The WISH 2014 addresses the complex interplay between human, organizational, and technological systems in healthcare to improve the quality, safety, efficiency, and effectiveness of patient care.

Organizers:
Charlotte Tang, University of Michigan, Flint
Nancy Lorenzi, Vanderbilt University
Chris Harle, University of Florida
Xiaomu Zhou, Rutgers University, New Brunswick

Email: wish2014workshop@gmail.com
Http://wish2014.wordpress.com

"If I had an hour to solve a problem I'd spend 55 minutes thinking about the problem and 5 minutes thinking about solutions." -- Albert Einstein

CROSSING THE BRIDGE:
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AGENDA

8:30 – 8:40  Welcome

8:40 – 9:25  Opening Keynote – Dr. Gregory Abowd

  - “It Opens Up a Door: A Potential Role for Personal Health Records in Disability Documentation” - Catherine Arnott Smith
  - “Better Bites: Healthy Food Within A Budget” - Haley Macleod, Denique Ferguson, Scott Trepper, Steve Layton
  - “Toward Designing a Wellness Application for Children” - Kim Oakes, Katie A. Siek, Kay Connelly, Catherine Sherwood-Laughlin, Lesa Huber

10:10 – 10:30  Coffee Break

10:30 – 11:15  Breakout Session

11:15 – 12:00  Paper Presentation: Interactive Systems to Improve Patient and Provider Experiences
  - “A novel approach to ICU data visualization and communication integration” - Faiola, A., Srinivas, P., and Karanam, Y.
  - “Peer Influence in a Self-Tracking Pervasive Fitness System for Adolescents: A Comparison Study” - Andrew D. Miller, Elizabeth D. Mynatt
  - “Identifying Primary Care Provider Strategies For Patient-Centered Care During EHR-based Visits” - Jing Zhang, Yunan Chen

12:00 – 1:30  Lunch Break

1:30 – 2:30  Panel: “Emerging Platforms for Person-Centered, Community-Wide Care Coordination: Needs, Challenges, and Solutions”
  - Katherine K. Kim, Charles Boicey, Janet Freeman-Daily, Susan Hull, Anna McCollister-Slipp

2:30 – 3:00  Coffee Break

3:00 – 4:00  Panel: “Empowering and Engaging Patients and Caregivers: Community-Based Participatory Research in Biomedical Informatics”
  - Suzanne Bakken, Katie Siek, Tiffany Veinot, Kim M. Unertl (Moderator)

4:00 – 5:00  Closing Keynote – Dr. Wendy Nilsen
  Closing Remarks

5:00 – 6:15  Poster Receptions
ABOUT WISH 2014

Addressing the complex interplay among human, organizational, and technological systems in healthcare is critically important. At the intersection of these systems lies a significant research area that has the potential to impact the quality, safety, efficiency, and effectiveness of health care in America. Given the recent emphasis on health information technology (HIT) solutions as part of the ongoing efforts towards healthcare reform and in conjunction with the American Recovery and Reinvestment Act of 2009, these issues are timely and of utmost priority to be addressed. HIT and interactive health care systems have the potential for supporting a wide variety of stakeholders, from patients to providers, individuals to institutions, and policymakers at all levels — both corporate and governmental. However, biomedical informatics, human-computer interaction (HCI), and other research areas related to HIT are often confined in their disciplinary silos making significant trans-disciplinary progress challenging. Discussions at highly specialized conferences, or tracks within conferences, can become deep but disjointed: investigating particular issues in detail but sometimes missing the meta-context and issues from other relevant disciplines represented by specific presentations and conferences.

At WISH 2014, researchers and practitioners with interests in health information technology will come together to promote deeper and more profound connections among the biomedical informatics, human-computer interaction, medical sociology and anthropology communities. The gathering of these communities in a focused conference will lead to the development of new methods, approaches, and techniques to improve the design, adoption, and use of health information technology (HIT). This workshop is designed to foster conversation, bridge communities, and develop a shared body of knowledge.

