

BIOGRAPHICAL SKETCH

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NAME: Zhu, Xi

eRA COMMONS USER NAME (credential, e.g., agency login): zhuxx090

POSITION TITLE: Associate Professor, Health Management and Policy

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
East China University of Science and Technology	B.S.	07/2000	Accounting & Applied Mathematics
East China University of Science and Technology	M.S.	03/2003	Business Administration
University of Minnesota	Ph.D.	07/2011	Sociology (major) & Business Administration (minor)

A. Personal Statement

My research focuses on micro and macro organizational behaviors in healthcare delivery systems, especially how team design, team process, and quality improvement activities affect care quality and safety and how market and policy environments affect health organizations' structures, strategies, and efficiency. Together, my research builds on organization, team, and implementation sciences to identify strategies and approaches for advancing patient care while improving micro and macro healthcare systems. I have a broad background in research methods, with specific training and expertise in survey design, social network analysis, and quantitative and qualitative data analysis. As PI or co-Investigator on several AHRQ-, HRSA-, NIH-, and RWJF-funded grants, I have examined organizational strategies for providing team-based care, implementing quality improvement initiatives, transforming healthcare delivery systems, developing rural cancer control capacities, and building a local Culture of Health in rural communities.

1. Zhu X, Baloh J, Ward M, Stewart G. (2016). Deliberation makes a difference: Preparation strategies for TeamSTEPPS implementation in small and rural hospitals. *Medical Care Research and Review*, 73(3), 283-307. PMID: 26429835.
2. Zhu X, Wholey DR, Cain C, Natafji N. (2017). Staff turnover in Assertive Community Treatment (ACT) teams: The role of team climate. *Administration and Policy in Mental Health and Mental Health Services Research*, 44(2), 258-268. PMID: 27225163.
3. Zhu X, Wholey DR. (2018). Expertise redundancy, transactive memory, and team performance in interdisciplinary care teams. *Health Services Research*, 53(6), 4921-4942. PMID: 29896805.
4. Zhu X, Mueller KJ, Huang H, Ullrich F, Vaughn TE, MacKinney A. (2019). Organizational attributes associated with Medicare ACO quality performance. *Journal of Rural Health*, 35(1), 68-77. PMID: 29737573.
5. Zhu X, Tu SP, Sewell D, Yao N, Mishra V, Dow A, Banas C. (2019). Measuring electronic communication networks in virtual care teams using electronic health records access-log data. *International Journal of Medical Informatics*, 128, 46-52. PMID: 31160011

B. Positions and Honors

Positions and Employment

2004-2006	Fellow, Department of Sociology, University of Minnesota, Minneapolis, MN
2006-2007	Teaching Assistant, Department of Sociology, University of Minnesota, Minneapolis, MN
2007-2010	Research Assistant, School of Public Health, University of Minnesota, Minneapolis, MN
2010-2011	Interdisciplinary Doctoral Fellow, University of Minnesota, Minneapolis, MN
2011-2017	Assistant Professor, Department of Health Management and Policy, College of Public Health, University of Iowa, Iowa City, IA
2017-	Associate Professor, Department of Health Management and Policy, College of Public Health, University of Iowa, Iowa City, IA
2018 -	Associate Member, Holden Comprehensive Cancer Center, University of Iowa, Iowa City, IA

Other Experience and Professional Memberships

2002-	Founding Member, International Association for Chinese Management Research
2004-	Member, American Sociological Association
2004-	Member, Academy of Management
2004-	Member, International Network for Social Network Analysis
2011-	Member, AcademyHealth
2015-	Member, National Rural Health Association
2015-	Member, Organization Theory in Health Care Association

Honors

2004-2006	Graduate Student Support Initiative Fellowship, University of Minnesota
2010-2011	Interdisciplinary Doctoral Fellowship, University of Minnesota
2010	Outstanding Reviewer Award, Organizational Behavior Division, Academy of Management Annual Meeting
2011	Outstanding Graduate Research Paper Award, Department of Sociology, University of Minnesota
2013	New Faculty Research Award, College of Public Health, University of Iowa
2019	Emerging Leader, National Academy of Medicine Emerging Leaders Forum

