JANET KUES FREBURGER CURRICULUM VITAE

OFFICE ADDRESS

Cecil G. Sheps Center for Health Services Research University of North Carolina-Chapel Hill 725 Martin Luther King, Jr. Blvd., CB 7590 Chapel Hill, NC 27599-7590

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EDUCATION

1985	B.S. in Physical Therapy, University of Maryland at Baltimore, Baltimore, Maryland
1990	M.S. in Physical Therapy, Virginia Commonwealth University, Richmond, Virginia; Specialization in Biomechanics.
1998	Ph.D. in Health Services Organizations and Research, Virginia Commonwealth University,

Richmond, Virginia.

ACADEMIC APPOINTMENTS

1988-1989	Instructor, Department of Physical Therapy, Virginia Commonwealth University, Richmond,
	Virginia
1990-1997	Assistant Professor, Department of Physical Therapy, Virginia Commonwealth University,
	Richmond, Virginia
1997-2002	Adjunct Assistant Professor, Department of Physical Therapy, Virginia Commonwealth
	University, Richmond, Virginia
1999-2002	Assistant Professor, Division of Physical Therapy, University of North Carolina, Chapel Hill, North
	Carolina
2000-2002	Post-Doctoral Fellow, Cecil G. Sheps Center for Health Services Research, University of North
	Carolina, Chapel Hill, North Carolina
2002-present	Adjunct Faculty, Division of Physical Therapy and Program on Human Movement Science,
	University of North Carolina, Chapel Hill, North Carolina
2002-present	Research Associate & Fellow, Cecil G. Sheps Center for Health Services Research, University of
	North Carolina, Chapel Hill, North Carolina
2008-present	Scientist, Institute on Aging, University of North Carolina, Chapel Hill, North Carolina
2012-present	Associate Director, Program on Medical Practice and Prevention, Cecil G. Sheps Center for
	Health Services Research, University of North Carolina, Chapel Hill, North Carolina

NATIONAL COMMITTEES

1993	Scientific Program Committee, American Pain Society
2005-2008	Research Advisory Panel, American Physical Therapy Association
2005-2012	Physical Therapy Workforce Panel, American Physical Therapy Association
2009-2011	Research Committee, Section on Health Policy and Administration, American Physical Therapy
	Association

2011-2012 Research Committee Chair, Section on Health Policy and Administration, American Physical Therapy Association

PROFESSIONAL MEMBERSHIPS

1984-present American Physical Therapy Association

1998-present Academy for Health Services Research and Health Policy

2009-present American College of Rheumatology: Association of Rheumatology Health Professionals

FELLOWSHIPS & AWARDS

1985	Graduated with High Honors, University of Maryland, Baltimore, Maryland
1985	Member of Phi Kappa Phi Honor Society, University of Maryland Chapter
1987	Commonwealth of Virginia Graduate Fellowship, Virginia Commonwealth University, Richmond,
	Virginia
1988	A.D. Williams Award, Virginia Commonwealth University, Richmond, Virginia
1991	Faculty Research Award, presented by the Virginia Physical Therapy Association, Richmond,
	Virginia
2000	Dorothy Briggs Scientific Inquiry Award, presented by the American Physical Therapy
	Association
2000-2002	National Research Service Award Post-Doctoral Fellowship, Agency for Healthcare Research and
	Quality, University of North Carolina, Chapel Hill, North Carolina

EDITORIAL ACTIVITIES

2009-present Editorial Board on Health Policy and Ethics Perspectives, Physical Therapy Journal

2013-present Editorial Board Member, Physical Therapy Journal

PEER-REVIEWED PUBLICATIONS

- 1. **Kues JM**: Literature Review. The pathology of shin splints. <u>J Orthop Sports Phys Ther</u> 1990;12(3):115-21.
- 2. **Kues JM**, Rothstein JM, Lamb RL. Obtaining reliable measurements of knee extensor torque produced during maximum voluntary contractions: An experimental investigation. <u>Phys Ther</u> 1992;72(7):492-501.
- 3. **Kues JM**, Rothstein JM, Lamb RL. Author response to commentary. Phys Ther 1992;72(7):504.
- 4. **Kues JM**, Rothstein JM, Lamb RL. The relationships among knee extensor torques produced during maximal voluntary contractions under various test conditions. <u>Phys Ther</u> 1994;74(7):674-83.
- 5. Robnett NJ, Riddle DL, **Kues JM.** Intertester reliability of measurements obtained with the KT 1000 on patients with reconstructed anterior cruciate ligaments. <u>J Orthop Sports Phys Ther</u> 1995;21(2):113-9.
- 6. **Kues JM**, Mayhew TP: Concentric and eccentric force-velocity relationships during electrically induced submaximal contractions. Physiother Res Int 1996;1(3):195-204.
- 7. Sullivan MS, **Kues JM**, Mayhew TP: Treatment categories for low back pain: A survey of physical therapists in the state of Virginia. <u>J Orthop Sports Phys Ther</u> 1996;24(6):359-64.
- 8. Finucane SDG, Rafeei T, **Kues JM**, Lamb RL, Mayhew TP: Reproducibility of electromyographic recordings of submaximal concentric and eccentric muscle contractions. <u>Electroenceph Clin Neurophysiol</u> 1998;109(4):290-6.
- 9. **Freburger JK**, Hurley RE. Academic health centers and the changing health care market. <u>Med Care Res Rev</u> 1999; 56(3):277-306.
- 10. **Freburger JK**. Analysis of the relationship between the utilization of physical therapy services and outcomes of care for patients with acute stroke. <u>Phys Ther</u> 1999;79(10):906-18.
- 11. **Freburger JK**, Riddle DL. Alignment of the sacroiliac joints in patients evaluated for sacroiliac dysfunction: a multi-center inter-tester reliability study. Phys Ther 1999;79(12):1134-41.

