

Holly Jordan Lanham, PhD, MBA

The University of Texas Health Science Center at San Antonio, Department of Medicine ▪ South Texas Veterans Health Care System ▪ The University of Texas at Austin, McCombs School of Business

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OVERVIEW

My primary research interests are in organizational behavior and information technology (IT) use in knowledge-intensive organizations, with a special emphasis on health care delivery systems. My current projects are aimed at understanding individual level differences in electronic health records use; how physician views of uncertainty and information management influence patterns of electronic health records use; the process of self-organization in large-scale change; and the role of work relationships, sensemaking, and learning in implementing change in health care delivery systems.

EDUCATION

PhD, 2010

Information Management
McCombs School of Business
The University of Texas at Austin

MBA, 2004

McCombs School of Business
The University of Texas at Austin

BS, 1998

Nutrition
College of Natural Sciences
The University of Texas at Austin

APPOINTMENTS

- | | |
|----------------|---|
| 8/12 – present | Adjunct Assistant Professor
Department of Information Risk and Operations Management
McCombs School of Business
The University of Texas at Austin |
| 8/10 – present | Assistant Professor
Department of Medicine, Division of Hospital Medicine
Department of Family & Community Medicine
The University of Texas Health Science Center San Antonio |
| 8/10 – present | Research Health Scientist/Investigator (WOC)
Veterans Evidence-based Research Dissemination Implementation Center (VERDICT)
South Texas Veterans Health Care System
San Antonio, TX |
| 8/10 – 8/12 | Visiting Scholar
Office of the Dean
McCombs School of Business
The University of Texas at Austin |

8/04 – 5/10	PhD Candidate Department of Information, Risk, and Operations Management McCombs School of Business The University of Texas at Austin
5/05 – 11/10	Research Assistant, Consultant Department of Veterans Affairs Veterans Evidence-based Research Dissemination Implementation Center (VERDICT) San Antonio, Texas
4/02 – 7/02	Clinical Dietitian Seton Healthcare Network, Brackenridge Hospital Austin, Texas
4/99 – 8/01	Clinical Dietitian Senior Lifestyle Corporation Dallas, Texas

OTHER POSITIONS

2014 – 2015	Advisory Board Member, MacColl Center for Health Care Innovation Symposium, “Data Driven Improvement in Primary Care”, Group Health Research Institute
2013 – present	Center Investigator with the National Institute of Nursing Research (NINR) Center of Excellence, Adaptive Leadership for Cognitive/Affective Symptom Science (ADAPT Center), the Duke University School of Nursing, Duke University
2011 – present	Research Partner, The Quality Commons AHRQ ACTION II Network
2011 – present	Academic Affiliate, Relational Coordination Research Collaborative
2010 – present	Advisory Board Member, McCombs Health Care Initiative, McCombs School of Business, The University of Texas at Austin

PROFESSIONAL SERVICE

- Co-chair (with Sirkka Jarvenpaa), Paradoxes and Tensions in Innovation and Implementation in Complex Systems Mini-track, Organizational Systems and Technology Track, The 46th Hawaiian International Conference on System Sciences (HICSS), January 7-10, 2013, Maui, Hawaii; 47th HICSS, January 6-9, 2014; 48th HICSS, January 5-8, 2015
- Chair, Health Information Technology: The Intersection of Data Analytics and Human Behavior, McCombs Health Care Initiative, November 9, 2012, Austin, Texas
- Steering committee member, Meaningful Use Committee, The University of Texas Health Science Center at San Antonio, 2011-present
- Steering committee member, Innovation in Health Care Delivery Systems Annual Symposium, McCombs School of Business, The University of Texas at Austin, 2010-present
- Associate Editor, Decision Support Systems, 2011 - present
- Dissertation committee member, Jennifer Browne, PhD Candidate, The University Of Texas Health Science Center at San Antonio, School of Nursing, “Nursing Workarounds and Their Relationship with Health Information Technology in Intensive Care,” 2011-present
- Dissertation committee member, Isabel Martinez, PhD Candidate, The University Of Texas Health Science Center at San Antonio, School of Nursing, 2014-present
- Co-chair, academic and executive panel on electronic health records, Decision Sciences Institute Annual Meeting, November 20-23, 2010, San Diego, California

- Steering committee member and co-organizer, Innovation in Health Care Delivery Systems Symposium, McCombs School of Business, The University of Texas at Austin, 2009-2010
- Dean's committee, Redesign the McCombs School of Business Strategic Plan, spring 2009
- Ad hoc reviewer for *Annals of Family Medicine*, *Decision Support Systems*, *Emerging Themes in Epidemiology*, *Health Care Management Review*, *International Journal of Medical Informatics*, *Journal of the American Medical Informatics Association*, *Journal of Organizational Computing and Electronic Commerce*, *Journal of General Internal Medicine*, *Journal of Operations Management*, *Journal of Strategic Information Systems*, *Americas Conference on Information Systems*, *International Conference on Information Systems*
- Co-chair, Doctoral Business Student Association, McCombs School of Business, 2005-2008