C. Contribution to Science

1. Interdisciplinary care teams (ICTs) are critical in delivering high-quality patient-centered care. Coordination is challenging in ICTs due to organizational, professional, and processual barriers. One stream of my research addresses this issue by studying the impact of team design and processes on team effectiveness and patient outcomes using survey and administrative data. This research finds that work interdependence, helping behavior, expertise recognition, and team networks influence care coordination, team effectiveness, and patient outcomes. Another stream of my research seeks to develop methods for measuring EHR-based communication networks in virtual care teams and examine how communication network structures affect care team functioning and quality outcomes.
 - a. Wholey DR, Zhu X, Knoke D, Shah P, Zellmer-Bruhn M, Witheridge TF. (2012). Measuring teamwork in Assertive Community Treatment (TACT) teams: Scale development and validation. *Psychiatric Services*, 63(11), 1108-1117. PMID: 22948786.
 - b. Zhu X, Wholey DR, Cain C, Natafji N. (2017). Staff turnover in Assertive Community Treatment (ACT) teams: The role of team climate. *Administration and Policy in Mental Health and Mental Health Services Research*, 44(2), 258-268. PMID: 27225163.
 - c. Zhu X, Wholey DR. (2018). Expertise redundancy, transactive memory, and team performance in interdisciplinary care teams. *Health Services Research*, 53(6), 4921-4942. PMID: 29896805
 - d. Zhu X, Tu SP, Sewell D, Yao N, Mishra V, Dow A, Banas C. (2019). Measuring electronic communication networks in virtual care teams using electronic health records access-log data. *International Journal of Medical Informatics*, 128, 46-52. PMID: 31160011

2. Small and rural hospitals face significant challenges in implementing complex organizational initiatives and developing infrastructure for quality improvement. I have conducted research examining the implementation of TeamSTEPPS in critical access hospitals. Building on organization change theory and implementation science, this research evaluated organizational elements that had facilitated or precluded full integration of TeamSTEPPS using qualitative methods. In a recent project, my colleagues and I aim to develop strategies for integrating statewide cancer registry data with community health needs assessments to assist rural hospitals and communities to improve rural cancer prevention and control.
 - a. Ward MM, Zhu X, Lampman M, Stewart G. (2015). TeamSTEPPS implementation in community hospitals: Adherence to recommended training approaches. *International Journal of Health Care Quality Assurance*, 28(3), 234-244. PMID: 25860920.
 - b. Zhu X, Baloh J, Ward M, Stewart G. (2016). Deliberation makes a difference: Preparation strategies for TeamSTEPPS implementation in small and rural hospitals. *Medical Care Research and Review*, 73(3), 283-307. PMID: 26429835.
 - c. Ward M, Baloh J, Zhu X, Stewart G. (2017). Promoting Action on Research Implementation in Health Services (PARIHS) framework applied to TeamSTEPPS implementation in small rural hospitals. *Health Care Management Review*, 42(1), 2-13. PMID: 26415078.
 - d. Baloh J, Zhu X, Ward MM. (2018). Types of internal facilitation activities in hospitals implementing evidence-based interventions. *Health Care Management Review*, 43(3), 229-237. PMID: 28125454

3. Healthcare organizations and delivery systems are constantly facing market and policy changes that require their strategic responses in order to maintain organizational viability. Collaborating with a team of health policy experts, the third stream of my research explored the Interface between health policy and healthcare organizations with a specific focus on health delivery system reform in rural areas. We investigated trends in rural hospitals' participation in hospital networks/systems and accountable care organizations and factors facilitating participation in these strategic initiatives. In a recent project, we developed a taxonomy characterizing population and health-resource factors that distinguished rural health systems' market conditions. We continuously use findings and tools developed in this body of research to inform policy decisions and provide technical assistance to rural healthcare organizations and delivery systems.
 - a. MacKinney A, Mueller KJ, Vaughn TE, Zhu X. (2014). From health care volume to health care value: Success strategies for rural health care providers. *Journal of Rural Health*, 30(2), 221-225. PMID: 24112136.
 - b. Zhu X, Mueller KJ, Vaughn TE, Ullrich F. (2015). A rural taxonomy of population and health-resource characteristics. RUPRI - Rural Policy Brief No.2015-4. PMID: 26364327.
 - c. Nattinger M, Mueller KJ, Ullrich F, Zhu X. (2018). Financial performance of rural Medicare ACOs. *Journal of Rural Health*, 34(1), 98-102. PMID: 27557414.
 - d. Zhu X, Mueller KJ, Huang H, Ullrich F, Vaughn TE, MacKinney A. (2019). Organizational attributes associated with Medicare ACO quality performance. *Journal of Rural Health*, 35(1), 68-77. PMID: 29737573.

