

William Bishop Saunders, PhD, MPH

Professional experience

2009 to present Saunders Research, LLC Charlotte, NC

Managing Director

- Analytic Consulting to pharmaceutical clients
- Data acquisition and implementation strategies
- Data Analysis (clinical trial, claims, EMR data)
- Data interface tool assessment
- Analytic plan development, selection criteria feasibility
- Clients include Quintiles, Genentech-Roche, BMS, Anolinx, Biogen Idec, Outcome, Premier, Covance, UCB Pharma, Amylin

2009 to 2011 GE Healthcare Charlotte, NC

Healthcare Research Manager

- Liaison between Sales and Research
- Business development, research protocol development, presentations to clients
- Statistical analysis
- Data enrichment activities related to GE's EMR database

2009 to 2009 Outcome, Inc. Charlotte, NC

Contract Epidemiologist

- Analyzed patient registry studies, evaluated real-world outcomes
- Reviewed protocols, publications

2008 to 2009 Lovelace Respiratory Research Institute Kannapolis, NC

Senior Research Scientist, Center for Pharmaco-economic and Outcomes Research

- Business Development
- Lead consultant to Team regarding study design and analytic approach

2007 to 2008 Premier, Inc. Charlotte, NC

National Director, Premier Research Services

- Analytic support to the Director, Sales and four Market Development Managers
- Responsibility for all content & analytic oriented sales presentations to clients (pharmaceutical companies, device manufacturers, government agencies, and academic clients)
- Lead consultant to Analytics & Research Team regarding project proposal development and statistical analytic approach

2003 to 2007 Premier, Inc. Charlotte, NC

Director, Analytics & Research, Premier Healthcare Informatics

- Supervised a group of four researchers and four programmers
- Responsible for all operational activities (project proposal development, statistical analytic approach, QA of all final deliverables (data extracts, outcomes studies, market segmentation studies, chart review studies etc.))

1999 – 2003 GlaxoSmithKline RTP, NC

Director, Data Exploration Sciences, Biomedical Data Sciences

- Development Director, Healthcare Information Factory (HIF);
Chair, HIF User Advisory Group & Content Assessment Teams
- Vendor Data Analysis 2001 Project & 2003 Vendor Assessment project
- Therapeutic contact for data exploration projects in Psychiatry;
Lead the Sumatriptan/naratriptan clinical trial data aggregation project;
Consultant to the Paxil clinical trial data aggregation project;
Core member of the Recruitment 2000 project
- Sponsor of the Information Management & Analysis Information Based Clinical
Planning (IBCP) web-based training project

1995 – 1999 Glaxo Wellcome Inc. RTP, NC

Principal (1998-9) and Senior Epidemiologic Scientist, WW Epidemiology

- IBCP co-Project Leader; Core Team member of Data Exploration Center Pilot Team
- Manager, General Practice Research Database (GPRD) projects & infrastructure development
- Manager, contract with Epidemiology Resources Inc. (now part of Ingenix),
sponsored the development of the *EpiResponse* system

1992 – 1995 Glaxo Inc. RTP, NC

Manager, International Pharmacoeconomic Research

- Design, implementation, & analysis of epidemiologic studies
to support the development & marketing of Glaxo products

1991 – 1992 VA Medical Center Durham, NC

Pre_Doctoral Fellow, Center for Health Services Research

1987 – 1991 Duke University Medical Center Durham, NC

Research Analyst, Department of Psychiatry

- Statistical support to grant proposals, manuscripts;
SAS training & database development activities

Education

1989 – 1994 University of North Carolina Chapel Hill, NC

Doctor of Philosophy / Epidemiology

- Dissertation: Functional disability, social support, and depressive symptoms in the elderly.
- Chair, Student Union Board, School of Public Health;
Delta Omega, Theta Chapter, Student Service Award

1985 – 1987 University of North Carolina Chapel Hill, NC

Master of Public Health / Biostatistics

1981 – 1985 University of North Carolina Chapel Hill, NC

Bachelor of Science in Public Health / Biostatistics

- Society of Janus, Honor Society for significant contribution to campus life

**Professional
memberships**

International Society for Pharmacoepidemiology,
International Society for Pharmacoeconomic and Outcomes Research