AWARDS AND RECOGNITION

- **Best Paper Nominee**, Lim, Shi Ying, Jarvenpaa, Sirkka, Lanham, Holly J. Review of Inter-Organizational Knowledge Transfer in Care Transitions: Health Information Technology Capabilities to Reduce Barriers to Trust, HICSS 2015.
- **Top 10 Cited Paper 2014**, *Journal of the American Medical Informatics Association*, (Lanham et al., Understanding differences in electronic health records (EHR) use: Linking individual physicians' perceptions of uncertainty and EHR use patterns in ambulatory care. *Journal of the American Medical Informatics Association*, 2014).
- **Best Paper**, *International Medical Informatics Association (IMIA) Yearbook of Medical Informatics 2014* (Lanham et al., Understanding differences in electronic health records (EHR) use: Linking individual physicians' perceptions of uncertainty and EHR use patterns in ambulatory care. *Journal of the American Medical Informatics Association*, 2014).
- **American Medical News** coverage of Lanham et al., Understanding differences in electronic health records (EHR) use: Linking individual physicians' perceptions of uncertainty and EHR use patterns in ambulatory care. *Journal of the American Medical Informatics Association*, 2014. Story posted June 17, 2013.
- **Information Week** coverage of Lanham et al., Understanding differences in electronic health records (EHR) use: Linking individual physicians' perceptions of uncertainty and EHR use patterns in ambulatory care. *Journal of the American Medical Informatics Association*, 2014. Story posted May 28, 2013.
- Co-author on a paper selected by VA HSR&D review committee for **plenary presentation**, VA HSR&D/QUERI National Conference 2012, July 16, 2012, National Harbor, MD.
- First author publication selected by the Agency for Research on Healthcare and Quality (ARHQ) Patient Safety Network, a continuously updated, annotated, and carefully selected collection of patient safety news, literature, tools, and resources.
- Doctoral Consortium, *International Conference on Information Systems*, Paris, France, 2008.
- Doctoral Consortium, *American Medical Informatics Association*, Washington, DC, 2008.
- **Ernst & Young Health Care Management Program Graduate Fellowship**, Department of Information, Risk and Operations Management, McCombs School of Business, 2007-2009.
- Continuing Bruton Fellowship, The University of Texas at Austin, 2007-2008; 2008-2009.
- Bonham Foundation Award, The University of Texas at Austin, 2006-2007; 2008-2009.
- Dean's Fellowship, McCombs School of Business, The University of Texas at Austin, 2005-2006; 2006-2007; 2007-2008; 2008-2009.
- **Distinguished Paper Award**, *North American Primary Care Research Group*, Annual Conference, October 17, 2006.
- Travel grant, Herb Kelleher Center for Entrepreneurship, Growth and Renewal, McCombs School of Business, The University of Texas at Austin, October 2006.
- William W. Cooper Fellowship, McCombs School of Business, The University of Texas at Austin, 2005-2006.

TEACHING SUMMARY

MEDI 5076 - Introduction to Informatics

The University of Texas Health Science Center San Antonio
Instructor, spring 2015; fall 2015

Healthcare Practice and the Business of Medicine

The University of Texas Health Science Center San Antonio
Course Directors: Luci K. Leykum and Adam Ratner
Topic: Health Information Technology
Guest Lecturer, fall 2012

MEDI 6065 - Health Services Research

The University of Texas Health Science Center San Antonio
Course Directors: Michael L. Parchman and Polly H. Noel
Topics: Organizational Theory; Health Information Technology
Guest Lecturer, fall 2010; fall 2015

MIS 301 – Information Technology in Business

McCombs School of Business, The University of Texas at Austin
Instructor, fall 2007
Teaching Assistant, spring 2007
Guest Lecturer, fall 2009

MIS 382N.5 – Managing Complexity

McCombs School of Business, The University of Texas at Austin
Professor: Reuben R. McDaniel, Jr.
Teaching Assistant, 2004-2009
Guest Lecturer, 2004-present
Course syllabus redesign

MIS 381N.7 – Information and Knowledge Management

McCombs School of Business, The University of Texas at Austin
Professor: Reuben R. McDaniel, Jr.
Teaching Assistant, 2005-2010
Course syllabus redesign

MIS 381N.2 – Research in Information Systems: Organizational & Behavioral Perspectives

McCombs School of Business, The University of Texas at Austin
Professor: Sirkka L. Jarvenpaa
Guest Lecturer, spring 2009

SCHOLARLY PUBLICATIONS

Refereed Articles

Lanham, Holly J. Palmer, Ray F., Leykum, Luci K., McDaniel, Reuben R., Nutting, Paul A., Stange, Kurt C., Crabtree, Benjamin F., Miller, William L. & Jaen, Carlos R. (in press). Trust and Reflection in Primary Care Practice Redesign. Health Services Research.

Zheng, Kai, Ciemins, Elizabeth, Lanham, Holly J., Lindberg, Curt. Examining the Relationship Between Health IT and Ambulatory Care Workflow Redesign. (Prepared by Billings Clinic under Contract No. 290- 2010-0019I-1). AHRQ Publication No. 15-0058-EF. Rockville, MD: Agency for Healthcare Research and Quality, July 2015.

Leykum, Luci K, Lanham, Holly J., Reisinger, Heather F., Palmer, Raymond F., Pezzia, Carla, Chesser, Hannah, Pugh, Jacqueline A., Ratcliffe, Temple. (2015). The Association Between Sensemaking During Physician Team Rounds and Hospitalized Patients' Outcomes" Journal of General Internal Medicine. DOI: 10.1007/s11606-015-3377-4.

Provost, Shannon, Lanham, Holly J., Leykum, Luci K., McDaniel, Reuben R., & Pugh, Jacqueline A. (2015). Improving health care delivery through huddles. Health Care Management Review 40:1, 2-12.

Leykum, Luci K., Lanham, Holly J., Pugh, Jacqueline A., Parchman, Michael L., Anderson, Ruth A., Crabtree, Benjamin F., Nutting, Paul A., Miller, William L., Stange, Kurt C. and McDaniel, Reuben R. Jr. (2014). Manifestations and Implications of Uncertainty for Improving Healthcare Systems: An Analysis of Observational and Interventional Studies Grounded in Complexity Science. Implementation Science 9:165.

Leykum, Luci K., Lanham, Holly J., Provost, Shannon, McDaniel, Reuben R. Jr., Pugh, Jacqueline A. (2014). Improving outcomes of hospitalized patients: the Physician Relationships, Improvising, and Sensemaking (PRISm) intervention protocol. Implementation Science 9:171.

McAllister, Caitlin L., Leykum, Luci K., Lanham, Holly J., Reisinger, Heather, Pugh, Jacqueline A., Agar, Michael, McDaniel, Reuben R. (2014). Relationships within Inpatient Physician Housestaff Teams and Their Association with Hospitalized Patient Outcomes. Journal of Hospital Medicine 9:12, 764–771.

McMillan, Katharine K., Pugh, Mary J., Hamid, Hamada, Salinsky, Martin, Pugh, Jacqueline A., Noël, Polly H., Finley, Erin P., Leykum, Luci K., Lanham, Holly J., LaFrance, Curt W. Jr. (2014). Providers' Perspectives in Treating Psychogenic Nonepileptic Seizures: Frustration and Hope. Epilepsy and Behavior. 37:276-81.

Pugh, Mary Jo, Leykum, Luci K., Lanham, Holly J., McMillan, Katharine K., Noel, Polly H., Bollinger, Mary J. & Pugh, Jacqueline A. (2014). Restructuring Epilepsy Care: Organizational Dynamics and Quality (RECORD Quality): Study Protocol. Implementation Science, 9:44.