Complete List of Published Work in MyBibliography:

<http://www.ncbi.nlm.nih.gov/myncbi/xi.zhu.1/bibliography/48961996/public/?sort=date&direction=descending>

D. Research Support

Ongoing Research Support

R21 HS026075 (AHRQ)

Zhu (PI)

04/01/19-03/31/21

Connected Cancer Care: EHR Communication Networks in Virtual Cancer Care

The objective of this project is to develop methods for measuring EHR communication networks in virtual care teams and examine the relationship between EHR-based information sharing patterns and care quality.

Role: PI

Collaboratory Grant (HCCC)	Zhu (PI)	01/01/19-12/31/19
The Iowa Cancer Informatics Collaborative		
The objective of this project is to create a multipurpose cancer datamart by cataloging and integrating institution-specific and population-based data on cancer care and outcomes.		
Role: PI		
P30 CA086862 (NCI)	Weiner (PI)	08/01/18-07/31/20
Supplement to Develop Rural Cancer Control Research Capacity		
The goal of this project is to enhance Holden Comprehensive Cancer Center's capacity to generate state-of-the-art, locally relevant data and research priorities for rural underserved areas in Iowa.		
Role: Co-I		
U1 CRH29074 (FORHP)	Ward (PI)	09/01/16-08/31/20
Telehealth Focused Rural Health Research Center Cooperative Agreement		
The goal of this program is to conduct and disseminate research on rural telehealth that contributes to building a high-performance system in rural America.		
Role: Co-I		
U1 CRH20419 (FORHP)	Mueller (PI)	09/01/16-08/31/20
Rural Health Research Center Cooperative Agreement Program		
The goal of this program is to provide timely analysis, based on the best available research (including original research from the RUPRI Center for Rural Health Policy Analysis), to federal and state health policy makers.		
Role: Co-I		
<u>Completed Research Support</u>		
MED-16-015 (IDPH)	Zhu/Damiano (Co-PI)	07/01/15-12/31/15
State Medicaid Health IT Plan Environmental Scan: Iowa's Health IT Landscape in 2015		
The goal of this study is to conduct an environmental scan survey to develop an understanding of healthcare providers' adoption and meaningful use of electronic health records (EHRs) in Iowa.		
Role: PI		
R18 HS018396 (AHRQ)	Ward (PI)	08/01/10-07/31/15
Evaluation of TeamSTEPPS Implementation for Community Hospital Patient Safety		
The goal of this study is to retrospectively and prospectively evaluate implementation of TeamSTEPPS in community hospitals to identify organizational elements that are most important for success.		
Role: Co-I		
UB7 RH25011 (FORHP)	Mueller (PI)	08/01/12-07/31/15
Rural Health System Analysis and Technical Assistance Cooperative Agreement		
The goal of this program is to analyze rural implications of changes in the organization, finance, and delivery of healthcare services in the US, and to assist rural communities and providers transition to a high performance rural health system.		
Role: Co-I		
R03 HS024112 (AHRQ)	Zhu (PI)	07/01/15-04/30/18
Pre-Training Intervention for Expedited TeamSTEPPS Implementation in Critical Access Hospitals		
The goal of this study is to design a pre-training intervention to prepare Critical Access Hospitals for TeamSTEPPS implementation and explore how this intervention affects the implementation process.		
Role: PI		
UB7 RH25011 (FORHP)	Mueller (PI)	08/01/15-08/31/18
Rural Health Value Program		

The goal of this program is to analyze rural implications of changes in the organization, finance, and delivery of healthcare services in the US, and to assist rural communities and providers transition to a high performance rural health system.

Role: Co-I

RWJF-73062 (RWJF)

Zhu/Mueller (Co-PI)

11/01/15-10/31/18

Building a Local Culture of Health: The Roles of Rural Communities and Hospitals

The goal of this study is to examine the roles of rural communities and hospitals and the strategies they use to lead the collaboration to create and sustain a local Culture of Health.

Role: PI