WISH 2014 will offer an exciting program, including keynote speeches, panels, technical paper presentations and poster exhibitions.
WISH 2014 ORGANIZERS

Co-Chair, Charlotte Tang, Ph.D
University of Michigan, Flint

Co-Chair, Chris A. Harle, Ph.D
University of Florida

Co-Chair, Xiaomu Zhou, Ph.D
Rutgers University, New Brunswick

Co-Chair, Nancy M. Lorenzi, Ph.D
Vanderbilt University
STEERING COMMITTEE

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Jiajie Zhang, PhD
University of Texas

Kai Zheng, PhD
University of Michigan

Ann Arbor
Health and Technology: How to Balance the Research Agendas Effectively

Gregory D. Abowd, DPhil
Professor, College of Computing
Georgia Tech

Abstract
A Computer Science researcher who seeks to apply technological solutions to health faces several challenges. The majority of these challenges stem from the balancing act between the need as researchers to advance knowledge in an academic discipline and the desire to make (or be perceived as making) a contribution in the health. In this talk, I will describe through a set of examples how this balancing act can play out in the career of a computer scientist. My examples will draw from research at Georgia Tech, which have attempted to apply the technologies of computing’s third generation, ubiquitous computing, to opportunities ranging from autism to chronic disease management for old and young. I will end with some speculation about how emerging computing technologies may provide new challenges and opportunities for health and technology research.
Abstract

Using novel technologies and computational approaches to more rapidly and accurately assess, track and modify health has great potential to transform health research. Recent advances have created opportunities for research applications that were not previously possible. The use of novel technological and computational approaches affords numerous methodological advantages over traditional methods, but requires researchers from very different disciplines and who often have very different requirements to partner to develop effective applications. This talk will highlight some of the current research challenges and the bridges that have to be developed to create a truly smart and connected system for health. These challenges include the defining of essential research questions, development of trans-disciplinary teams, pooling disparate knowledge, evaluation methodology and funding for research.
PANEL

“Emerging Platforms for Person-Centered, Community-Wide Care Coordination: Needs, Challenges, and Solutions”

Panelists:
Katherine K. Kim, PhD, MPH, MBA - University of California Davis,
Charles Boicey, MS, RN-BC, CPHIMS - State University of New York Stony Brook, Stony Brook, NY
Janet Freeman-Daily - Seattle, WA,
Susan Hull, MSN, RN - Wellspring Consulting, Healdsburg, CA,
Anna McCollister-Slipp - Washington, D.C

Abstract
As the population ages and the burden of disease increases, there is great need for community-wide care coordination (CWCC) to help deliver triple aims of improved quality, population health and cost. This is particularly critical for underserved patients such as those in rural and low-income communities who experience health disparities. The complexity of coordinating across multiple institutions, care teams, and community services while maintaining a sharp focus on person-centeredness necessitates robust and adaptive technologies. Such systems are foundational for accountable care organizations and health home models. There is little known about technology platforms to accomplish this goal. An initial review of 20 commercially available systems marketed as fulfilling care coordination and patient engagement were assessed on 24 criteria. Most systems were lacking features for patient engagement and collaboration across multiple organizations. A diverse panel of patients, researchers, clinicians, and designers will consider and debate the needs and challenges of person-centered CWCC as well as promising technology solutions.

KATHERINE KIM, PH.D., M.P.H., M.B.A.
Katherine Kim is a health informaticist and researcher at University of California Davis whose work involves the design of mobile and social technologies for interventions that enhance collaboration among patients, family and caregivers, and clinical teams, improve health and streamline healthcare. She has conducted multiple studies on technology-enabled care coordination in cancer and diabetes. She will serve as moderator of the panel, share learnings from current trials in this area, and speak to gaps in knowledge that research may help to fill with regard to CWCC technology.

