimore, MD
- 3/99 "Errors in Medicine, a Systems Approach. Managing Health Services Organizations," Department of Health Policy and Management, Johns Hopkins University School of Hygiene and Public Health, Baltimore, MD
- 4/99 "Improving Relationships and processes: A New Change Model. Managing Health Services Organizations," Department of Health Policy and Management, Johns Hopkins University School of Hygiene and Public Health, Baltimore, MD
- 5/99 "Pathophysiology of Shock," The Johns Hopkins Hospital Trauma Conference, Baltimore, MD
- 6/99 "Research issues in the Acutely III Patient: Research in 2000 and Beyond," The Johns Hopkins University School of Medicine, Baltimore, MD
- 6/99 "Management of Myocardial Ischemia and Infarction. Fundamentals of Critical Care Provider Course," The Johns Hopkins University School of Medicine, Baltimore, MD
- 8/99 "Evidence-based Medicine," Anesthesiology and Critical Care Medicine Research Conference, The Johns Hopkins University, Baltimore, MD
- 9/99 "Outcomes Research: Do Intensivists Improve Outcome?" University of Utah, Anesthesiology Research Conference, the University of Utah Medical Center, Salt Lake City, UT
- 10/99 "Improving Quality of Health Care," The Caldwell Memorial Lecture, Suburban Hospital, Bethesda, MD
- 10/99 "Outcome, Research," Cardiovascular Division, Critical Care Medicine Grand Rounds, King Faisel Hospital, Saudi Arabia
- 11/99 "Post-operative Myocardial Ischemia," ASA expert panel discussion, Dallas, TX
- 12/99 "Evidence-based Anesthesiology," Anesthesiology and Critical Care Medicine Grand Rounds, The Johns Hopkins University, Baltimore, MD
- 12/99 "Research in the Acutely Ill Patient," Third Annual Johns Hopkins Clinical Research Conference Clinical Trials and Tribulations in the year 2000 and Beyond, The Johns Hopkins University, Baltimore, MD
- 3/00 "Evidence-based Preoperative Testing," Johns Hopkins University School of Medicine Continuing Education Course: Perioperative Management, Marco Island, FL
- 3/00 "Establishing and Managing a Preoperative Evaluation Center," Johns Hopkins University School of Medicine Continuing Education Course: Perioperative Management, Marco Island, FL
- 4/00 "Measuring Up: Working toward Evidence-Based Risk Management," AIG Healthcare 2000: Challenges Impacting Healthcare Risk Management in the 21<sup>st</sup> Century, New York, NY
- 5/00 "Measuring Up: Working toward Evidence-Based Risk Management," AIG Healthcare 2000: Challenges Impacting Healthcare Risk Management in the 21<sup>st</sup> Century, Boston, MA
- 5/00 "Measuring Up: Working toward Evidence-Based Risk Management," AIG Healthcare 2000: Challenges Impacting Healthcare Risk Management in the 21<sup>st</sup> Century, Dallas, TX
- 6/00 "The Impact of ICU Physician Staffing on Outcomes: Can We Afford Not To Act?" General Motors Corporation Top 11 HMO's Partnership Meeting on Patient Safety, Detroit, MI
- 7/00 "Evidence-based Preoperative Testing," Johns Hopkins University School of Medicine Continuing Education Course: *Perioperative Management*, Aspen, CO
- 7/00 "Establishing and Managing a Preoperative Evaluation Center," Johns Hopkins University School of Medicine Continuing Education Course: *Perioperative Management*, Aspen, CO
- 8/00 "Errors in Medicine, a Systems approach. Managing Health Services Organizations," Summer Institute, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore,
- 8/00 "Improving Relationships and processes in the ICU. Managing Health Services Organizations," Summer Institute Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore,
- 8/00 "The Journey From Research Question to Published Manuscript," Graduate Training Program in Clinical Investigation, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