Publications

- Holdridge KC, Sorsaburu S, Houston JP, Saunders W. Characteristics and mortality among hospitalized patients treated with intramuscular antipsychotics: analysis of a United States hospital database. Curr Drug Safety 5(3):203-11, 2010.
- Mahmoud NN, Turpin RS, Yang G, Saunders WB. Impact of surgical site infections on length of stay and costs in selected colorectal procedures. Surg Infect (Larchmt) 10(6): 539-44, 2009.
- Iyer S, Saunders WB, Stenkowski S. Economic burden of postoperative ileus associated with colectomy in the United States. J Managed Care Pharm (JMCP) 15(6): 485-94, 2009.
- Blanchette CM, Joshi AV, Szpalski M, Gunzburg R, Du Bois M, Donceel P, Saunders WB: Burden of blood transfusion in knee and hip surgery in the US and Belgium. Journal of Medical Economics 12(3): 171-179, 2009.
- Blanchette CM, Joshi AV, Szpalski M, Gunzburg R, Du Bois M, Donceel P, Saunders WB: Comparison Between Spinal Surgery Blood Transfusion Services Costs and Associated Treatment Practices in the United States and Belgium. Curr. Med. Res. Opin. 23(11): 2793-2804, 2007.
- Christopher M. Blanchette CM, Wang PF, Joshi AV, Asmussen M, Saunders W, Kruse P. Cost and utilization of blood transfusion associated with spinal surgeries in the United States. Eur Spine J, 2006.
- Blanchette CM, Wang PF, Joshi AV, Kruse P, Asmussen M, Saunders W: Resource utilization and costs of blood management services associated with knee and hip surgeries in US hospitals. Advances in Therapy, 23(1):54-67, 2006.
- Barrows C, Saunders B, Austin R, Putnam G, Mansbach, H: The Sumatriptan/Naratriptan Aggregated Patient (SNAP) Database: Aggregation, Validation, and Application. Cephalalgia; 24(7):586-95, 2004.
- Fisher R, Saunders WB, Murray SJ, Stave GM: Prevention of laboratory animal allergy. Journal of Occupational and Environmental Medicine, 40(7):609-13, 1998.
- Blazer DG, Landerman LR, Hays JC, Simonsick EM, Saunders WB: Symptoms of depression among community-dwelling elderly African-Americans compared to white older adults. Psychological Medicine, 28(6):1311-20, 1998.
- Hahn BA, Saunders WB, Maier WC: Differences between individuals with self-reported irritable bowel syndrome (IBS) and those with IBS-like symptoms. Digestive Diseases and Sciences, 42(12):2585-90, 1997.
- Smith DH, Malone DC, Lawson KA, Okamoto LJ, Battista C, Saunders WB: A national estimate of the economic costs of asthma. Am J Respir Crit Care Med, 156:787-93, 1997.
- Kessler RC, Berglund PA, Foster CL, Saunders WB, Stang PE, Walters EE: Social consequences of psychiatric disorders, II: Teenage parenthood. American Journal of Psychiatry, 154:1405-1411, 1997.
- Hays FC, Saunders WB, Flint EP, Kaplan BH, Blazer DG: Social support and depression as risk factors for loss of physical function in late life. Aging and Mental Health, 1(3):209-220, 1997.
- Siegler IC, Blumenthal JA, Barefoot JC, Peterson BL, Saunders WB, Dahlstrom WG, Costa PT, Suarez EC, Helms MJ, Maynard KE, Williams RB: Personality factors differentially predict exercise behavior in men and women. Woman's Health: Research on Gender, Behavior, and Policy, 3(1):61-70, 1997.
- Kessler RC, Foster CL, Saunders WB, Stang PE: The social consequences of psychiatric disorders: I. Educational attainment. American Journal of Psychiatry, 152:1026-32, 1995.
- Davidson JRT, Kudler HS, Saunders WB, Lipper S, Hammett EB, Mahorney SL, Erickson L, Smith RD, Stein RM, Cavenar JO Jr.: Predicting response to pharmacotherapy in posttraumatic stress disorder. American Journal of Psychiatry, 150:1024-9, 1993.
- Krishnan KR, Reed D, Wilson WH, Saunders WB, Ritchie JC, Nemeroff CB, Carroll BJ. RU486 in depression. Prog Neuropsychopharmacol Biol Psychiatry, 16(6):913-20, 1992.
- Williams RB, Barefoot JC, Califf RM, Saunders WB, Peterson BL, Haney TL, Pryor DB, Hlatky MA, Siegler IC, Mark DB: Survival in patients with angiographically documented coronary artery disease: prognostic importance of social and economic resources. Journal of the American Medical Association, 267:520-4, 1992.