Sturmberg, Joachim and Lanham, Holly J. (2014). Understanding health care delivery as a complex system: Achieving best possible health outcomes for individuals and communities by focusing on interdependencies. Journal of Evaluation in Clinical Practice, Article first published online: 5 MAY 2014, DOI: 10.1111/jep.12142

Polly Hitchcock Noël, Michael L. Parchman, Ray F. Palmer, Raquel Romero, Luci K. Leykum, Holly J. Lanham, John Zeber, Krista Bowers, Nedal Arar (2014). Alignment of Patient and Practice Member Perspectives of Chronic Illness Care in Small, Community-based Primary Care Practices. BMC Family Practice, 2014 Mar 29;15:57. doi: 10.1186/1471-2296-15-57.

Lanham, Holly J., Sittig, Dean F., Leykum, Luci K., Parchman, Michael L., Pugh, Jacqueline A. & McDaniel, Reuben R. (2014). Understanding differences in electronic health records (EHR) use: Linking individual physicians' perceptions of uncertainty and EHR use patterns in ambulatory care. Journal of the American Medical Informatics Association. Published Online First: 22 May 2013 doi:10.1136/amiajnl-2012-001377.

Parchman, Michael L., Noel, Polly H., Culler, Steve C., Lanham, Holly J., Leykum, Luci K., Lozano-Romero, Raquel, Palmer, Raymond F. (2013). A randomized trial of practice facilitation to improve the delivery of chronic illness care in primary care: Initial and sustained effects, Implementation Science, 8:93.

Makam, Anil, Lanham, Holly J., Batchelor, Kimberly, Samal, Lipika, Moran, Brett, Howell-

Stampley, Temple, Kirk, Lynne, Cherukuri, Manjula, Santini, Noel, Leykum, Luci & Halm, Ethan. (2013). The Good, the Bad, and the Early Adopters: Providers' Attitudes about a Common, Commercial EHR. Journal of Evaluation in Clinical Practice. Article first published online: 20 AUG 2013, DOI: 10.1111/jep.12076.

Finley, Erin P., Pugh, Jacqueline A., Lanham, Holly J., Leykum, Luci K., Veerapaneni, Poornachand & Parchman, Michael L. (2013). Where does quality of care meet quality of relationships in VA primary care clinics? Annals of Family Medicine 11(6).

Lanham, Holly J., Leykum, Luci K., Taylor, Barbara, McCannon, C. Joseph, Lindberg, Curt & Lester, Richard. (2013). How complexity science can inform scale-up and spread: Understanding the role of self-organization in variation across local contexts. Social Science & Medicine. 93:194-202.

Makam, Anil, Lanham, Holly J., Batchelor, Kimberly, Samal, Lipika, Moran, Brett, Howell-Stampley, Temple, Kirk, Lynne, Cherukuri, Manjula, Santini, Noel, Leykum, Luci & Halm, Ethan. (2013). Use and satisfaction with key functions of a common commercial electronic health record: a survey of primary care providers. BMC Medical Informatics and Decision Making, 13:86, 1-7.

Culler, Steven D., Parchman, Michael L., Romero, Raquel L., Noel, Polly H., Lanham, Holly J., Leykum, Luci K., Zeber, John E. (2013) Cost estimates for operating a primary care practice facilitation program, Annals of Family Medicine, 11:3, 207-211.

Noel, Polly H., Lanham, Holly J., Palmer, Raymond F., Leykum, Luci K. & Parchman, Michael L. (2013). Relational coordination and reciprocal learning: Importance of interdependencies among primary care teams for chronic illness care. Health Care Management Review, 38:1, 20-28.

Lanham, Holly, J., Leykum, Luci K. & McDaniel, Reuben R. Jr. (2012). Same organization, same electronic health records (EHRs) system, different use: exploring the linkage between practice member communication patterns and EHR use patterns in an ambulatory care setting. Journal of the American Medical Informatics Association, 19:3, 382-391. Published Online First: 16 August 2011 doi:10.1136/amiajnl-2011-000263.

Mackey, Katherine R., Parchman, Michael L., Leykum, Luci K., Lanham, Holly J., Noel, Polly H. & Zeber, John E. (2012). Patient experience of the chronic care model and medication adherence when patients perceive cost as a barrier. Primary Care Diabetes, 6:2, 137-142.

Leykum, Luci K., Kumar, Pradeep, Parchman, Michael L., McDaniel, Reuben R. Jr., Lanham, Holly J. & Agar, Michael. (2012). Use of an agent-based model to understand clinical systems. Journal of Artificial Societies and Social Simulation, 15:3.

Leykum, Luci K., Palmer, Raymond, Lanham, Holly J., Jordan, Michelle E., Noel, Polly H. & Parchman, Michael L. (2011). Reciprocal learning and chronic care model implementation: Results from a new scale of learning in primary care settings. BMC Health Services Research, 11:44.

Jordan, Michelle E., Lanham, Holly J., Anderson, Ruth A., & McDaniel, Reuben R. Jr. (2010). Implications of complex adaptive systems theory for interpreting research about health care organizations. Journal of Evaluation in Clinical Practice, 16(1): 228-231.

Leykum, Luci K., Pugh, Jacqueline A., Lanham, Holly J., Harmon, Joel & McDaniel, Reuben R. Jr. (2009). Implementation research design: Integrating participatory action research into randomized controlled trials. Implementation Science, 4(69): 1-8.

Lanham, Holly J., McDaniel, Reuben R., Jr., Crabtree, Benjamin F., Miller, William L., Stange, Kurt, Tallia, Al, & Nutting, Paul A. (2009). How improving practice relationships among clinicians and nonclinicians can improve quality in primary care. Joint Commission Journal on Quality and Patient Safety, 35(9): 457-466.

McDaniel, Reuben R., Jr. & Lanham, Holly J. (2009). Evidence as a tool for managerial action: A complex adaptive systems view. Health Care Management Review, 34(3): 216-218.

McDaniel, Reuben R. Jr., Lanham, Holly J. & Anderson, Ruth A. (2009). Implications of complex adaptive systems theory for the design of research on health care organizations. Health Care Management Review, 34(2): 191-199.