- 9/00 "Measuring Up: Working toward Evidence-Based Risk Management," AIG Healthcare 2000: Challenges Impacting Healthcare Risk Management in the 21<sup>st</sup> Century, Chicago, IL

9/00 "Evidence Supporting Leapfrog Purchasing Specification for ICU Physician Staffing," National Safety Conference, Washington DC

- 10/00 "Association between ICU Physician Staffing and Outcomes," Grand Rounds, Dartmouth Mary Hitchcock Medical Center, Hanover, NH
- 10/00 Visiting Professor Rounds: Case Conference. Surgical Intensive Care Unit, Dartmouth Mary Hitchcock Medical Center, Hanover, NH
- 10/00 "Randomized Trial of a Quality Improvement Initiative: a New Model," Center for Evaluative Clinical Sciences, Dartmouth Mary Hitchcock Medical Center, Hanover, NH
- 10/00 "The Impact of ICU Physician Staffing on Outcomes: a Systematic Review," American Society of Anesthesiology, San Francisco, CA
- 10/00 "Why Complex Systems Fail," University for Dentistry and Medicine of New Jersey Risk Management Strategies for the 21<sup>st</sup> Century: Keeping Pace with Change, Newark, NJ
- 11/00 "Organizing ICU Care to Improve Patient Safety," Improving Quality of Care for the 21<sup>st</sup> Century, Johns Hopkins Medicine International Conference, Baltimore, MD
- 11/00 "The Association Between Critical Pathways and Hospital Length of Stay, Complications, and Liability Claims Experience," Improving Quality of Care for the 21<sup>st</sup> Century, Johns Hopkins Medicine International Conference, Baltimore, MD
- 11/00 "Creating Safe Systems of Medical Care," Plenary Session Association for Healthcare Risk Managers National Meeting, New Orleans, LA
- 11/00 "The Links between Healthcare Organizational Characteristics and Patient Safety," Interdisciplinary Risk Management Seminar, The Johns Hopkins Medical Institutions, Baltimore, MD
- 1/01 "Critical Care Response to the Institute of Medicine's Report on Patient Safety," Board of Trustees, The Johns Hopkins Medical Institutions, Baltimore, MD
- 1/01 "Future Trends in ICU Research," Society of Critical Care Medicine Education and Research Foundation Workshop, Chicago, IL
- 2/01 "ICU Patient Safety: The Role of Teams," Society for Critical Care Medicine Congress 2001, San Francisco, CA
- 2/01 "Patient Safety Nets: The Role of Systems of Care," Volunteer Hospitals of America Risk Management Conference and Captiva, Philadelphia, PA
- 2/01 "How Systems of Care Impact Patient Safety," Medical Staff and Leadership Conference, Wellcare Hospital, Dubai, United Arab Emirates
- 2/01 Visiting Professor Rounds: Case Conference. Intensive Care Unit. Wellcare Hospital, Dubai, United Arab Emirates
- 3/01 "Methodological Issues in Clinical Trials," The 21<sup>st</sup> International Congress on Intensive Care and Emergency Medicine, Brussels, Belgium
- 3/01 "Improving Quality of ICU Care," The 21<sup>st</sup> International Congress on Intensive Care and Emergency Medicine, Brussels Belgium
- 3/01 "Quality of ICU Care," Session Moderator; The 21<sup>st</sup> International Congress on Intensive Care and Emergency Medicine, Brussels Belgium
- 4/01 "A Systems Approach to Improving Safety in the ICU," Grand Rounds Preventive and Societal Medicine Health Services Research, University of Nebraska, Lincoln, NE
- 4/01 Visiting Professor; Outcomes Research Conference, Combined Anesthesiology and Societal Medicine Health Services Research Conference, University of Nebraska, Lincoln, NE
- 6/01 "Making Safety a Reality," University of Maryland National Patient Safety Symposium, Baltimore, MD
- 6/01 "Creating Safe Systems of Care," Grand Rounds Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University, Baltimore, MD
- 6/01 "Patient Safety: from Rhetoric to Reality," VHA Board Retreat, Lake Placid, NY
- 10/01 "Improving Patient Safety: A System's Approach," Kennedy Krieger Institute, Baltimore, MD
- 11/01 "Improving Patient Safety: A System's Approach," Johns Hopkins University Dean's Retreat, St. Michaels, MD