- Krishnan KR, Ritchie JC, Manepalli AN, Wilson WH, Saunders WB, Venkataraman SS, Carroll BJ: Role of serotonin in hypothalamo pituitary adrenal axis escape from dexamethasone suppression. Prog Neuropsych Biol Psychiatry, 15(5):637-42, 1991.
- Krishnan KR, Ritchie JC, Manepalli A N, Saunders W, Li SW, Venkataraman S, Nemeroff CB, Carroll BJ: Fast feedback regulation of ACTH by cortisol. Prog Neuropsychopharmacol Biol Psychiatry, 15(4):523-9, 1991.
- Davidson JR, Kudler HS, Saunders WB, Smith RD: Symptom and comorbidity patterns in World War II and Vietnam veterans with posttraumatic stress disorder. Comprehensive Psychiatry, 31(2):162-70, 1990.
- Krishnan KR, Ritchie JC, Saunders WB, Nemeroff CB, Carroll BJ: Adrenocortical sensitivity to low-dose ACTH administration in depressed patients. Biol Psychiatry, 27(8):930-3, 1990.
- Krishnan KR, Ritchie JC, Saunders W, Wilson W, Nemeroff CB, Carroll BJ: Nocturnal and early morning secretion of ACTH and cortisol in humans. Biol Psychiatry, 28(1):47-57, 1990.
- Hodges K, Saunders WB, Kashani J, Hamlett K, Thompson RJ Jr.: Internal consistency of DSM-III diagnoses using the symptom scales of the Child Assessment Schedule (CAS). Journal of the American Academy of Child and Adolescent Psychiatry, 29(4):635-41, 1990.
- Davidson J, Kudler H, Smith R, Mahorney SL, Lipper S, Hammett E, Saunders WB, Cavenar JO Jr.: Treatment of posttraumatic stress disorder with amitriptyline and placebo. Archives of General Psychiatry, 47(3):259-66, 1990.
- Coffey CE, Figiel GS, Weiner RD, Saunders WB: Caffeine augmentation of ECT. American Journal of Psychiatry, 147(5):579-85, 1990.
- Webb MC, Coffey CE, Saunders WB, Cress MM, Weiner RD, Sibert TR: Cardiovascular response to unilateral electroconvulsive therapy. Biological Psychiatry, 28:758-66, 1990.
- Coffey CE, Figiel GS, Djang WT, Saunders WB, Weiner RD: White matter hyperintensity on magnetic resonance imaging: clinical and neuroanatomic correlates in the depressed elderly. J Neuropsychiatry Clin Neurosci. 1(2):135-44, Spring 1989.
- Magruder-Habib K, Zung WW, Feussner JR, Alling WC, Saunders WB, Stevens HA: Management of general medical patients with symptoms of depression. General Hospital Psychiatry, 11(3):201-7; discussion 216-21, 1989.
- Rao VP, Krishnan KR, Goli V, Saunders WB, Ellinwood EH Jr., Blazer DG, Nemeroff CB: Neuroanatomical changes and hypothalamo-pituitary-adrenal axis abnormalities. Biological Psychiatry, 26(7):729-32, 1989.
- Hodges K, Saunders W: Internal consistency of a diagnostic interview for children: the Child Assessment Schedule. J Abnorm Child Psychol, 17(6):691-701, 1989.
- Coffey CE, Figiel GS, Djang WT, Cress M, Saunders WB, Weiner RD: Leukoencephalopathy in elderly depressed patients referred for ECT. Biological Psychiatry, 24(2):143-61, 1988.
- Coffey CE, McCall WV, Hoelscher TJ, Carroll BJ, Hinkle PE, Saunders WB, Erwin CE, Marsh GR, Weiner RD: Effects of ECT on polysomnographic sleep: a prospective investigation. Convulsive Therapy, 4(4):269-79, 1988.