Jordan, Michelle E., Lanham, Holly J., Crabtree, Benjamin F., Nutting, Paul A., Miller, William L., Stange, Kurt C. & McDaniel, Reuben R., Jr. (2009). The role of conversation in health care interventions: Enabling sensemaking and learning. Implementation Science, 4(15): 1-13.

Crabtree, Benjamin F., McDaniel, Reuben R., Jr., Nutting, Paul A., Lanham, Holly J., Looney, J. Anna, & Miller, William L. (2008). Closing the physician-staff divide: A step toward creating the medical home. Family Practice Management, 15(4): 20-24.

Tallia, Alfred F., Lanham, Holly J., McDaniel, Reuben R., Jr., Crabtree, Benjamin F. (2006). What you need to know about work relationships in primary care practices. Family Practice Management, 13(1): 47-50.

Refereed Proceedings

Lim, Shi Ying, Jarvenpaa, Sirkka, Lanham, Holly J. Review of Inter-Organizational Knowledge Transfer in Care Transitions: Health Information Technology Capabilities to Reduce Barriers to Trust (*nominated as best paper*). Proceedings for the 48th Hawaii International Conference on System Science, January 4-9, 2015.

Lanham, Holly J., & Reuben R. McDaniel Jr. (2009). Are we putting the cart before the horse? A microcosm of intended and unintended consequences of electronic medical records implementation, The Fifteenth Americas Conference on Information Systems Proceedings (AMCIS), San Francisco, California.

Lanham, Holly J. & McDaniel, Reuben R. Jr. (2008). An exploration of heterogeneity in electronic medical record use: Information technology use as emergent and driven by values and expertise. Proceedings of the 29th International Conference on Information Systems (ICIS), Paris, France.

Book Chapters

McDaniel, Reuben R., Driebe, Dean, Lanham, Holly J. (2013). Health care organizations as complex systems: New perspectives on design and management. In: Advances in Health Care Management, Volume 15.

Lanham, Holly J. (2013). A complexity science perspective of organizational behavior in clinical microsystems. Handbook of Systems and Complexity in Health. Editors Joachim P. Sturmberg & Carmel M. Martin. Springer-Verlag.

McDaniel, Reuben R., Jr. & Lanham, Holly J. (2010). Sustainable development: Complexity and the problem of balance. In S.A. Moore (Ed.) Pragmatic Sustainability: Theoretical and Practical Tools. Routledge.

Articles under Review

Lim, Shi Ying, Jarvenpaa, Sirkka, Lanham, Holly J. Review of Inter-Organizational Knowledge Transfer in Care Transitions: Health Information Technology Capabilities to Reduce Barriers to Trust (nominated as best paper at HISS 48), (under revision, August 19, 2015), Journal of Management Information Systems.

Lanham, Holly J., Jordan, Michelle E., McDaniel, Reuben R., Jr. (submitted May 28, 2015). Complexity and Sustainability, In Pragmatic Sustainability 2nd Edition.

Damien, Paul, Lanham, Holly J., Parthasarathy, Murali, Putcha, Devi, Shah, Nikhil L. Assessing Key Cost Drivers Associated with Caring for Chronic Kidney Disease Patients (submitted to Medical Care Research and Review, August 7, 2015).

Working Papers and Work in Progress

Lanham, Holly J., Leykum, Luci K., Boucher, Elise, McMillan, Katharine K., Finley, Erin P., Pugh, Jacqueline, A. Pugh, Noel, Polly H., Mary J., Pugh. (target journal Implementation Science). Local Innovation in the VA Epilepsy Centers of Excellence Network.

Thomas, James, McDaniel, Reuben R., Jordan, Michelle E., Lanham, Holly J. (target journal Administrative Science Quarterly), Into the Fire: Adapting to Discontinuity in Organizations

Lanham, Holly J., Leykum, Luci K., Pugh, Jacqueline A., McDaniel, Reuben R., (target journal Journal of Medical Internet Research). From Information Exchange to Sensemaking: Examining Secure Messaging Use in the VA.

Process Improvement and Unlearning paper (with Ed Anderson and Kyle Lewis) target journal Organization Science.

Pezzia, Carla, Lanham, Holly J., Pugh, Jacqueline A., Leykum, Luci K. (under review Journal of Hospital Medicine). Psychiatric Consultation by Inpatient Medical Teams.

Pugh, Jacqueline A., Veerapaneni, Poornachand, Finley, Erin, Lanham, Holly J., Leykum, Luci K., Noel, Polly H., McDaniel, Reuben R., Russell, Drew A., Parchman, Michael L. (submitted, Annals of Family Medicine) The Association Between Work Relationships, Patient Experience and Clinical Outcomes in VA Primary Care Clinics.

WORK ON RESEARCH GRANTS, CONTRACTS AND PROJECTS

CURRENT SUPPORT

Agency of Healthcare Research and Quality

San Antonio, TX

June 2012 – July 2015, Co-Investigator on a 3-year grant examining the causal relationship between health information technology (HIT) implementation and clinical workflow. This multisite field study uses a combination of qualitative and quantitative methods to study how the introduction of new HIT changes the work of physicians and other clinical personnel in small ambulatory care settings. The overall goal of this study is to develop insights about how HIT should be implemented to support clinicians as they seek to provide high quality patient care. Principal Investigator: K Zheng

Department of Veterans Affairs

San Antonio, TX

June 2012-May 2016, Co-investigator on a 4-year grant funded by the Department of Veterans Affairs titled, "Restructuring Epilepsy Care: Organizational Dynamics and Quality" (Project ID IIR

11-067-2). The objectives of this research are to 1) describe changes in access to and quality of epilepsy care before and after the Epilepsy Centers of Excellence (ECOE) initiative, 2) describe changes in the organization of care and other strategies implemented by the four geographic ECOEs to improve the quality and access to epilepsy care within the VHA, and 3) determine if variation in access, quality and epilepsy care are associated with variations in referral processes and innovative approaches to epilepsy care between geographic ECOEs. This study will use qualitative and quantitative methods to examine access to and quality of epilepsy care over a 5-year period, identify gaps in epilepsy care, and enable the development and implementation of interventions to improve access, quality and outcomes for Veterans with epilepsy.