- 2/02 "Improving Patient Safety: A System's Approach," Grand Rounds Department of Medicine, The Johns Hopkins University, Baltimore, MD
- 2/02 "Improving Patient Safety: A System's Approach," Grand Rounds Department of Emergency Medicine, The Johns Hopkins University, Baltimore, MD
- 2/02 "Improving Patient Safety: A System's Approach," Grand Rounds Department of Surgery, The Johns Hopkins University, Baltimore, MD
- 3/02 "From Rhetoric to Reality: Improving ICU Care," McLeod Regional Medical Center Retreat, Florence, SC

3/02 "Developing a Screening Tool for Adverse Sequelae After Critical Illness," Round Table Conference: Surviving Intensive Care, Brussels, Belgium

- 3/02 "Developing Indicators of ICU Quality," 22<sup>nd</sup> International Symposium on Intensive Care and Emergency Medicine, Brussels, Belgium
- 4/02 "The Science of Patient Safety," Society of Healthcare Epidemiology of America (SHEA) 2002 Annual Meeting, Salt Lake City, UT
- 4/02 "Improving Patient Safety: A Systems Approach," Association of University Anesthesiologists 49<sup>th</sup> Annual Meeting, Nashville, TN
- 4/02 "Improving ICU Patient Safety Through On-Going Intensivist Care," 14<sup>th</sup> Annual National Managed Health Care Congress (NMHCC), Baltimore, MD
- 4/02 "Idealized Design of the Intensive Care Unit," VHA Leadership Conference, Chicago, IL
- 4/02 "Patient Safety: How to Develop and Measure an ICU Improvement Process." Seventeenth Annual Comprehensive Update and Board Review, Critical Care Medicine 2003, Washington, DC
- 5/02 "Improving Patient Safety: A Systems Approach," Board of Visitors, Johns Hopkins Medicine, Baltimore, MD
- 6/02 "Evidence-Based Medicine: How to Use an Article About Therapy," Research Seminar, Department of Anesthesiology, Washington University School of Medicine, St. Louis, MO
- 6/02 "Improving Patient Safety: From Rhetoric to Reality," Grand Rounds, Department of Anesthesiology, Washington University School of Medicine, St. Louis, MO
- 7/02 "Improving Patient Safety: From Rhetoric to Reality," National Institute of Health, NIDA, Baltimore, MD
- 8/02 "Enhancing Coordination of Care Through Improved Provider-to-Provider Communications," MHA Insurance Company's Annual Risk Management Seminar, Crystal Mountain Resort, Thompsonville, MI
- 9/02 "Safe Systems of ICU Care," Pediatric Grand Rounds, The Johns Hopkins Hospital, Baltimore, MD
- 10/02 "Critical Care Settings," Fall Learning Session, Institute for Healthcare Improvement, Boston, MA
- 10/02 "The Backgrounds of Safety," Measuring Safety Outcomes, The Johns Hopkins Hospital, Baltimore, MD
- 11/02 SAAC/AAPD Annual Meeting, San Francisco, CA
- 1/03 "Improving Patient Safety: From Rhetoric to Reality," Pathology Grand Rounds, The Johns Hopkins Medical Institutions, Baltimore, MD
- 1/03 "Physician Staffing Patterns and Clinical Outcomes among Critically Ill Patients," Welch Center Grand Rounds, The Johns Hopkins University, Baltimore, MD
- 3/03 "Case Presentation: Critical Care Medicine" ICU Lecture, Homewood Campus, The Johns Hopkins University, Baltimore, MD
- 3/03 "Research Responsibility and Mentoring, Data Management & Retention," The Johns Hopkins University, Baltimore, MD
- 4/03 "Measuring ICU Quality," Institute for Healthcare Improvement, Orlando, FL
- 4/03 "Patient Safety: How to Develop and Measure an ICU Improvement Process," Critical Care Medicine 17<sup>th</sup> Annual Comprehensive Update & Board Review, Washington, DC
- 4/03 "The Impact of Patient Safety on Clinical and Financial Outcomes," Michigan Health & Safety Coalition's Patient Safety Conference, Dearborn, MI
- 5/03 "Patient Safety: What we are doing to foster a safer environment," Healthcare Associated Infections Course, Department of Hospital Epidemiology & Infection Control, The Johns Hopkins Hospital, Baltimore, MD