- 12. **Freburger JK**. Analysis of the relationship between utilization of physical therapy services and outcomes of care for patients status-post total hip arthroplasty. Phys Ther 2000; 80(5):448-58.
- 13. **Freburger JK**, Hurley RE. Ancillary service utilization in academic health center hospitals: use of physical therapy for the treatment of stroke and hip arthroplasty. J Clin Outcomes Management 2000;7(8):20-6.
- 14. **Freburger JK**, Riddle DL. Response to Letter to the Editor: Pelvic Asymmetry Reliability. <u>Phys Ther</u> 2000; 80(5):529.
- 15. **Freburger JK**, Riddle DL. Using published evidence to guide the examination of the sacroiliac joint region. Phys Ther 2001;81(5):1135-42.
- 16. **Freburger JK**, Riddle DL. Response to Letter to the Editor: Clinical diagnosis of sacroiliac joint dysfunction. Phys Ther 2001;81(10):1732-3.
- 17. **Freburger JK**, Konrad TR. The Use of Federal and State Databases to Conduct Health Services Research Related to Physical and Occupational Therapy. <u>Arch Phys Med Rehabil</u> 2002;83(6):837-45.
- 18. Riddle DL, **Freburger JK**. Evaluation of the presence of SIJ region dysfunction using a combination test: a multicenter intertester reliability study. Phys Ther 2002;82(8):772-81.
- 19. Mehta TB, Thorpe DE, **Freburger JK**. Development of a survey to assess backpack use and neck and back pain in seventh and eighth graders. <u>Pediatr Phys Ther</u> 2002;14:171-84.
- 20. **Freburger JK**, Callahan LF, Currey SS, Anderson LA. Use of the Trust in Physician Scale in patients with rheumatic disease: Psychometric properties and correlates of trust in the rheumatologist. <u>Arthritis Care Res</u> 2003;49(1):51-8.
- 21. **Freburger JK**, Holmes GM, Carey TS. Physicians' referral to physical therapy for the treatment of musculoskeletal conditions. <u>Arch Phys Med Rehabil</u> 2003;84:1839-49.
- 22. **Freburger JK**, Holmes GM. Physical therapy use by community-based older persons. Phys Ther 2005; 85:19-33.
- 23. Carey TS, **Freburger JK**. Prudence, nihilism, and the treatment of low back pain. Med Care 2005;43(5):425-7.
- 24. Guiccione AA, Mielenz TJ, DeVellis RF, Goldstein MS, **Freburger JK**, et al. Development and testing of a self-report instrument to measure actions: Outpatient Physical Therapy Improvement in Movement Assessment Log (OPTIMAL). <u>Phys Ther</u> 2005;85(6):515-30.
- 25. **Freburger JK**, Carey TS, Holmes GM. Management of back and neck pain: Who seeks care from physical therapists? Phys Ther 2005;85:872-86.
- 26. **Freburger JK**, Carey TS, Holmes GM. Physicians' referral to physical therapy for the treatment of spine disorders. Spine J 2005;5:530-41.
- 27. **Freburger JK**, Carey TS, Holmes GM. Effectiveness of physical therapy for the treatment of chronic spine disorders: A propensity score approach. <u>Phys Ther</u> 2006;86(3):381-94.
- 28. Callahan LF, Mielenz TJ, **Freburger JK**, Shreffler J, Hootman J, Brady T, Buysse K, Schwartz T. A randomized controlled trial of People with Arthritis Can Exercise (PACE): Symptoms, function, physical activity, and psychosocial outcomes. Arthritis Care Res 2008;59(1):92-101.
- 29. Callahan LF, **Freburger JK**, Mielenz TJ, Exley EK. Medical skepticism and the use of complementary and alternative health care providers by patients followed by rheumatologists. <u>J Clin Rheumatol</u> 2008;14(3):143-7.
- 30. **Freburger JK**, Mielenz TM. Invited Commentary: Physical therapy clinical performance in the treatment of patients with low back pain syndromes. <u>Phys Ther</u> 2008;88(9):1004-6.
- 31. **Freburger JK,** Carey TS, Holmes GM, Wallace AS, Castel LD, Darter JD, Jackman AM. Exercise Prescription for Chronic Back or Neck Pain: Who Prescribes It? Who Gets It? What is Prescribed? <u>Arthritis Care Res</u> 2009;61(2):192-200.
- 32. **Freburger JK**, Holmes GM, Agans RP, Jackman AM, Darter JD, Wallace AS, Castel LD, Kalsbeek WD, Carey TS. The rising prevalence of chronic low back pain. Archives Intern Med 2009;169(3):251-8.
- 33. Castel LD, **Freburger JK**, Holmes GM, Scheinman RP, Jackman AM, Carey TS. Spine and pain clinics that treat patients with back and neck pain: What do they do and are they multidisciplinary? <u>Spine</u> 2009;34(6):615-22.