Principal Investigator: MJ Pugh

Department of Veterans Affairs

San Antonio, TX

July 2014 – June 2018, Co-investigator on a 4-year grant titled “Sensemaking in VHA Health Care Systems: A Focus on Readmissions” (IIR 13-040-1). Using introduction of care transition interventions to reduce early readmissions as an opportunity to observe sensemaking about complex organizational interdependencies, we propose to extend theory of the elements of effective sensemaking in health care organizations by specifically studying sensemaking about implementation of organizational change, using care transitions interventions as an exemplar.

Principal Investigator: Pugh JA

Department of Veterans Affairs

San Antonio, TX

Co-Investigator on a 1-year pilot study to pilot and evaluate an intervention to improve inpatient rounding by incorporating principles to improve work relationships, sensemaking and improvising in inpatient medical teams. Main outcome include patient length of stay and complication rates.

Principal Investigator: Leykum

PREVIOUS SUPPORT

Department of Veterans Affairs

San Antonio, TX

August 2008-2011, Consultant on a three-year grant funded by the Department of Veterans Affairs titled, “Integration of Knowledge Management and Service Delivery in Primary Care” (Project ID IIR-06-063-2). Project activities include training field researchers on theory and concepts included in the study, methods for data collection, and data analysis techniques; meeting weekly with the research team to consult on both strategic and tactical issues with the study; and participating in the dissemination of research findings through manuscript preparation.

Principal Investigator: JA Pugh

Understanding Diabetes in South Texas

Austin, TX

Fall 2009-present, Researcher working to develop better understandings of diabetes in communities located along the US-Mexico border. Diabetes is a serious and costly condition that has dramatically increased in prevalence in recent decades – particularly in communities along the US-Mexico border. An interdisciplinary research team from The University of Texas at Austin representing business, engineering, law, pharmacy, nursing and medicine is collaborating with a large international retailer to address this challenge. This project follows up on The University of Texas at Austin and Sandia National Laboratories collaboration (summarized below).

Principal Investigator: Sage

The University of Texas & Sandia National Laboratories

Austin, TX & Albuquerque, NM

June 2008-Fall 2009, Research Assistant on a collaboration project between The University of Texas at Austin and Sandia National Laboratories. The purpose of the project was to develop a scalable, open-access, agent-based model of the US health care system to serve as a decision-support resource for a wide range of user-types interested in improving access to high-quality, affordable health care. An initial research grant proposal, titled “Lifetime Diabetes Risk among Mexican-Americans: An Agent-Based Modeling Approach,” was submitted to the Agency for Healthcare Research and Quality (AHRQ). I worked closely with members of both the UT and the Sandia team on developing the simulation prototype for the AHRQ research proposal.

Principal Investigator: Sage

Plexus Institute and American Health Information Community **Bethesda, MD**

May 2007, Participant with Plexus Institute in designing a successor organization for the American Health Information Community (AHIC). AHIC is a federal advisory body, chartered in 2005 to provide recommendations to the Secretary of the U.S. Department of Health and Human Services on accelerating the adoption of health information technology. Plexus was one of three organizations asked to develop a strategic plan articulating new design specifications for the AHIC successor organization. The strategic plan was presented to AHIC on June 12, 2007.
Principal Investigator: Lindberg

Department of Veterans Affairs **San Antonio, TX**

2004-2006 Research Assistant, "Collaboration between VA and Academic Experts in Implementation Research." The purpose of this project was to establish internal expertise at the Veterans Evidence-based Research Dissemination Implementation Center (VERDICT) for researching health care topics using the theoretical lenses of complexity science and knowledge management. My advisor served as the academic consultant on this two-year contract. I participated in designing an academic course covering relevant complexity science and knowledge management topics. Additionally, I led the efforts to:

- author proposal for a pilot study of relationships and learning in VA primary care clinics;
- develop data collection instruments for this pilot study;
- conduct field work and data analysis; and
- prepare results for a subsequent large grant proposal that has been funded by the VA.

Principal Investigator: JA Pugh

PROFESSIONAL ACTIVITIES**Scholarly Presentations**

(with E Ciemins and K Zheng) "AHRQ National Web Conference on the Impact of Health IT on Workflow: Observations and Evidence from Multiple Settings" National webinar hosted by AHRQ, June 25, 2015.

(with MJ Pugh, L Leykum, E Finley, JA Pugh, K McMillan, E Boucher) "Local Innovation in Implementing the VA Epilepsy Centers of Excellence," podium presentation AcademyHealth Annual Research Meeting, June 14, 2015, Minneapolis, MN.

(with MJ Pugh, L Leykum, E Finley, JA Pugh, K McMillan, E Boucher) "Local Innovation in Implementing the VA Epilepsy Centers of Excellence," podium presentation McCombs Annual Health Care Symposium, The University of Texas at Austin, April 7-8, 2015, Austin, Texas.

(with L Leykum and JA Pugh) "From Information Exchange to Sensemaking: Examining Secure Messaging in the VA," podium presentation McCombs Annual Health Care Symposium, The University of Texas at Austin, April 7-8, 2015, Austin, Texas.

(with L Leykum, JA Pugh, RR McDaniel) "Physician Relationships, Improvisation and Sensemaking (PRISm) Pilot Study," podium presentation McCombs Annual Health Care Symposium, The University of Texas at Austin, April 7-8, 2015, Austin, Texas.

Lim, Shi Ying, Jarvenpaa, Sirkka, Lanham, Holly J. Review of Inter-Organizational Knowledge Transfer in Care Transitions: Health Information Technology Capabilities to Reduce Barriers to Trust (*nominated as best paper*), HICSS 2015, January 4-9, 2015.

(with LK Leykum & JA Pugh). Professional Values and Health IT Use: What's the Connection?" Poster presentation AcademyHealth, June 8, 2014, San Diego, CA.

(with MJ Pugh, B Elizondo, KK McMillan & JA Pugh). “Relational Coordination in the VA Epilepsy Centers of Excellence”. Poster presentation AcademyHealth, June 8, 2014, San Diego, CA.

(with H Chesser, C Pezzia, JA Pugh, RF Palmer, JL Kohn, H Reisinger, M Agar, LK Leykum). “How Inpatient Medicine Teams Make Sense of Their Patients and Tasks: Rounding Patterns, Patient Discussions, and Clinical Outcomes.” Poster presentation AcademyHealth, June 8, 2014, San Diego, CA.