- 6/03 "Patient Safety and Quality," Board of Trustees, The Johns Hopkins University, Homewood Campus, Baltimore,
- 6/03 Keynote Speaker at the Leaders Round Table on Health Care (Video Taped), Toronto, Canada
- 7/03 "Improving Quality and Safety in the ICU," Exempla HealthCare, Lutheran Medical Center, Wheat Ridge, CO
- 8/03 Expert presentation on Adult ICU Phase III Benchmarking Knowledge Transfer Meeting, University HealthSystem Consortium, Dallas-Forth Worth, TX
- 8/03 "Clinical Measures for the ICU," VHA Trends & Tactics in Critical Care Management, Westborough, MA
- 8/03 "From Rhetoric to Reality: Improving ICU Care," Yale University School of Medicine, New Haven, CT
- 8/03 "Executive Leadership Role in Patient Safety," Atlantic City Medical Center, Atlantic City, NJ
- 8/03 "On the Edge: Patient Safety," 8<sup>th</sup> Annual Challenges in Critical Care Conference, Penn State College of Medicine, Hershey, PA
- 9/03 "Executive Leadership Role in Patient Safety," Hospital Board Retreat, Ellis Hospital, Upper State, NY
- 9/03 "Comprehensive Models for Improving Patient Safety," Panelist, Academy Health-AHRQ International Patient Safety Conference, Washington, DC
- 10/03 "Improving Patient Safety: From Rhetoric to Reality," University of California Conference: Management of the Hospitalized Patient, San Francisco, CA

10/03 Visiting Professor/Guest Lecturer, SICU Multidisciplinary Conference, Yale University School of Medicine, New Haven, CT

- 10/03 JCAHO ICU Core Measure Sets Session, CERNER Health Conference 2003, Kansas City, MO
- 10/03 "Ethical and Practical Issues," American Society of Anesthesiologists (ASA) Annual Meeting, San Francisco, CA
- 10/03 "Improving Patient Safety: Putting Words into Action," Maryland Healthcare Education Institute's (MHEI) 28<sup>th</sup> Annual Medical Staff and Governance Leadership Conference, Hot Springs, VA
- 10/03 "The Perfect Storm," Keynote Speaker, St. Barnabas Health Care System Clinical Retreat, Toms River, NJ
- 11/03 "Focusing on Harm to Set the Medication Safety Agenda," Video Presentation for The ALARIS Center for Medication Safety and Clinical Improvement, A Third Invited Conference, San Diego, CA
- 11/03 "An Association of Hospitals and Health Systems," Patient Safety Summit, Georgia Hospital Association, Atlanta, GA
- 12/03 "Partnering to Solve Clinical Issues: Stakeholders for Medication Safety," "Removing Barriers to Improve ICU Care: Collaboration Among Stakeholders," Presenter and Co-Chair, 15<sup>th</sup> Annual National Forum on Quality Improvement in Health Care, New Orleans, LA
- 1/04 "Demonstrating the Cost of Poor Quality and Medication Errors: Proving the Business Case for Quality and Safety Programs," New Jersey Hospital Assn Leadership Summit on Quality and Patient Safety, Princeton, NJ
- 1/04 "Making Safety a Reality," Pediatric Ground Rounds, DuPont Hospital for Children, Wilmington, DE
- 1/04 "Quality and Safety in Health Care," Live Broadcast: One on One with Steve Adabuto, Union, NJ
- 2/04 "Communication Failures at the Heart of Bad Outcomes," Risk Management and Patient Safety Institute Audio Conference, Baltimore, MD
- 2/04 "CUSP Overview," "General Measurement Strategies," "Detailed Measurement Strategies," MHA Workshop, Detroit, MI
- 2/04 "JCAHO Core Measures," "Measuring Quality: Use of the Daily Goals Form to Improve Communication and Outcomes," Society of Critical Care Medicine Annual Meeting, Orlando, FL
- 3/04 "Case Studies: How Do We Provide Round the Clock Care?," "Establishing a Culture of Safety in the ICU: The CUSP Program, 3<sup>rd</sup> Annual International Summit on Improving Critical Care Delivery, Miami, FL
- 4/04 "Organizational Leadership at the Johns Hopkins Medical Institutions," Joint Session, Harvard Medical School, Cambridge, MA