CHARLES BOICEY, MS, RN-BC, CPHIMS
Charles Boicey is a nurse and Enterprise Analytics Architect for the State University of New York, Stony Brook Medicine. He leads the development of a platform for engaging patients throughout their lives in a 100-entity provider network serving 350,000 Medicare patients and 1.5M people in Suffolk County. He will share his innovative work as a clinician, informaticist, and architect in care coordination and patient engagement.
JANET FREEMAN-DAILY

Janet Freeman-Daily is a metastatic lung cancer patient, a writer, and a science geek. A retired aerospace engineer with MIT and Caltech degrees, she employs her skills to translate the experience and science of lung cancer treatment and research into language other patients can understand. Her days are spent tracking research and treatments, supporting others in online forums, raising awareness through writing, blogging and public speaking, and participating in a clinical trial. She is a founder and moderator of Lung Cancer Social Media (#LCSM) tweet chats and collaborates on projects with lung cancer nonprofits. She blogs at http://grayconnections.wordpress.com and tweets as @JFreemanDaily. She will contribute her lived patient experience and her work educating and advocating for patients.

SUSAN HULL, MSN, RN

Susan Hull is a nursing executive and national thought leader passionate about co-creating technology-enabled innovations, transforming health and care eco-systems to dramatically improve population health and wellbeing, with national and international reach. Susan is the founder and CEO of WellSpring Consulting. She has served in a variety of roles over 30 years including designing and managing services, community partnerships, clinical informatics and technologies. She serves on the Tiger Initiative Foundation board, the NeHC Consumer e-Health Advisory Board, and ONC’s FACA Consumer Technology Standards Workgroup. She will speak from the perspective as a designer of technologies for care and implementer of these systems in healthcare organizations.

ANNA MCCOLLISTER-SLIPP

Anna McCollister-Slipp is the co-founder of Galileo Analytics, a Visual Data Exploration and advanced data analytics company focused on democratizing access to and understanding of complex health data. Anna’s passion for improving health research is rooted in her personal experiences living with type-1 Diabetes for 28 years. She has become acutely aware of the need for increased patient involvement in health research, treatment and care. Anna was previously the director of public affairs for Radio Free Europe/Radio Liberty, director of public affairs at the Cato Institute, a Washington, DC-based think tank, and as a journalist has written for The New York Times and George Magazine. She will contribute her experience as a patient and entrepreneur.
PANEL

“Empowering and Engaging Patients and Caregivers: Community-Based Participatory Research in Biomedical Informatics”

Panelists:
Suzanne Bakken, PhD, RN - Columbia University, New York, NY
Katie Siek, PhD - Indiana University, Bloomington, IN
Tiffany Veinot, PhD - University of Michigan, Ann Arbor, MI

Moderator:
Kim M. Unertl, PhD - Vanderbilt University School of Medicine, Nashville, TN

Abstract
Multiple presenters at the 2013 AMIA Annual Symposium and Workshop on Interactive Systems in Healthcare (WISH) laid down the gauntlet: the healthcare system must do a better job of engaging and empowering patients in healthcare. What is the role of health information technology in patient engagement and empowerment? How do we ensure that communities historically underserved by the healthcare system are not left behind by the digital healthcare revolution? The proposed panel explores the potential of Community-Based Participatory Research (CBPR) to assist with meeting patient engagement and empowerment goals. CBPR embodies several general principles, including: development of partnerships between community members and researchers, shifting the balance of power towards people previously viewed only as objects of research, and ensuring that research benefits underserved communities. Communities and researchers have used CBPR for over 50 years in a variety of fields, but it has seen only limited diffusion in biomedical informatics and human-computer interaction (HCI). The panel brings together experts in the application of CBPR to biomedical informatics and HCI. Panelists will provide an overview of CBPR and discuss specific projects applying CBPR principles, providing insight into potential contributions of CBPR to patient/consumer empowerment and health disparity reduction.