Selected presentations

- Lee-Grossman CW, Saunders WB, Wilson LS, Zhong L. The Population-Based Impact of MS in Asia. Presented at the ISPOR Asia Pacific Conference, Taipei, Taiwan, 2012.
- Best JH, Maggs D, Little W, Chiquette E, Saunders WB. The risk of heart failure among patients receiving Exenatide BID versus other glucose-lowering medications for Type 2 diabetes: a matched retrospective analysis of the GE Healthcare EMR database. Presented at the 2011 European Association for the Study of Diabetes (EASD).
- Bhatia J, Saunders WB, Friedlich P, Lavin PT, Sekar KC, Ramanathan R. Differences in mortality among infants treated with three different natural surfactants for respiratory distress syndrome [Abstract]. International Workshop on Surfactant Replacement, Ancona, Italy, June 2007. (Neonatology 2007; 914: 324)

- Bhatia J, Saunders WB, Friedlich P, Lavin PT, Sekar KC, York JM, Lugo JP, Ramanathan R. Differences in mortality among infants treated with three different natural surfactants for respiratory distress syndrome [Abstract]. Pediatric Academic Societies (PAS), Toronto, Canada, May 2007.
- Blanchette CM, Stenkowski S, Craver C, Wang PF, Saunders W. Hospital length of stay associated with anticonvulsant utilization by patients with seizure disorders in the US patients [Abstract]. International Society for Pharmacoeconomics and Outcomes Research (ISPOR), May 2006, Philadelphia, PA [Value Health 2006; 9(3): A80]
- Ernst FR, Saunders W, Craver C. "Lack of correlation between proportion of inpatient cases involving severe sepsis and composite quality scores for US hospitals." Poster presented at the Academy Health meeting, June 2006.
- Holdridge KC, Saunders WB, Hornbuckle K, Polzer J, Houston J, Sorsaburu S. Characteristics and outcomes in hospitalized patients treated with intramuscular antipsychotics: analysis of a US hospital database [Abstract]. Submitted to International Society for Pharmacoepidemiology (ISPE), Quebec City, Canada, August 2007.
- Holdridge KC, Saunders WB, Hornbuckle K, Polzer J, Jones ME, Houston J, Sorsaburu S. Characteristics and outcomes in hospitalized patients treated with intramuscular antipsychotics: analysis if a US hospital database [Abstract]. International Conference on Pharmacoepidemiology & Therapeutic Risk Management (ISPE), Copenhagen Denmark, August 2008.
- Iyer S, Saunders W. Burden of post-operative ileus (POI) in colectomy surgery patients [Encore abstract]. American College of Clinical Pharmacy (ACCP), Denver, CO, October 2007.
- Iyer S, Saunders W. Burden of post-operative ileus (POI) in colectomy surgery patients in the United States [Abstract]. International Society for Pharmacoeconomics and Outcomes Research (ISPOR), Arlington, VA, May 2007. [Value Health 2007; 10(3): A148.]
- Iyer S, Saunders W. Impact of post-operative ileus (POI) on hospital length of stay in colectomy surgery patients [Abstract]. American College of Gastroenterology (ACG), Philadelphia, PA, October 2007.
- Joshi AV, Wang PF, Kruse P, Asmussen M, Saunders B. Differences in blood transfusion costs by hip and knee replacement and revision surgery subtypes. Poster presented at the ISPOR 8th Annual European Congress, 6-8 November 2005 at the Palazzo Degli Affari in Florence, Italy.
- Mahmoud N, Turpin RS, Saunders W. Surgical site infections, length of stay and costs associated with 23,067 colorectal procedures [Abstract]. American Society of Colon and Rectal Surgeons (ASCRS), Louis, MO, June 2007.
- Oliveria SA, Johannes K, Simon TA, Saunders B. "Estimating Off Label Drug Use in Two Pediatric Populations Using Claims Data." Poster presented at the International Society for Pharmacoeconomics and Outcomes Research meeting, Washington, DC, May 2005.
- Ramanathan R, Saunders WB, Lavin PT, Sekar KC, Ernst FR, Bhatia J. Mortality differences among preterm infants treated with three different natural surfactants: analyses from a large national database [Abstract]. American Academy of Pediatrics (AAP), San Francisco, CA, October 2007.
- Ramanathan R, Saunders WB, Lavin PT, Sekar KC, Ernst FR, Bhatia J. Mortality differences among preterm neonates treated with three different natural surfactants: analyses from a large national database [Abstract]. European Society for Paediatric Research (ESPR), Prague, Czech Republic, October 2007. (Acta Paediatrica 2007; 96 (s456): 107)
- Saunders WB, Wang PF, Gaylord B. "Elective Surgeries in the US: Risk Factors, Cost, and Outcomes." Poster presented at the International Society for Pharmacoeconomics and Outcomes Research meeting, Washington, DC, May 2005.
- Saunders WB, Bowers B, Moss B, Wang PF. Recorded Rate and Economic Burden Associated with Postoperative Ileus [Abstract]. American Society for Health-System Pharmacists (ASHP), Orlando, FL, December 2004.
- Saunders WB. Analyses of complex patient data. Presented at the DIA conference titled "Access to Data and Knowledge Delivery: Best Practices in Data Mining and Analysis, Modeling and Simulation," April 2003.