- 4/04 "Transforming the ICU," Volunteer Hospital Association (VHA) Satellite Broadcast, Irving, TX
- 4/04 "Patient Safety: How to Develop and Measure an ICU Improvement Process," 18<sup>th</sup> Annual Comprehensive Update and Board Review, Center for Biomedical Communication, Inc., Ritz Carlton, Washington, DC
- 4/04 "Patient Safety A New Agenda for Hospital Epidemiology," Department of Hospital Epidemiology and Infection Control, Johns Hopkins Hospital, Baltimore, MD
- 5/04 "Practical Tools to Build Teams that Improve Patient Safety," Conference on Group Interaction in High Risk Environments, Swiss Re Centre for Global Dialogue, Ruschlikon, Switzerland
- 5/04 "The Perfect Storm," Keynote Speaker, St. Barnabas Health Care System Clinical Retreat, Toms River, NJ
- 5/04 "Improving Patient Safety: From Rhetoric to Reality," 100<sup>th</sup> International Conference, American Thoracic Society, Orlando, FL
- 6/04 "Overview: Focus on the Need for Change," New Jersey Hospital Association, Princeton, NJ
- 6/04 "The Hospital Leader's Role in Patient Safety," MHA Annual Corporate Membership Mtg, Mackinac Island, MI
- 7/04 "A Culture of Safety: Assessment, Interventions, and Change Concepts," Delmarva Foundation Improving Health Care Quality, Baltimore, MD
- 7/04 "Improving Patient Safety: From Rhetoric to Reality," Anthem Blue Cross and Blue Shield Hospital Quality Program, 10<sup>th</sup> Annual Meeting, Columbus, OH
- 7/04 "Reducing Defects in Health Care," Department of Neurosurgery Grand Rounds, The Johns Hopkins University School of Medicine, Baltimore, MD
- 7/04 "Practical Tools to Build Teams that Improve Patient Safety," Grand Rounds, Henry Ford Health System, Detroit, MI
- 7/04 "Quality and Safety in Health Care," Patient Safety Leadership Fellows Conference, San Diego, CA
- 7/04 "Practical Tools to Build Teams that Improve Patient Safety," Health Forum Leadership Summit, San Diego, CA
- 8/04 "Improving Patient Safety: From Rhetoric to Reality," Anthem Blue Cross and Blue Shield, Lexington, KY
- 9/04 "Improving Patient Safety: From Rhetoric to Reality," Anthem Blue Cross and Blue Shield, Indianapolis, IN
- 9/04 "Making the Health Care System Safer," AHRQ 3<sup>rd</sup> Annual Patient Safety Research Conference, Arlington, VA
- 10/04 "Practical Tools to Build Teams that Improve Patient Safety," Update on Pulmonary and Critical Care Medicine, University of Michigan, Ann Arbor, MI

10/04 "ICU Quality as the Imperative," "BSI Reduction," "VAP Reduction," "Palliative Care," "Redoubling our efforts: Improving reliability in critical care," VHA Transformation of the Intensive Care Unit (TICU), Philadelphia, PA

- 10/04 "Improving Healthcare Quality for all Americans," 5<sup>th</sup> Annual Meeting of the National Quality Forum: Innovation and Implementation Fulfilling the Healthcare Quality Imperative, Washington, DC
- 10/04 "Background on State Collaborative ICU Improvement Efforts," Making Rhode Island's ICUs the Best in the Nation Conference, Providence, RI
- 10/04 "Microsystem Changes within Hospitals and Health Systems," Agency for Healthcare Research and Quality, Transforming Health Systems Through Leadership, Design and Incentives, Rockville, MD
- 10/04 "Team Exercise: Keystone ICU Premortem," "Sepsis: A Rapid Fire Look Ahead," MHA-Keystone ICU Workshop II, Traverse City, MI
- 11/04 "Too Err is Human," Commonwealth Fund Quality Improvement Colloquium, Washington, DC
- 11/04 "Practical Tools to Build Teams that Improve Patient Safety," Delmarva Foundation Courage to Improve Conference II: Best Practices in Quality Improvement, Baltimore, MD
- 11/04 "Improving Care Throughout Maryland: Introducing CUSP," "Daily Goals: Let's Get to Work," Maryland Patient Safety Center, Patient Safety Culture ICU Collaborative: Workshop I, Baltimore, MD