SUZANNE BAKKEN, PHD, RN

Dr. Suzanne Bakken, Alumni Professor of the School of Nursing and Professor of Biomedical Informatics at Columbia University and Director of Columbia University's Center for Evidence-Based Practice in the Underserved. Dr. Bakken’s research examines informatics interventions for patient self-management of chronic diseases, including HIV/AIDS, with emphasis on health disparities, health literacy, and community engagement. Dr. Bakken will discuss the application of CBPR principles in working with community residents and community-based organizations in the Washington Heights Inwood Informatics Infrastructure for Comparative Effectiveness Research (WICER) project.
KATIE SIEK, PhD

Dr. Katie Siek, Associate Professor of Informatics at Indiana University. Her primary research interests are in human computer interaction, health informatics, and ubiquitous computing. More specifically, she is interested in how sociotechnical interventions affect personal health and well-being. Dr. Siek will discuss lessons learned from four CBPR studies over a six-year period in the same low socioeconomic status, urban community to design a mobile dietary monitoring application. She will also share some insights in CBPR with helping varying socioeconomic status children design and build their own health monitoring technologies.

KIM M. UNERTL, PHD

Dr. Kim Unertl, Assistant Professor of Biomedical Informatics at Vanderbilt University School of Medicine, will moderate the panel. Dr. Unertl’s research seeks to apply CBPR principles within and beyond academic medical center boundaries, in populations that are traditionally underserved by the healthcare.
Research Papers

1. “It Opens Up a Door”: A Potential Role for Personal Health Records in Disability Documentation
Catherine Arnott Smith, MA, MLS, MSIS, PhD
University of Wisconsin-Madison

Abstract
College students living with disabilities must disclose, manage, share and communicate their personal health information in order to receive academic accommodations. The academic gatekeepers to this process are disability services specialists who are important “third parties”: non-family members, non-friends, who work with clinical information to meet the educational needs of their student clients. Information fragmentation and redundancy pose significant challenges. Consumer health information technologies – including but not limited to PHRs—could be a part of the information management solution. The bridging of information use communities is critical to understand not only consumers and patients, but the information ecosystems in which they engage, and the numerous uses to which their health information is put. The author reports the results of the first of several studies of different stakeholders in the academic accommodations process and their attitudes about PHRs. Semistructured interviews were conducted between January and April, 2013, with 17 Disabilities Services (DS) specialists at 2 different public 4-year universities. This paper focuses specifically on DS staff reports about clinical document types encountered, and the role that consumer-facing information technologies, specifically personal health records, could play in the accommodations process.

2. Better Bites: Healthy Food Within A Budget
Haley MacLeod, Denique Ferguson, Scott Trepper, Steve Layton
Indiana University, Bloomington, IN

Abstract
Those most affected by poor access to healthy foods are individuals with low socioeconomic status. We propose Better Bites: a sharable device that allows individuals and families to compare items in their cart with similarly priced healthier alternatives and makes use of existing store loyalty program data to provide personalized recommendations based on an individual’s historical shopping data.

3. Toward Designing a Wellness Application for Children
Kim Oakes, BS, Katie A. Siek, PhD, Kay Connelly, PhD,
Catherine Sherwood-Laughlin, MPH, MA, Lesa Huber, PhD
Indiana University, Bloomington, IN

Abstract
Childhood obesity is associated with numerous short- and long-term health factors, G.O.A.L., a 12-week program comprised of multiple families, combats these factors by focusing on improving children’s nutritional, behavioral, mental, and overall wellness through parent and group support. We investigated G.O.A.L.’s current practices – how they educated children and families to monitor meals and activities while focusing on weekly goals versus how they really carry out these practices. We conducted a multi-day study where researchers observed, interviewed, and led a focus group during the G.O.A.L. meetings. We present our design process for a mobile application that could help programs monitor youth health and wellness.
4. A novel approach to ICU data visualization and communication integration
Faiola, A., PhD, Srinivas, P., PhD, and Karanam, Y., PhD
Indiana University School of Informatics and Computing, Indianapolis, IN