- 34. Wallace AS, Selgman HK, Davis TC, Schillinger D, Arnold CL, Bryant-Shilliday B, **Freburger JK**, DeWalt DA. Literacy appropriate educational materials and brief counseling improves diabetes self-management. Patient Educ Couns 2009;75(3):328-33.
- 35. DeWalt DS, Davis TC, Wallace AS, Seligman HK, Bryant-Shilliday B, Arnold DL, **Freburger JK**, Schillinger D. Goal setting in diabetes self-management: taking the baby steps. <u>Patient Educ Couns</u> 2009; 77(2):218-23.
- 36. Carey TS, **Freburger JK**, Holmes GM, Castel LD, Darter JD, Agans RP, Kalsbeek WD, Jackman AM. A long way to go: Practice patterns and evidence in chronic low back pain care. <u>Spine</u> 2009;34(7):718-24.
- 37. Mercer VS, **Freburger JK**, Chang SJ, Purser JL. Measurement of paretic lower extremity loading and weight transfer after stroke. <u>Phys Ther</u> 2009;89(7):653-64.
- 38. Wallace AS, **Freburger JK**, Jackman AM, Darter JD, Carey TS. Comfortably numb? Exploring satisfaction with chronic back pain visits. <u>Spine J</u> 2009; 9(9):721-8.
- 39. **Freburger JK**, Callahan LF, Shreffler JS, Mielenz TJ. The effects of a physical activity program on sleep and health-related quality of life in older persons with arthritis. <u>J Appl Gerontol</u> 2010; 29(4):395-414.
- 40. Mercer VS, **Freburger JK**, Chang SJ, Purser JL. Step test scores are related to measures of activity and participation in the first 6 months after stroke. <u>Phys Ther</u> 2009;89(10):1061-71
- 41. Carey TS, **Freburger JK**, Holmes GM, Jackman AM, Knauer S, Wallace AS, Darter JD. Race, care-seeking, and utilization for chronic back and neck pain: Population perspectives. <u>J Pain</u> 2010;11(4):343-50.
- 42. King J, **Freburger JK**, Slifkin R. What does the clinical doctorate in physical therapy mean for rural communities? Physiother Res Int 2010;15(1):24-34.
- 43. **Freburger JK**, Carey TS. Comparative effectiveness research: Opportunities and challenges for physical therapy. Phys Ther 2010;90(3):327-32.
- 44. Goode AP, **Freburger JK**, Carey TS. Prevalence, practice patterns, and evidence for chronic neck pain. Arthritis Care Res 2010;62(11):1594-601.
- 45. Knauer SR, **Freburger JK**, Carey TS. Chronic low back pain among older adults: a population-based perspective. <u>J Aging Health</u> 2010;22(8):1213-34.
- 46. **Freburger JK,** Carey TS, Holmes GM. Physical therapy for chronic low back pain in North Carolina: Overuse, underuse, or misuse? <u>Phys Ther</u> 2011;91(4):484-95.
- 47. **Freburger JK**, Holmes GM, Ku EK, Heatwole-Shank K, Cutchin MP, Edwards LE. Disparities in post-acute rehabilitation care for joint replacement. Arthritis Care Res 2011;63(7):1020-30.
- 48. **Freburger JK**, Holmes GM, Ku EK, Heatwole-Shank K, Cutchin MP, Edwards LE. Disparities in post-acute rehabilitation care for stroke: Analysis of the State Inpatient Databases. <u>Archives Phys Med Rehabil</u> 2011;92(8):1220-9.
- 49. Pendergrast JF, Kliethermes SA, **Freburger JK**, Duffy PA. A comparison of health care use for physician-referred and self-referred episodes of outpatient physical therapy. <u>Health Serv Res</u> 2012;47(2):633-54.
- 50. **Freburger JK,** Heatwole-Shank K, Knauer SR, Montmeny R. Physical therapy in the acute care setting: A population-based perspective. <u>Phys Ther</u> 2012;92(2):251-65.
- 51. Holmes GM, **Freburger JK**, Ku EK. Decomposing racial and ethnic disparities in post-acute rehabilitation care. <u>Health Serv Res</u> 2012; 47(3 Pt 1):1158-78.
- 52. Sanoff HK, Carpenter WR, **Freburger JK**, Ling L, Chen, K, Zullig LL, Goldberg RM, Scymura MJ, Schrag D. Comparison of adverse events during 5FU versus 5FU/oxaliplatin adjuvant chemotherapy for stage III colon cancer: A population based analysis. Cancer 2012;118(17):4309-20.
- 53. **Freburger JK,** Ng LJ, Bradbury BD, Kshirsagar AV, Brookhart MA. Changing patterns of anemia management in US hemodialysis patients. <u>Am J Med</u> 2012;125:906-14.
- 54. **Freburger JK**, Holmes GM, Ku EK. Post-acute rehabilitation care for hip fracture: Who gets the most care? <u>J</u> Am Geriatr <u>Soc</u> 2012;60(10):1929-35.
- 55. Goode AP, **Freburger JK**, Carey TS. The influence of rural versus urban residence on utilization and receipt of care for chronic low back pain. <u>J Rural Health</u> 2013;29(2):205-14.

- 56. Khirsagar AV, **Freburger JK**, Ellis A, Winklemayer W, Wang L, Brookhart MA. The comparative short-term effectiveness of iron dosing and formulations in US hemodialysis patients. <u>Am J Med</u>. 2013;126(6):541.e1-541.e14.
- 57. Brookhart MA, **Freburger JK**, Ellis A, Winklemayer W, Wang L, Khirsagar AV. Infection risk with bolus versus maintenance iron supplementation in hemodialysis patients. <u>J Am Soc Nephrol</u> 2013;24(7):1151-8.
- 58. Beaubrun AC, Kilpatrick RD, **Freburger JK**, Bradbury BD, Brookhart MA. Temporal trends in fracture rates and postdischarge outcomes among hemodialysis patients. J Am Soc Nephrol 2013; 24(9):1461-9.
- 59. Mielenz TJ, Kubiak-Rizzone K, Alvarez AJ, Hlavacek P, **Freburger JK**, Giuliani C, Mercer V, Callahan LF. Association of self-efficacy and outcome expectations with physical activity in adults with arthritis. <u>Arthritis 2013</u>; 2013:621396. Doi: 10.1155/2013/621396.
- 60. Khirsagar AV, **Freburger JK**, Ellis AR, Wang L, Winklemayer WC, Brookhart MA. Intravenous iron supplementation practices and short-term risk of cardiovascular events in hemodialysis patients. <u>PLoS one</u> 2013;8(11):e78930. Doi:10. 1371/journal.pone.0078930.
- 61. Mercer VM, **Freburger JK**, Zhaoyu Y, Preisser JS. Recovery of paretic lower extremity loading ability and physical function in the first six months after stroke. <u>Arch Phys Med Rehabil</u>; in press.
- 62. Rathmell WK, **Freburger JK**, Feaganes J, Hinton SP, Stearns SC, Henderson L, Massing M, Durham DD, Schenck AP, Khandani A, Carpenter WR, Chen RC. Post-diagnostic follow-up of patients with primary kidney cancers: the association of PET vs conventional imaging use with treatment intensity and all-cause mortality. <u>Cancer</u>; submitted for publication.
- 63. Reeder-Hayes K, **Freburger JK**, Feaganes J, Peacock S, Henderson LM, Massing M, Schenck AP, Stearns SC, Carpenter WR, Chen RC, Khandani AH. Comparative effectiveness of follow-up imaging modalities in pancreatic cancer. <u>J Gastrointest Cancer</u>; submitted for publication.