- 11/04 "Leadership and its Role in Improving Quality and Patient Safety," New Jersey Hospital Association Learning Session II Plenary: Recommitment to Quality and Reliability, Project Management: Obstacles and Barriers Role of Senior Leadership, Princeton, NJ
- 12/04 "Achieving Transformational Change," Institute of Medicine, Potential Roles for the Quality Improvement Organizations in the Future, Washington, DC
- 12/04 "Victims and Healing: Three Reactions to Medical Errors," with Linda Kenney, Frederick A. van Pelt, MD, MBA, Mark Rosenberg, MD, MPP and Sorrel King. Institute of Healthcare Improvement, 16<sup>th</sup> National Forum on Quality Improvement in Healthcare, Orlando, FL
- 1/05 "Practical Applications to Improve Patient Safety," Jefferson Medical College, Philadelphia, PA
- 1/05 "Re-engineering the ICU to Provide a Safer Environment," Society of Critical Care Medicine 34<sup>th</sup> Critical Care Congress, Plenary Session, Phoenix, AZ
- 2/05 "Best Practices and Practical Tools for Improving Care in the High Stress Setting of the ICU," North Carolina Hospital Association, Cary, NC
- 2/05 "Improving Quality and Patient Safety," 9<sup>th</sup> Annual Maryland Infection Control Network Conference, Department of Epidemiology and Infection Control, The Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
- 3/05 "The Challenge of Patient Safety: Responding to a Tragedy" with Sorrel King, 2005 Connecticut Hospital Association, Wallingford, CT
- 3/05 "Leading Change," "Making the Business Case: Global and Local Healthcare and the New Opportunity Calculator," "Achieving Attributes of Ideal Physician Staffing," "Creating a Healing Environment: Healing after Harm," Keystone ICU Workshop #1, Troy, MI
- 3/05 "Leaders in our Midst," "The Art of Disclosure and Healing," Panel Discussion: Johns Hopkins and Representatives of Michigan Surviving Sepsis Campaign," "In the Shadow of a Leader," Keystone ICU Workshop #3, Troy MI
- 3/05 "Practical Tools to Improve Patient Safety," Intensive Care Unit Quality Improvement Collaborative Learning Session II, Minneapolis, MN
- 4/05 "Practical Tools to Improve Patient Safety," Joint Grand Rounds, Greater Baltimore Medical Center, Baltimore
- 4/05 "Practical Tools to Improve Patient Safety," Grand Rounds, University of Massachusetts Memorial Medical Center, Boston, MA
- 4/05 "Safety Considerations in the OR," CEO Work Group for Clinical Excellence, Transformation of the Operating Room Task Force, Philadelphia, PA
- 4/05 "Practical Tools to Improve Patient Safety," Grand Rounds, Department of Anesthesiology, University of Pennsylvania, Philadelphia, PA
- 4/05 "Patient Safety," Panel Member, Management Forum's Panel on Patient Safety, Johns Hopkins Hospital, Baltimore, MD
- 5/05 "Of the Places You Go," Breakout Session on Roles of Leadership: Executive Leadership, New Jersey Hospital Association, Princeton, NJ
- 5/05 "Applying Science to the Delivery of Care to Improve Patient Safety," AHA Quality/Outcomes Forum, Washington, DC
- 5/05 "Patient Safety and Quality Improvement," with Representative Patrick Kennedy, Critical Care Summit Meeting, Washington, DC
- 5/05 "Of the Places You Go," New Jersey Hospital Association, Quality Institute, Learning Session III, Princeton, NJ

6/05 "What do Medical Errors Cost and are System Changes Worth it?," AHRQ Patient Safety and Health Information Technology Conference, Washington, DC

- 7/05 "Leading Change: Improving Patient Safety by Applying Science to Care Delivery," 2005 Healthcare Forum Leadership Summit, San Diego, CA
- 9/05 "Safety as Strategy," Arizona Hospital and Healthcare Association, Scottsdale, AZ
- 10/05 "Improving Patient Safety," Toronto Critical Care Medicine Symposium, Toronto, CA
- 11/05 "Where We are Going and How We Will Get There," Rhode Island ICU Collaborative, Providence, RI
- 11/05 "Where No State Has Gone Before," MHA Keystone Workshop, Dearborn, MI