Abstract
The intensive care unit (ICU) is a highly complex environment that houses critically ill patients requiring constant monitoring and care, as well as vast amounts of time-oriented data disseminated through a range of health information technologies (HIT), e.g., bedside and clinical decision support systems. Studies show the occurrence of medical mishaps due to diagnostic errors, impacting patient safety in spite of advances in HIT. Available visual representations of data, although time-oriented and multivariate, lack contextual information for communication among the ICU intensivists. We present a medical data visualization system (MIVA) that delivers multivariate data via a visualization display. The system organizes data into controllable time resolutions, providing contextual knowledge and communication tools at point-of-care. When comparing MIVA to paper charts, findings from two studies suggest that MIVA enabled significantly greater speed and accuracy during an in-lab experiment, while participants also noted its potential to significantly impact decision-support.

5. Peer Influence in a Self-Tracking Pervasive Fitness System for Adolescents: A Comparison Study
Andrew D. Miller, PhD, Elizabeth D. Mynatt, PhD
Georgia Institute of Technology, Atlanta, GA

Abstract
We describe findings from a deployment of a self-tracking pervasive fitness system for adolescents, and contrast it to a social version of the same system (StepStream). Overall, students in this study did not improve their attitudes about health and fitness, and there was no overall increase in daily physical activity. We provide evidence for two contributing factors: the specific social structure of the participant group, and the persuasive design of the system. Our results show that even a group with strong social ties will not necessarily leverage those connections for fitness without encouragement from the system. This study also provides evidence that attitude and behavior change seen in other deployments (especially the ‘social’ version of StepStream) are also due to these factors, and not merely the result of novelty effects or researcher bias.

6. Identifying Primary Care Provider Strategies For Patient-Centered Care During EHR-based Visits
Jing Zhang, MS1,3, Yunan Chen, PhD2,3
1University of California - San Diego, San Diego, CA; 2University of California – Irvine, Irvine, CA; 3Research Service, VA San Diego Healthcare System, San Diego, CA

Abstract
The quality of interaction between health providers and patients during clinical visits contributes to patient-centered care. Electronic Health Records (EHRs) have the potential to improve the quality and safety of healthcare. Previous research has shown that the use of EHRs in the exam room setting can impact the quality of patient-provider interaction. Nevertheless, it is unclear how primary care providers strategize to integrate existing technologies into their workflow. Therefore, we conducted a qualitative interview study to understand providers’ experience in incorporating technology in their daily practices, while maintaining patient-centered care during EHR-based primary care visits. The results showed that providers develop various EHR usage styles, characterized by time allocation of EHR work and the use of templates, and they also employ the practice of multitasking. These findings illuminate the importance of formulating best communication practices to improve patient-centered care in today’s technology-driven health environment and also inspire EHR design to support the fragmentation and parallel processing of tasks uncovered in our study.
1. Perspectives on Care Coordination and Meaningful Use in the Emergency Department Setting
Saira N. Haque, PhD1, MHSA, Debbie Travers, PhD, RN2, S. Trent Rosenbloom, MD3, Jonathan S. Wald, MD1,4

1RTI International, Research Triangle Park, NC; 2University of North Carolina-Chapel Hill, Chapel Hill, NC; 3Vanderbilt University, Nashville, TN; 4Harvard Medical School, Boston, MA

2. Learning from Social Media Patient Platforms: A Framework for Exploring Mechanisms Used to Engage Patients
Claudia Lai, MSc1, Alex R. Jadad, MD1-3, DPhil, Raisa Deber, PhD1, Aviv Shachak, PhD1

1Institute of Health Policy, Management & Evaluation, University of Toronto, Toronto ON; 2Department of Anesthesia and Dalla Lana School of Public Health, U of Toronto, Toronto, ON; 3Centre for Global eHealth Innovation, University Health Network, Toronto ON