Saunders WB. Role of aggregated data & novel methods of data analysis in clinical development: Examples from GSK's experience. Presented at the DIA conference titled "Optimizing clinical development: How data warehousing, data mining and digital dashboards can contribute to achieving operational excellence," July 2002.

Sekar KC, Bhatia J, Ernst FR, Saunders WB, Lavin PT, Ramanathan R. Hospital costs and length-of-stay in preterm infants with respiratory distress syndrome treated with one of three different natural surfactants: analyses using a large hospital discharge database [Abstract]. American Academy of Pediatrics (AAP), San Francisco, CA, October 2007.

Sekar KC, Bhatia J, Ernst FR, Saunders WB, Lavin PT, Ramanathan R. Resource use in preterm neonates with respiratory distress syndrome treated with one of three different natural surfactants: analyses using a large hospital discharge database [Abstract]. European Society for Paediatric Research (ESPR), Prague, Czech Republic, October 2007. (*Acta Paediatrica* 2007; 96 (s456): 109)

Senagore A, Wang PF, Saunders W, et al. Recorded incidence and economic burden associated with postoperative ileus. Orlando, FL: Poster P36E; 2006; Presented at: American Society of Health-System Pharmacists, June 25–28

Senagor A, Delaney C, Wang PF, Saunders WB, Matuszewski K, Moss B, Bell T, Fort J (for the Alvimopan Postoperative Ileus Study Group). Economic burden and risk factors associated with ICD-9 coded postoperative ileus (POI): Results from US hospital data during 2002 [Abstract]. American Society of Colon & Rectal Surgeons (ASCRS), April/May, 2005.

Turpin RS, Mahmoud N, Yang G, Saunders W. Length of stay and costs associated with surgical site infections in colon procedures in a large U.S. database [Abstract]. International Society for Pharmacoeconomics and Outcomes Research (ISPOR), Arlington, VA, May 2007. [Abstract: *Value Health* 2007; 10(3): A162.]

Wang PF, Bowers B, Moss B, Bell TJ, Saunders WB. Economic Burden of Illness Associated with Coded Postoperative Ileus after Open Laparotomies [Abstract]. International Society for Pharmacoeconomics and Outcomes Research (ISPOR), Washington, DC, May 2005. [*Value Health* 2005; 8(3): A338].

Wang PF, Joshi AV, Kruse P, Asmussen M, Saunders B. Factors associated with blood transfusion costs during and following spinal surgery in the United States. Poster presented at the ISPOR 8th Annual European Congress, 6-8 November 2005 at the Palazzo Degli Affari in Florence, Italy.

Wang PF, Saunders W, Gaylord B, Vardireddy N. A Hidden Epidemic among Acute Care Inpatients: Economic and Clinical Impacts of Anemia in Selected Chronic Diseases [Abstract]. International Society for Pharmacoeconomics and Outcomes Research (ISPOR), Washington, DC, May 2005. [*Value Health* 2005; 8(3): A282].

Wang PF, Saunders WB, Vardireddy N, Gaylord B. Managing Anemia Among Hospitalized Patients With Chronic Diseases: A Retrospective Analysis Of The Cost And Effectiveness Of Using Erythropoietin [Abstract]. Scientific Forum on Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke, American Heart Association, May 2005.

Yang G, Stemkowski S, Saunders W. A review of propensity score application in healthcare outcome and epidemiology [Paper]. Pharma SAS User Group International (PharmaSUG), Denver, CO, June 2007.

Academic appointments

Adjunct Associate Professor, Department of Public Health Sciences, UNC-Charlotte
Adjunct Research Assistant Professor, Department of Epidemiology, UNC-Chapel Hill

Extracurricular activities

Cystic Fibrosis Foundation, Boy Scouts of America, Covenant Presbyterian Church