GRANTS & CONTRACTS

Current

- Amgen, Inc: Methods to Improve Pharmacoepidemiology Research; (01/2014-12/2014); PI: M. Alan Brookhart, PhD; My Role: Co-investigator, 20% effort.
- The Duke Endowment: An Evaluation of the in2L Technology in Nursing Homes in North Carolina (01/2014-12/2016); PI: Gordon DeFriese, PhD; My Role: Co-investigator, 10% effort.
- 1 ULI RR025747, NIH National Center for Research Resources: UNC Clinical Translation Science Award (10/2013-9/2018); PI: Marschall S. Runge, MD, PhD; My Role: Faculty on CER Strategic Initiative, 25% effort.
- Agency for Healthcare Research and Quality: AHRQ Measure Development IDIQ Contract, Subcontract with American Research Institutes (01/2012-12/2015); PI: Susan Heil, PhD; My Role: Subcontractor PI.
- Patient Centered Outcomes Research Institute (PCORI): Methods to Increase Validity of Comparative Effectiveness Research in the Elderly (05/2012-04/2014); PI: Til Sturmer, PhD; My Role: Co-investigator, 20% effort.
- 1T15HD074546-01 National Institutes of Child Health and Human Development, NIH: Intensive Rehabilitation Research Grant Writing Workshops in the United States (01/2013-12/2017); PI: Richard Segal PT, PhD; My Role: Workshop Mentor

Pending

- AHRQ Rapid Secondary Analysis to Optimize Care for Patients with Multiple Chronic Conditions (R01): Effectiveness of Vitamin D in Dialysis Patients with Multiple Chronic Conditions (submitted August 2013); PI: Abhijit V. Kshirsagar, MD, MPH; My Role: Co-investigator.
- Center for Medicare and Medicaid Healthcare Innovation (CMMI): Better Back Care: A Comprehensive Strategy for Improving Function and Outcomes while Reducing Overutilization and Costs (submitted August 2013); PI: Brian Cassaza, MD; My Role: Co-investigator.

- National Institutes of Health R21. Use of temporal data mining techniques to describe chronic care trajectories (submitted February 2014); My Role: Principal Investigator.
- Agency for Healthcare Research and Quality R01. Comparative effectiveness of physician self-referred and independent PT Episodes (submitted March 2014); My Role: Principal Investigator.

Completed

- Amgen, Inc: Estimating Fracture Rates Over Time and Describing the Consequences of Fracture in the Medicare Hemodialysis Population; (06/2012-12/2013); PI: M. Alan Brookhart, PhD; My Role: Co-investigator, 15% effort.
- Amgen, Inc: The Epidemiology of Hospitalizations and Post-hospitalization Outcomes in the Medicare Hemodialysis Population. (11/2012-12/2013); PI: M. Alan Brookhart, PhD; My Role: Co-Investigator, 20% effort.
- HHSA29020050040I, AHRQ: American Recovery and Reinvestment Act, Comparative Effectiveness of Intravenous Iron Formulations in End-Stage Renal Disease; (06/2010-07/2013); PI: M. Alan Brookhart, PhD; My Role: Co-investigator.
- Medicare Payment Advisory Commission: Expert Panel on Payment Policy Improvement for Outpatient Therapy in Medicare; (05/2012-08/2012); PI: Janet K. Freburger, PT, PhD.
- Amgen, Inc: Patterns of Intravenous Iron Use Among U.S. Hemodialysis Patients; (11/2010-06/2012); PI: M. Alan Brookhart, PhD; My Role: Co-Investigator.
- American Physical Therapy Association: Project CONNECT; (10/2008-04/2012); PI: Janet K. Freburger, PT, PhD.
- HHSA290-200500040-I-TO4-WA4,AHRQ: DEcIDE Cancer Multi-Center Research Consortium, Retrospective Evaluation of PET Scanning Using the National Oncologic PET Registry; (08/2009-09/2011): Co-PI's: Ronald Chen, MD, MPH & Janet K. Freburger, PT, PhD.
- HHSA290-200500040-I-TO4-WA1, AHRQ: DEcIDE Cancer Multi-Center Research Consortium, Health Outcomes of Colorectal Cancer Chemotherapy; (02/2009-06/2011): PI: Til Sturmer, PhD; My Role: Co-Investigator.
- R21 HD05798-01, National Institutes of Child Health and Human Development, NIH: Disparities in Post-Acute Rehabilitation Care; (05/2008-04/2011); PI: Janet K. Freburger, PT, PhD.
- American Physical Therapy Association: A Comparison of Direct Access and Physician-Referred Physical Therapy Episodes of Care Using Claims Data. Subcontract with the University of Iowa; (10/2008-09/2010): PI: Jane Pendergast, PhD; My Role: Subcontract PI.
- Department of Allied Health Sciences, University of North Carolina: Strategic Plan for Allied Health Sciences; (02/2008-04/2008); My Role: Consultant.
- R01AR051970-01A1, National Institute of Arthritis and Musculoskeletal and Skin Diseases, NIH: Chronic Back and Neck Pain: Care-Seeking and Evidence; (09/2005-08/2008); PI: Timothy S. Carey, MD, MPH; My Role: Co-investigator.
- R03HD43907, National Institutes of Child Health and Human Development, NIH: Limb Loading and Weight Transfer During Stroke Recovery; (04/2003-03/2005); PI: Vicki S. Mercer, PT, PhD; My Role: Co-investigator.
- American College of Physicians: The Diabetes Self-Management Toolkit; (04/2005-03/2007); PI: Darren DeWalt, MD, MPH; My Role: Co-Investigator.
- Federal Office of Rural Health Policy, US Department of Health and Human Services: Clinical Doctorates in Allied Health, North Carolina Rural Health Research and Policy Analysis; (09/2004-08/2008); PI: Rebecca Slifkin, PhD; My Role: Co-investigator.
- Physical Therapy Foundation: Use of, Access to, and Effectiveness of Physical Therapy for the Treatment of Spine Disorders; (03/2003-04/2004); PI: Janet K. Freburger, PT, PhD.

Centers for Disease Control: Evaluation of People with Arthritis Can Exercise; (10/2002-09/2004); PI: Leigh F. Callahan, PhD; My Role: Co-investigator.

American Physical Therapy Association: OPTIMAL Outcomes Instrument; (01/2002-03/2003); PI: Timothy S. Carey, MD, MPH; My Role: Co-investigator.

R03AG20065-01, National Institute on Aging, NIH: Physical and Occupational Therapy for Older Persons; (09/2001-09/2004); PI: Janet K. Freburger, PT, PhD

American Physical Therapy Association: Hooked on Evidence Project. (05/2001-02/2002); PI: Janet K. Freburger, PT, PhD.

TEACHING EXPERIENCE

Dahahilitatian II (2 anadita).