“But We’re Different...Complexity in Scaling up Innovations.” Invited guest speaker. Translating Research in Elder Care (TREC) Annual General Meeting, May 22-23, 2014, Edmonton, Canada.

“Examining Veteran Use of Health Information Technology (eVets).” Invited webinar presentation, eHealth QUERI All Hands Meeting, April 29, 2014.

(with A Lee, K Fletcher, C Pezzia, JA Pugh, LK Leykum). “What are Interns Doing Post-call? An Observational Study of Post-call Intern Activities.” Society of General Internal Medicine. April 23-26, 2014, San Diego, CA.

(with H Chesser, C Pezzia, JA Pugh, RF Palmer, JL Kohn, H Reisinger, M Agar, LK Leykum). “How Inpatient Medicine Teams Make Sense of Their Patients and Tasks: Rounding Patterns, Patient Discussions, and Clinical Outcomes.” Society of General Internal Medicine. April 23-26, 2014, San Diego, CA.

“Using Health IT in Practice Redesign: Impact of Health IT on Workflow.” McCombs Annual Health Care Symposium, The University of Texas at Austin, April 10, 2014, Austin, Texas.

(with A Lee, K Fletcher, C Pezzia, JA Pugh, LK Leykum). “What are Interns Doing Post-call? An Observational Study of Post-call Intern Activities.” Society of Hospital Medicine. March 24-27, 2014, Las Vegas, NV.

“Electronic Health Records Use from a Complexity Science Perspective” Pediatric Grand Rounds. The University of Texas Health Science Center San Antonio, December 6, 2013, San Antonio, Texas.

“Information Technology Use from a Complex Adaptive Systems Perspective: Electronic Health Records” 1st Annual Research Symposium on Complexity and IT. McCombs School of Business, The University of Texas at Austin. October 11&12, 2013. Austin, Texas.

(with EP Finley, JA Pugh, L Leykum, J Cornell, P Veerapaneni, ML Parchman). The work relationships scale: a measure of primary care work relationships with relevance for quality improvement. Summer Institutes for Quality Improvement, San Antonio, Texas, July 11, 2013.

(with L. Leykum) “Structural interventions to facilitate relational coordination.” Invited presentation, Relational Coordination Research Collaborative Colloquium, May 29 & 30, 2013, Boston, Massachusetts.

“Understanding the human element of health information technology use.” The University of Texas Health Science Center San Antonio, Department of Medicine Research Seminar May 14, 2013. San Antonio, Texas.

(with S. Provost, L. Leykum, J. Pugh) “Huddle up in health care.” McCombs Annual Health Care Symposium, The University of Texas at Austin, April 12, 2013, Austin, Texas.

(with E. Finley, J. Pugh, L. Leykum) "Primary care work relationships and patient-assessed quality of care: Development and validation of the work relationships scale. McCombs Annual Health Care Symposium, The University of Texas at Austin, April 11, 2013, Austin, Texas.

"Paradoxes and tensions at the intersection of data analytics and human behavior in health IT." Invited presentation, Health Information Technology: The Intersection of Data Analytics and Human Behavior, McCombs Health Care Initiative, November 9, 2012, Austin, Texas.

(with L. Leykum, B. Taylor, J. McCannon) "How complexity science can inform scale-up and spread: Understanding the role of self-organization in variation across local contexts." Paper presentation, Academy of Management Annual Meeting, August 6, 2012, Boston, Massachusetts.

(with E. Finley, J. Pugh, H. Lanham, L. Leykum, P. Veerapaneni, M. Parchman) "Assessing clinic member relationships and implications for quality in VA primary care." Selected as a Plenary Session Paper Presentation, VA HSR&D/QUERI National Conference 2012, July 16, 2012, National Harbor, Maryland.

(with R. Palmer, L. Leykum, R. McDaniel, P. Nutting, K. Stange, B. Crabtree, W. Miller, C. Jaen) "Testing a conceptual model of practice relationships: The importance of trust and reflection in primary care practice redesign." Podium presentation, AcademyHealth Annual Research Meeting, June 26, 2012, Orlando, Florida.

(with Kirk Kirksey) "Health IT: The intersection of data analytics and human behavior." Innovation: Focus on Epilepsy, Clinical and Business Issues, July 6, 2012, Austin, Texas.

(with L. Leykum) "An investigation of between-physician differences in electronic health records use in an ambulatory care setting: Linking physicians' views of uncertainty with patterns of EHR use." AcademyHealth Annual Research Meeting, June 24, 2012, Orlando, Florida.

(with A. Makam, K. Batchelor, L. Leykum, E. Halm) "Attitudes toward and use of a common ambulatory EHR system: The role of early adopters." Society of General Internal Medicine 35th Annual Meeting, May 9-12, 2012, Orlando, Florida.

(with R. Palmer, L. Leykum, R. McDaniel, P. Nutting, K. Stange, B. Crabtree, W. Miller, C. Jaen) "The importance of trust and reflection in primary care practice redesign." McCombs Annual Health Care Symposium, The University of Texas at Austin, April 27, 2012, Austin, Texas.

(with L. Leykum, C. McAallister, H. Reisinger, J. Pugh, M. Agar, R. McDaniel) "The impact of physician relationships on the length of stay of hospitalized patients." McCombs Annual Health Care Symposium, The University of Texas at Austin, April 26, 2012, Austin, Texas.

(with L. Leykum, E. Finley, J. Pugh, M. Parchman) "Examining adaptive reserve in VA primary care practices." Podium presentation. North American Primary Care Research Group annual meeting, November 15, 2011, Banff, Canada.

(with M. Parchman, R. Palmer, P. Noel, N. Arar, L. Leykum) "The role of reciprocal learning in high performing primary care teams." Poster presentation. North American Primary Care Research Group annual meeting, November 14, 2011, Banff, Canada.

(with L. Leykum & R. McDaniel) "Exploring the linkage between practice relationships and EHR use: A comparison of primary care and specialty care practices." Poster presentation. North American Primary Care Research Group annual meeting, November 14, 2011, Banff, Canada.

(with P. Noel, L. Leykum, N. Arar & M. Parchman) "Relational coordination and reciprocal

learning: Importance of interdependencies among primary care teams for chronic illness care.” Podium presentation. AcademyHealth Annual Research Meeting, June 14, 2011, Seattle, Washington.