Department of Physical Therapy, Virginia Commonwealth University

Renabilitation II (2 credits):	1990 - 1992
Electrotherapy (3 credits):	1991 - 1996
Anatomy - Lab Instructor:	1991 - 1993
Physical Therapy Seminar (1 credit):	1991 - 1996
Clinical Specialty Seminar (1 credit):	1991 - 1996
Kinesiology (4 credits):	1992 - 1997
Clinical Biomechanics (3 credits):	1992 - 1996
Advanced Measurement – Electromyography section:	1992 – 1994, 1996
Advanced Biomechanics (3 credits):	1993
Advanced Musculoskeletal Sciences - Electrotherapy section:	1994, 1996, 1997
Special Topics - Wound Healing (1 credit):	1995 - 1996
Research in PT (3 credits):	1995 - 1997
Special Topics - Clinical Integration (1 credit):	1996

Division of Physical Therapy, University of North Carolina:

Introduction to PT Assessment and Procedures (4 credits): 1999 Introduction to Outcomes Research in Health Care (3 credits): 2000

Functional Assessment- Critiquing the Literature section: 1999

Scientific Basis of PT – Regression Techniques section: 1999 Kinesiology- Muscle Mechanics section: 1999 Physical Therapy Modalities- Electrotherapy section: 2000 Mock Clinics: 1999 - 2000

Clinical Supervision: 1999 - 2000

Independent Study in Health Services Research: 2003

Chronic Disability (2 credit online class) 2005

MS, PhD, Postdoctoral Supervision

- Nancy Robnett (M.S. graduate, 1992, Department of Physical Therapy, Virginia Commonwealth University)
- 2. Kevin Lawrence (M.S. graduate, 1994, Department of Physical Therapy, Virginia Commonwealth University)
- Bill Melchione (M.S. graduate, 1997, Department of Physical Therapy, Virginia Commonwealth University) 3.
- 4. Delane Frutiger (M.S. graduate, 2001, Division of Physical Therapy, University of North Carolina)
- 5. Trupti Mehta (M.S. graduate, 2001, Division of Physical Therapy, University of North Carolina)
- 6. Melissa Pitts (M.S. graduate, 2003, Division of Physical Therapy, University of North Carolina)
- 7. Allison Dunkenberger (M.S. graduate, 2003, Division of Physical Therapy, University of North Carolina)
- 8. Lori Schrodt (PhD graduate, 2005, Program on Human Movement Science, University of North Carolina)
- 9. Judy Foxworth (PhD graduate, 2007, Program on Human Movement Science, University of North Carolina)
- 10. Liana Castel (PhD graduate, 2008, Department of Epidemiology, University of North Carolina)
- 11. Andrea Wallace (Postdoctoral Fellow, 2006-2008, School of Nursing, University of North Carolina)

- 12. Stefanie Knauer (PhD Candidate, 2009, Department of Sociology, University of North Carolina)
- 13. Elizabeth Ku Li Jung (PhD graduate, 2012, Department of Health Policy and Management, UNC)
- 14. Kendra Heatwole Shank (PhD graduate, 2013, Department of Occupational Science, UNC)
- 15. Bill Andrews (Faculty Sabbatical, 2013 from Department of Physical Therapy, Elon University)

LICENSURE

Physical Therapist, North Carolina Board of Physical Therapy Examiners, License Number P6579

CLINICAL EXPERIENCE

1986-1987 1988 1989-1990	Crawford Long Hospital, Atlanta, Georgia – acute care, outpatient care. Medical College of Virginia Hospitals (MCVH), Richmond, VA – acute care. Medical College of Virginia Hospitals, Richmond, Virginia, outpatient care (part-time).
1990-1996	Medical College of Virginia Hospitals, Richmond, Virginia – inpatient rehabilitation, outpatient care (part-time).
1997-1998	Laurels of Forest Glen, Garner, NC – inpatient rehabilitation (part-time).
1997-1998	Student Health Services, NCSU, Raleigh, NC – outpatient (part-time).
1998 1999-2000	Wake Medical Center, Raleigh, NC – acute care (part-time). Faculty Practice Clinic, UNC, Chapel Hill, NC – outpatient (part-time).

PRESENTATIONS

Invited

Special Issues in Pain Control, Video Presentation and Teleconference, Medical College of Virginia Hospitals, Richmond, Virginia, April 1990.

Neuromuscular Electrical Stimulation and Biofeedback for the Brain Injured Patient, Two Hour Lecture to Physical Therapy Department Medical College of Virginia Hospitals, Richmond, Virginia, June 1991.

Evaluation and Treatment of the Acute Care Pain Patient, Six Hour Lecture, Presented to Physical Therapy Department, Medical College of Virginia Hospitals, Richmond, Virginia, October 1991.

Lower Extremity Anatomy, Common Injuries and Prevention, Two Hour Lecture to Continental Health Promotion Exercise Leaders, Richmond, Virginia, October 1992

Electrotherapy Update, Four Hour Lecture, Presented to Physical Therapy Department, Stuart Circle Hospital, Richmond, Virginia, March 1992.

Foundations in Establishing a Research-Based Clinical Practice, Group Facilitator, Virginia Physical Therapy Association Conference, Reston, Virginia, April 1992.

The Assessment of Outcomes of Physical Therapy Treatment of Patients with Low Back Pain in the State of Virginia, One hour presentation, Central District Virginia Physical Therapy Association Meeting, Richmond, Virginia, March 1994.

Biomechanics of the Spine, One Hour Lecture, Presented to Physical Therapy Department, Medical College of Virginia Hospitals, Richmond, VA, April 1994.

Applied Anatomy of the Leg and Foot, Two Hour Cadaver Demonstration Lab, Part of a Continuing Education Course for MCV PT Alumni, Virginia Commonwealth University, Richmond, VA, November 1995.

The Biomechanics of the Cervical Spine, One Hour Lecture, Part of a Continuing Education Course sponsored by the Department of Physical Therapy, Virginia Commonwealth University, Richmond, VA, November 1996.

- *Electrotherapy Review and Update*, Two Day Continuing Education Course, Sponsored by Virginia Physical Therapy Programs (ODU, VCU, SU), Williamsburg, VA, February 1997.
- Evaluation of the Sacroiliac Joint: Results of a Reliability Study, Review of the Literature, and Discussion of Clinical Implications, One hour research forum, Division of Physical Therapy, University of North Carolina, Chapel Hill, NC, March 1999.
- Outcomes Research: Applications to Nursing, One and a half hour presentation/discussion, Practice Colloquium, School of Nursing, University of North Carolina, March 2000.
- *Health Services Research: Applications to Physical Therapy,* One hour research forum, Division of Physical Therapy, University of North Carolina, Chapel Hill, NC, April 2002.
- Research in Physical Therapy: The Field of Health Services Research, Two hour presentation, discussion. Department of Physical Therapy, Duke University, Durham, NC, April 2002.
- *The Pathology, Epidemiology, and Treatment of Common Arthritic Conditions*, Two hour presentation & discussion. NC Arthritis Foundation's PACE Training Class, Raleigh, NC, September 2003.
- Outcomes Research in Physical Therapy: The Bigger Picture, Two hour presentation, discussion. Division of Physical Therapy, University of North Carolina, Chapel Hill, NC, November 2009, November 2010, November 2011.
- Outcomes Research and Comparative Effectiveness Research in Physical Therapy. Two hour presentation & discussion. Division of Physical Therapy, Duke University, Durham, NC, February 2011.
- Outcomes & Quality of Healthcare: The Bigger Picture. Two hour presentation, discussion. Division of Physical Therapy, Duke University, Durham, NC, July 2011.
- Disparities in Post-Acute Rehabilitation Care, One hour presentation & discussion, School of Nursing Doctoral Students, University of North Carolina, Chapel Hill, NC, November 2012
- Conducting Health Services Research on Physical Therapy: Perspectives from the Front Line. 4-hour Panel Presentation & Discussion. Combined Sections Meeting of the American Physical Therapy Association, Chicago, IL, February 2012.
- Disparities in Post-Acute Rehabilitation Care, One hour presentation, discussion, Department of Health Services Research, Veteran's Administration, Durham, NC, June 2012.
- *Health Services Research: Applications to Allied Health*, One hour presentation, discussion, Department of Allied Health Services, University of North Carolina, Chapel Hill, NC, April 2013.

Research Platforms

- <u>Kues JM</u>, Rothstein J, Lamb RL. Minimization of Practice Effects on the Measurement of Knee Extensor Torque Produced During Maximum Voluntary Contractions. International Society of Electromyography and Kinesiology 1990 Congress, Baltimore, Maryland, August 1990.
- <u>Kues JM</u>, Rothstein J, Lamb RL. The Relationships Between Isometric Knee Extensor Torques, Concentric Knee Extensor Peak Torques and Eccentric Knee Extensor Peak Torques Produced During Maximum Voluntary Contractions. Virginia Physical Therapy Association State Meeting, Roanoke, Virginia, April 1991.
- <u>Kues JM</u>, Rothstein J, Lamb RL. The Relationships Between Isometric Knee Extensor Torques, Concentric Knee Extensor Peak Torques and Eccentric Knee Extensor Peak Torques Produced During Maximum Voluntary Contractions. American Physical Therapy Association National Meeting, Boston, Massachusetts, June 1991.
- <u>Kues JM</u>, Mayhew T. Concentric and Eccentric Force-Velocity Relationships During Electrically Induced, Submaximal Contractions. Virginia Physical Therapy Association Meeting, Roanoke, Virginia, April 1995.
- Lawrence K, <u>Kues JM</u>, Riddle DL. Intertester Reliability of Judgments of the Alignment of the Sacroiliac Joints in Normal Subjects: Implications for Clinical Practice. Annual American Physical Therapy Association Conference, Minneapolis, Minnesota, June 1996.

- <u>Freburger JK</u>. An Analysis of the Relationship Between the Utilization of Physical Therapy Services and Outcomes of Care for Patients With Acute Stroke. Annual Combined Sections Meeting of the American Physical Therapy Association; New Orleans, LA, February 2000.
- <u>Freburger JK</u>, Callahan LF, Currey SS. Patient-Physician Trust in Patients with Rheumatic Disease. Biennial Arthritis Foundation Research Conference; San Diego, CA, March 2001.
- <u>Freburger JK</u>, Holmes GM, Carey TS. Use of physical therapy by community-based older persons. American Physical Therapy Association Combined Sections Meeting; Nashville, TN, February 2004.
- <u>Freburger JK</u>, Carey TS, Holmes GM. Use of physical therapy for the treatment of spine disorders. American Physical Therapy Association Combined Sections Meeting; Nashville, TN, February 2004.
- <u>Freburger JK</u>, Holmes GM, Cutchin M. Disparities in post-acute rehabilitation care for joint replacement. American College of Rheumatology Scientific Meeting; Philadelphia, PA, October 2009.
- <u>Freburger JK</u>, Montmeny R, Knauer SK, Heatwole Shank K. The delivery of physical therapy in the acute care setting: A population-based perspective. American Physical Therapy Association Combined Sections Meeting; San Diego, CA, February 2010.
- <u>Freburger JK</u>, Holmes GM, Ku E. Disparities in post-acute rehabilitation care for hip fracture. American Physical Therapy Association Combined Sections Meeting; New Orleans, LA, February 2011.
- <u>Goode A</u>, Cook C, Freburger J, Carey T, Jordan JM. Modifiable risk factors of low back symptoms in a U.S community-based population: The Johnston County Osteoarthritis Project. American Physical Therapy Association Combined Sections Meeting; Chicago, IL, February 2012.

Poster Presentations

- Kues JM, Mayhew TM. Concentric and Eccentric Force-Velocity Relationships During Electrically Induced Submaximal Contractions. Annual American Physical Therapy Association Conference, Minneapolis, Minnesota, June 1996.
- Freburger JK. An Analysis of the Relationship Between the Utilization of Physical Therapy Services and Outcomes of Care for Patients Status-Post Total Hip Arthroplasty. Annual Combined Sections Meeting of the American Physical Therapy Association; New Orleans, LA, February 2000.
- White J, Spores K, Walton S, Wiese R, Freburger JK. Validation of Predictive Measures in Determining Pre-Operative Discharge Placements for Hip and Knee Arthroplasty Patients. Annual Combined Sections Meeting of the American Physical Therapy Association; San Antonio, Texas, February 2001.
- McCulloch K, Freburger JK, Giuliani C, Busby-Whitehead J. Screening for Administration of the Activity-Specific Balance Confidence Scale. Annual Combined Sections Meeting of the American Physical Therapy Association; San Antonio, Texas, February 2001.
- Freburger JK, Carey TS. Factors Associated with Physicians' Prescription of Physical Therapy for Musculoskeletal Disorders and Injuries. NRSA-AHRQ Conference; Atlanta, Georgia, June 2001.
- Callahan LF, Currey SS, Freburger JK. Medical Skepticism in Patients with Rheumatic Disease. American College of Rheumatology Annual Scientific Meeting; San Francisco, California, October 2001.
- Freburger JK, Carey TS. Use of Physical Therapy in Ambulatory Care Settings. American Physical Therapy Association Annual Meeting, Cincinnati, OH, June 2002.
- Freburger JK, Holmes GM, Carey TS. Physicians' Referral to Physical Therapy: A Comparison of Orthopedic Surgeons' and Primary Care Physicians' Management of Musculoskeletal Problems. Academy of Health Services Research and Health Policy Annual Meeting, Washington, DC, June 2002.
- Freburger JK, Carey TS, Holmes GM. Physicians' referral to physical therapy for the treatment of spine disorders. North American Spine Society Meeting. Chicago, IL. October 2004.