(with L. Leykum, E. Finley, N. Arar, J. Pugh, M. Parchman) “Examining adaptive reserve in VA primary care clinics.” Poster presentation. AcademyHealth Annual Research Meeting, June 12-14, 2011, Seattle, Washington.

(with M. Parchman, L. Leykum, N. Arar, E. Finley) “Capacity for learning and relationships in VA primary care clinics associated with patient hassles receiving care.” Poster presentation. AcademyHealth Annual Research Meeting, June 12-14, 2011, Seattle, Washington.

(with N. Arar, L. Leykum, E. Finley, M. Parchman) “Identifying Learning Patterns in Primary Care Clinics at the VHA: Implications for PACT.” Poster presentation. AcademyHealth Annual Research Meeting, June 12-14, 2011, Seattle, Washington.

(with L. Leykum, N. Arar, E. Finley & M. Parchman) “Relationships and learning among staff in VA primary care clinics.” Poster presentation. AcademyHealth Annual Research Meeting, June 12-14, 2011, Seattle, Washington.

(with L. Leykum, R. Palmer, M. Jordan, R. McDaniel, P. Noel, M. Parchman) “Reciprocal learning and chronic care model implementation in VA primary care clinics.” Poster presentation. AcademyHealth Annual Research Meeting, June 12-14, 2011, Seattle, Washington.

(with L. Leykum, M. Parchman, R. McDaniel) “Improving healthcare through huddles.” McCombs Annual Health Care Symposium, The University of Texas at Austin, April 21, 2011, Austin, Texas.

“Examining end-user differences in information technology use in professional organizations.” Invited Research Presentation, School of Information, The University of Texas at Austin, April 19, 2011, Austin, Texas.

“Evidence-based strategies for effective communication in a primary care practice.” Grand Rounds Research Presentation, Department of Family and Community Medicine, The University of Texas Health Science Center at San Antonio, March 11, 2011, San Antonio, Texas.

(with E. Finley, L. Leykum, N. Arar, P. Veerapaneni & M. Parchman) “Patient perceptions of clinic member relationships: How much do veterans know about what goes on in VA primary care clinics?” poster presentation, Department of Veterans Affairs Health Services Research and Development National Meeting 2011, February 16, 2011, National Harbor, Maryland.

(with L. Leykum, P. Kumar, M. Parchman, R. McDaniel & M. Agar) “Using agent-based modeling to understand inpatient clinical microsystems.” poster presentation, Department of Veterans Affairs Health Services Research and Development National Meeting 2011, February 16, 2011, National Harbor, Maryland.

“Exploring between-physician differences in electronic health record use.” Invited Research Presentation, The Society of Hospital Medicine, January 19, 2011, San Antonio, Texas.

“Electronic health records: Are we asking the right questions?” Panelist, Health Information Technology and Decision Support, Decision Sciences Institute Annual Meeting, November 20, 2010, San Diego, California.

“Exploring between-physician differences in electronic health record use.” Invited Research Presentation, School of Biomedical Informatics at The University of Texas Health Science Center at Houston, October 20, 2010, Houston, Texas.

“Examining between-physician electronic health record use.” Division Review Research Presentation, Department of Medicine, The University of Texas Health Science Center at San Antonio, August 19, 2010, San Antonio, Texas.

(with L. Leykum, M. Agar, R. McDaniel et al.) “Use of an agent-based model to understand clinical systems.” Society for Chaos Theory in Psychology and Life Sciences, July 23, 2010, San Marcos, Texas.

(with L. Leykum et al.) “Clinic member learning in VA primary care clinics.” poster presentation, AcademyHealth Annual Research Meeting, June 27-29, 2010, Boston, Massachusetts.

(with L. Leykum et al.) “Organizational-level interventions consistent with complexity science and disease-specific characteristics have improved outcomes for patients with congestive heart failure and diabetes.” poster presentation, AcademyHealth Annual Research Meeting, June 27-29, 2010, Boston, Massachusetts.

(with R. McDaniel) “Are we missing values and uncertainty in understanding physician use of electronic health records?” poster presentation, AcademyHealth Annual Research Meeting, June 27-29, 2010, Boston, Massachusetts.

(with M. Parchman et al.) “Shared team learning and patient satisfaction with quality of care in VA primary care clinics.” poster presentation, AcademyHealth Annual Research Meeting, June 27-29, 2010, Boston, Massachusetts.

(with R. McDaniel) “Heterogeneity in electronic health record use: Information technology use as influenced by professional values and perspectives of uncertainty.” Innovation in Health Care Delivery Systems: Maintaining Quality and Reducing Costs through Management and Information Technology, Inaugural Health Care Research Symposium, McCombs School of Business, The University of Texas at Austin, April 29, 2010.

“Heterogeneity in electronic medical record use: Information technology use as influenced by professional values and perspectives on uncertainty.” Information Management Research Seminar, McCombs School of Business, The University of Texas at Austin, November 6, 2009.

(with M. Parchman, M. Jordan, N. Arar, K. Bowers) “Learning in primary care teams and implementation of the chronic care model.” poster presentation, AcademyHealth annual research meeting, June 26-30, 2009, Chicago, Illinois, and paper presentation at the 2009 WONCA Europe conference - the World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians, September 16-19, 2009, Basel, Switzerland.

(with R. McDaniel) “Are we putting the cart before the horse? A microcosm of intended and unintended consequences of electronic medical record implementation.” Americas Conference on Information Systems (AMCIS), August 6-9, 2009, San Francisco, California.

(with R. McDaniel) “Linking heterogeneity in electronic medical records use with physician strategies for managing and learning from uncertainty.” SIGHealth meeting, Pre-AMCIS workshop aimed at developing papers for *Journal of Association of Information Systems* special issue on health care information technology, August 6, 2009, San Francisco, California.

(with A. Winegar, H. Brown, J. Watson, C. Diegert, D. Strip, J. Bard, J. Ghosh, R. McDaniel, M. Rintoul, W. Sage) "Simulating lifetime diabetes risk among Mexican-Americans living along the US-Mexico border: An agent-based modeling approach." poster presentation, AcademyHealth Annual Research Meeting, June 26-30, 2009, Chicago, Illinois.