- Schrodt LA, Giuliani CA, Freburger JK, Hartman M, Mercer VS, Busby-Whitehead J. Direct and indirect effects of processing speed on disability in older adults. Gerontological Society of America Annual Scientific Meeting, Washington, DC, November 2004.
- Mercer VS, Freburger JK Purser J, Chang S. Paretic lower extremity loading and weight transfer following stroke. Combined Sections Meeting of the American Physical Therapy Association, San Diego, CA, February 2006.
- Wallace AS, Seligman HK, Davis T, Schillinger D, Arnold C, Bryant B, Freburger J, DeWalt DA. Improving diabetes self-management using low-literacy educational materials and brief counseling. Society of General Internal Medicine, Annual Meeting, April 2007, Toronto, Canada.
- Freburger JK, Carey TS, Jackman AM, Darter JD, Holmes GM, Agans RP. Exercise instruction for chronic low back pain: Who gets it? Who prescribes it? What is prescribed? Combined Sections Meeting of the American Physical Therapy Association, Nashville, TN, February 2008.
- Freburger JK, Carey TS, Holmes GM, Castel L, Wallace A, Darter JD, Agans RP, Jackman AM. Health care use for chronic low back pain: Now and then. Academy Health Meeting, Washington, DC. June 2008.
- Castel LD, Freburger JK, Holmes GM, Scheinman RP, Jackman AM, Carey TS. Spine and pain clinics that treat patients with back and neck pain: what do they do and are they multidisciplinary? Academy Health Meeting, Washington, DC. June 2008.
- Knauer SR, Freburger JK, Carey TS, Holmes GM, Jackman AM. Chronic low back pain among older North Carolinians in North Carolina. Aging Exchange, University of North Carolina, October 2008.
- Freburger JK, Cutchin MP, Holmes GM, Edwards LJ. Disparities in post-acute rehabilitation care. Aging Exchange, University of North Carolina, October 2008.
- Freburger JK, Carey TS, Holmes GM, Knauer S, Jackman AM. Physical therapy for chronic low back pain: Overuse, underuse, or misuse? American Physical Therapy Association Meeting, Baltimore, MD, June 2009.
- Freburger JK, Heatwole Shank K, Holmes GM, Morgan JC. Physical therapy for acute care of stroke: Are patients getting recommended care? American Physical Therapy Association Combined Sections Meeting, San Diego, February 2010.
- Freburger JK, Holmes GM, Ku LE, Cutchin MP, Heatwole Shank HS. Disparities in post-acute rehabilitation for stroke. Academy Health Conference, Boston, MA, June 2010 and the American Physical Therapy Association Combined Sections Meeting; New Orleans, LA, February 2011.
- Freburger JK, Ng LJ, Bradbury BD, Kshirsagar AV, Brookhart MA. Patterns of anemia management in U.S. hemodialysis patients (2002-2008). American Society of Nephrology Annual Conference. Philadelphia, PA, November 2011.
- Goode AP, Freburger JK, Oravec BS, Carey TS. The influence of rural versus urban residence on utilization and receipt of physical therapy for chronic low back pain. American Physical Therapy Association Annual meeting, Tampa, FL, June 2012.
- Beaubrun AC, Kilpatrick RD, Freburger JK, Wang L, Bradbury BD, Brookhart MA. Temporal trends in fracture rates and among U.S. Medicare hemodialysis patients (2000-2008). ISN Nexus Symposium, Bone and Kidney 2012. Copenhagen, Denmark, September 2012.
- Goode AP, Freburger JK, Carey TS, Cooke CE, Renner JB, Rundell SD, Jordan JM. The Relationship Between Lumbar Spine Individual Radiographic Features and Low Back Symptoms with and without Associated Leg Symptoms: The Johnston County Osteoarthritis Project. ACR/AHRP Annual Conference. Washington, D.C., November 2012.
- Beaubrun AC, Kilpatrick RD, Freburger JK, Bradbury BD, Brookhart MA. Post-fracture outcomes among U.S. Medicare hemodialysis patients (2000-2008). American Society of Nephrology Annual Conference. San Diego, California, November 2012.
- Kshirsagar AV, Freburger JK, Ellis AR, Wang L, Winkelmayer WC, Brookhart MA. The comparative short-term effectiveness of iron dosing in U.S. hemodialysis patients. American Society of Nephrology Annual Conference. San Diego, California, November 2012.

- Kshirsagar AV, Freburger JK, Ellis AR, Wang L, Winkelmayer WC, Brookhart MA. The comparative short-term effectiveness of ferric gluconate versus iron sucrose in U.S. hemodialysis patients. American Society of Nephrology Annual Conference. San Diego, California, November 2012.
- Freburger JK, Ellis AR, Butler AM, Kshirsagar AV, Wang L, Winkelmayer WC, Brookhart MA. The comparative effectiveness of iron formulation and dosing practices on health-related quality of life in patients on hemodialysis. American Society of Nephrology Annual Conference. Atlanta, Georgia, November 2013.

REPORTS

- **Freburger JK**, King J, Slifkin R. The trend toward the clinical doctorate in allied health: Implications for rural communities. Final Report, No. 94. North Carolina Rural Health Research & Policy Analysis Center, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill. August 2008; http://www.shepscenter.unc.edu/research_programs/rural_program/pubs/report/FR94.pdf
- **Freburger JK**, Heatwole-Shank, K. APTA National Outcomes Database: Analysis of data collected by users of the CONNECT Patient Record System. A report prepared for the American Physical Therapy Association. December 2009.
- **Freburger JK**, Ku E. APTA National Outcomes Database: Analysis of data collected by users of the CONNECT Patient Record System. A report prepared for the American Physical Therapy Association. February 2011.
- Henderson LM, **Freburger JK**, Stearns SC, Hinton SP, Massing M, Hillner BE, Carpenter WR, Chen RC. A comparison of National Oncologic PET Registry and Medicare administrative data for cancer management strategies following use of FDG-PET. A report submitted to AHRQ on behalf of UNC's DEcIDE Consortium, Task order HHSA290-2005-0040-I-TO4-WA4, September 2011.
- Reeder-Hayes K, **Freburger JK**, Feaganes J, Peacock S, Henderson L, Massing M, Schenck AP, Stearns SC, Carpenter WR, Chen RC, Khandani AH. FDG-PET in the follow-up of pancreatic cancer: Effects on mortality and treatment intensity. A report submitted to AHRQ on behalf of UNC's DEcIDE Consortium, Task order HHSA290-2005-0040-I-TO4-WA4, September 2011.
- Rathmell WK, **Freburger JK**, Feaganes J, Peacock S, Stearns SC, Henderson L, Massing M, Durham DD, Schenck AP, Khandani A, Carpenter WR, Chen RC. Association between PET scan use for post-diagnostic follow-up with treatment intensity and survival in patients with primary kidney cancers. A report submitted to AHRQ on behalf of UNC's DEcIDE Consortium, Task order HHSA290-2005-0040-I-TO4-WA4,September 2011.
- Brookhart MA, **Freburger JK**, Ellis A, Winklemayer W, Wang L., Khirsagar AV. The comparative short-term safety of iron sucrose versus sodium ferric gluconate for the treatment of anemia in hemodialysis patients. A report submitted to AHRQ on behalf of UNC's DEcIDE Consortium, contract 290-05-0040I-5, February 2012.
- Brookhart MA, **Freburger JK**, Ellis A, Winklemayer W, Wang L., Khirsagar AV. The comparative short-term safety of iron iron dosing practices in U.S. hemodialysis patients. A report submitted to AHRQ on behalf of UNC's DEcIDE Consortium, contract 290-05-0040I-5, April 2012.
- Khirsagar AV, **Freburger JK**, Ellis A, Winklemayer W, Wang L., Brookhart MA. The comparative short-term efficacy of iron iron dosing and formulations in U.S. hemodialysis patients. A report submitted to AHRQ on behalf of UNC's DEcIDE Consortium, contract 290-05-0040I-5, April 2012.
- **Freburger JK**. APTA National Outcomes Database: Analysis of data collected by users of the CONNECT Patient Record System. A report prepared for the American Physical Therapy Association. September 2012.
- Brookhart MA, **Freburger JK**, Ellis A, Winklemayer W, Wang L., Khirsagar AV. Short-term safety of ferric gluconate versus iron sucrose for anemia management. A report submitted to AHRQ on behalf of UNC's DEcIDE Consortium, contract 290-05-0040I-5, January 2013.

Freburger JK, Kshirsagar A, Ellis A, Wang L, Winklemayer W, Brookhart MA. The Comparative Effectiveness of Iron Formulation and Dosing Practices On Health-Related Quality of Life in Patients on Hemodialysis. A report submitted to AHRQ on behalf of UNC's DEcIDE Consortium, contract 290-05-0040I-5, May 2013.

SERVICE

Virginia Commonwealth University

Resource Development and Service Committee Member, Department of Physical Therapy, 1991-1997.

Admissions Committee Member, Department of Physical Therapy, 1991-1997.

Search Committee Member for Academic Coordinator of Clinical Education, 1992.

Student Academic Appeals Committee Member, School of Allied Health Professions, 1994-1997.

University Appeals Committee Alternate, 1993-1994.

University Library Committee Alternate, 1993-1994.

University Appeals Committee Member, 1994-1997.

Faculty Senate Member, 1996-1997.

University of North Carolina

Promotion Committee Member, Division of Physical Therapy, 1999.

Admissions Committee Member, Division of Physical Therapy, 1999.

Clinical Services Committee Member, division of Physical Therapy, 1999-2000.

Executive Committee Member at Large, Division of Physical Therapy, 1999-2000.

Research Committee Member, Division of Physical Therapy, 1999-2000.

State Committees

Central District Chapter Secretary, Virginia Physical Therapy Association, 1993-1996.

Virginia Consortium on Clinical Education Member, 1994-1996.

Committee for Development of a Case-Based Curriculum Member, Virginia Chapter of the Arthritis Foundation, 1995-1996.

Professional Service

Physical Therapy Consultant, Acute Pain Service, Medical College of Virginia Hospitals, Richmond, Virginia, 1991-1994.

Clinical Ladder Review Board, Department of Physical Therapy, Medical College of Virginia Hospitals, Richmond, Virginia, 1993-1994.

Research Consultant, Theri-teck, Inc., Annapolis, MD, 1995.

Panel Participant, Health Career Exploration Seminar, Spring '99 Health Professions Forum sponsored by the NC Health Careers Access Program, 1999.

Research Consultant: Research Advisory Panel of the American Physical Therapy Association, Alexandria, VA, 2003.

Manuscript Reviewer: American Journal of Physical Medicine and Rehabilitation; Annals of Behavioral Medicine; Archives of Physical Medicine and Rehabilitation; Arthritis Care and Research; BMC Musculoskeletal Disorders; Contemporary Clinical Trials; Health Services Research; Journal of the American Geriatrics Society; Journal of Applied Gerontology; Journal of Back and Musculoskeletal Rehabilitation; Journal of Gerontology: Medical Sciences; Journal of Health Care for the Poor and Underserved; Journal of Orthopedic and Sports Physical Therapy; Medical Decision Making; Physical Therapy; Physical Therapy Case Reports; Physiotherapy Theory and Practice; Spine.

Book Reviewer: Mosby Year Book Inc; Appleton and Lange; Physical Therapy Case Reports.

Community Service

Mentor, VCU Shares Program, John F. Kennedy High School, Richmond, VA, 1993.

Children's Miracle Network Telethon Volunteer, Medical College of Virginia Hospital, Richmond, VA, 1999.

Panel Participant, Health Career Exploration Seminar, Spring '99 Health Professions Forum sponsored by the NC Health Careers Access Program, 04/99.

Special Olympics Volunteer, North Carolina Physical Therapy Association, 06/99.

Student Health Action Coalition, University of North Carolina, Preceptor for Physical Therapy Students, Spring 1999, Summer 1999, Spring 2000, Summer 2000, Spring 2001.