(with R. McDaniel) "Electronic medical records and the issues they raise." Plexus Institute conference call research presentation, June 12, 2009.

(with R. McDaniel) "An exploration of heterogeneity in electronic medical record use: Information technology use as emergent and driven by values and expertise." International Conference on Information Systems, December 16, 2008, Paris, France.

"Investigating heterogeneity in electronic medical record use in a multi-specialty health care clinic." International Conference on Information Systems, Doctoral Consortium, December 13, 2008, Paris, France.

(with R. Palmer et al.) "Organizational and interpersonal attributes of primary care health practices: Testing a theoretical path model." Poster presentation. North American Primary Care Research Group annual conference, November 18, 2008, San Juan, Puerto Rico.

(with R. McDaniel) "Information technology use as an emergent property: A multilevel investigation of EMR use in a multi-specialty health care clinic." North American Primary Care Research Group annual conference, November 16, 2008, San Juan, Puerto Rico.

"Studying heterogeneity in electronic medical record use in a multi-specialty health care clinic." The American Medical Informatics Association Doctoral Consortium, November 8, 2008, Washington, DC.

(with R. McDaniel) "Investigating IT use in knowledge-intensive professional organizations." INFORMS Southwest Regional Conference, April 18-19, 2008, College Station, Texas.

(with R. McDaniel and R. Anderson) "Implications of complex adaptive systems theory for research design." Academy of Management annual conference, August 6, 2007, Philadelphia, Pennsylvania.

(with R. McDaniel) "Qualitative/quantitative categorizations of research: Does this make sense when studying complex adaptive systems?" Plexus Institute Conference – The Science of Complexity: Frontiers in Teaching, Leading and Research, July 22-24, 2007, Lawrence, Kansas.

(with R. McDaniel and R. Anderson) "Implications of complex adaptive systems theory for research design." Plexus Institute Conference – The Science of Complexity: Frontiers in Teaching, Leading and Research, July 24, 2007, Lawrence, Kansas.

(with R. McDaniel, B. Crabtree, W. Miller, K. Stange, A. Tallia, and P. Nutting) "A relationship-centered model of family medicine performance." Distinguished Paper Award, North American Primary Care Research Group annual conference, October 17, 2006, Tucson, Arizona.

(with R. McDaniel, J. Pugh, L. Leykum, and B. Armstrong) "Integrating knowledge management into information technology service delivery." Big XII Research Symposium, April 1, 2006, Waco, Texas.

Member

AcademyHealth

The Academy of Management

Association for Information Systems (AIS)

American Medical Informatics Association (AMIA)

Decision Sciences Institute (DSI)

Healthcare Information and Management Systems Society (HIMSS)

The Institute for Operations Research and the Management Sciences (INFORMS)

New England Complex Systems Institute

North American Primary Care Research Group (NAPCRG)

Society for Chaos Theory in Psychology and Life Sciences

Conferences and Workshops Attended

AcademyHealth Annual Research Meeting; Chicago, Illinois, June 2009; Boston, Massachusetts, June 2010; Orlando, Florida, June 2012; Minneapolis, Minnesota, June 2015.

McCombs School of Business Annual Health Care Symposium, The University of Texas at Austin, Austin, Texas, April 2010; April 2011; April 2012; April 2013; April 2014, April 2015

The Hawaiian International Conference on System Sciences (HICSS), January, 2013, Maui, Hawaii, January, 2015, Kauai

Complexity and Information Technology Symposium, October 11 & 12, 2013, Austin, Texas

Relational Coordination Research Collaborative Colloquium, May 29 & 30, 2013, Boston, Massachusetts

International Conference on Information Systems; Milwaukee, Wisconsin, December 2006; Paris, France, December 2008; Phoenix, Arizona, December, 2009

American Medical Informatics Association; Washington, DC, November 2008; San Francisco, California, November 2009; Washington, DC, November, 2010

The Academy of Management; Atlanta, Georgia, August 2006; Philadelphia, Pennsylvania, August 2007; Chicago, Illinois, August 2009; San Antonio, Texas, August 2011; Boston, Massachusetts, August 2012

Dell Children's Focus on Epilepsy Conference; July 2012

North American Primary Care Research Group annual meeting; Tucson, Arizona, October 2006; San Juan, Puerto Rico, November 2008; Banff, Canada, November 2011

Society for Medical Decision Making Annual Meeting; Chicago, IL, October 2011

Enhancing Implementation Science in VA Conference; Phoenix, Arizona, September 2011

Department of Veterans Affairs Health Services Research and Development National Meeting
2011, February 16-18 2011, National Harbor, Maryland

Health Information Technology Workshop, Cockrell School of Engineering, The University of
Texas at Austin, Austin, Texas, December 10, 2010

Decision Sciences Institute Annual Meeting, San Diego, California, November 2010
The University of Texas System Clinical Safety & Effectiveness Conference, Austin, Texas,
November 5-6, 2010

Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting,
Austin, Texas, November 7-10, 2010

Texas e-Health Symposium, Austin, Texas, October 14, 2010

The Promise of Health Information Technology for the 21st Century, Rice University's Baker
Institute, Houston, Texas, September 22, 2010

Society for Chaos Theory in Psychology and Life Sciences; Baltimore, Maryland, August 2006;
San Marcos, Texas, July 2010

Institute for Healthcare Improvement (IHI) Conference to Advance the State of the Science and
Practice on Scale-up and Spread of Effective Health Programs, July 6-8, 2010, Washington, DC

Health Research Challenge for Delivery Project and USAID Methodology Meeting, June 1-2,
2010, Washington, DC

Americas Conference on Information Systems; San Francisco, California, August 2009

SIGHealth Association of Information Systems; San Francisco, California, August 2009

National Health Policy Conference; Washington, DC, February 2009

International Conference on Information Systems Doctoral Consortium; Paris, France, December
2008

American Medical Informatics Association Doctoral Consortium: Organizational Issues in Medical
Informatics; Washington, DC, November 2008

INFORMS Southwest Regional Conference; College Station, Texas, April 2008

System Dynamics Winter Conference; Austin, Texas, January 2005 and January 2007

Seattle Innovation Symposium; Seattle, Washington, September 2006

International Conference on Complex Systems; Boston, Massachusetts, June 2006

Big XII MIS Research Symposium; Norman, Oklahoma, April 2005; Waco, Texas, April 2006