3. Understanding Public Concerns of Vaccine-Autism Linkage by Computational Analysis of Online News Comments
Yang Liu, MSI1, Qiaozhu Mei, PhD1,2, David A. Hanauer, MD, MS1,3, Kai Zheng, PhD1,4

1School of Information; 2Department of Electrical Engineering and Computer Science; 3Department of Pediatrics; 4School of Public Health, Department of Health Management and Policy. University of Michigan, Ann Arbor, MI

4. Collaborative Intelligent Case Design Model To Facilitate Simulated Testing of Clinical Cognitive Load
Vishnu Mohan MD, MBI, Jeffrey A. Gold, MD
Oregon Health & Science University, Portland, OR

5. Direction-giving to Residents in Laparoscopic Surgery
Yuanyuan Feng, MS, Christopher Kai Wong, BS, Helena Mentis, PhD
University of Maryland, Baltimore County

6. Educating Female Farmers about Health and Nutrition through Mobile Phones based Interactive Videos
Syed Ali Hussain, PhD student
College of Communication, Arts & Sciences, Michigan State University, East Lansing MI
7. **Standard Description Guidelines and Star Ratings are Not Good Measurements for Usability Issues of Mobile Applications That Support Training in Diagnostic Decision Making for Radiologists**  
Awatef A. Ben Ramadan, MD, MPH\(^1\), Martina A. Clarke, MS\(^1\), Mia K. Markey, PhD\(^2,3\), Michael R. Aro, MD\(^4\), Kraig J. Lage, MD\(^4\), Kevin L. Ingalls, MD\(^4\), Vivek Sindhwani, MD\(^4\), Min S. Kim, PhD\(^1,5\)

\(^1\)Informatics Institute, University of Missouri, Columbia, MO; \(^2\)Department of Biomedical Engineering, The University of Texas at Austin, Austin, TX; \(^3\)Department of Imaging Physics, The University of Texas MD Anderson Cancer Center, Houston, TX; \(^4\)Department of Radiology, University of Missouri School of Medicine, Columbia, MO; \(^5\)Department of Health Management and Informatics, University of Missouri School of Medicine, Columbia, MO

8. **Mobile Support Intervention for Throat Cancer Patients Receiving Radiation Therapy**  
Stephanie R. Tucker, MS\(^1\), Eileen Shinn, PhD\(^2\), Sriram Iyengar, PhD\(^1\)

\(^1\)University of Texas Health Science Center, Houston, TX; \(^2\)University of Texas MD Anderson Cancer Center

9. **Identifying Usability Issues between Expert and Novice Primary Care Physicians when using an Electronic Health Record (EHR)**  
Martina A. Clarke, MS\(^1\), Jeffery L. Belden, MD\(^2\), Min Soon Kim, PhD\(^1,3\)

\(^1\)Informatics Institute, University of Missouri; \(^2\)Department of Family and Community Medicine, University of Missouri; \(^3\)Department of Health Management and Informatics, University of Missouri

10. **Studying the Role of Wearable Health-Tracking Devices in Raising Users’ Self-Awareness and Motivating Physical Activities**  
Grace Shin MS, Mohammad H. Jarrahi, PhD

University of North Carolina at Chapel Hill, NC

11. **Engaging Adolescents in a Computer Based Weight Management Program: Avatars Could Help**  
Cynthia LeRouge, PhD\(^1\), Christine Lisetti, PhD\(^2\), Toree Malasanos, MD\(^3\), Kate Dickhut, MPH\(^1\)

\(^1\)Saint Louis University, \(^2\)Florida International University, \(^3\)Heath-e

12. **A Tele-rehabilitation Service Mode for Patients with Adhesive Capsulitis**  
Kevin C. Tseng\(^1\), Wu-Chen Su\(^1\), Chia-Lin Hsu\(^2\)

\(^1\)Chang Gung University, Tao-Yuan, Taiwan; \(^2\)Landseed Hospital, Tao-Yuan, Taiwan
13. **Modeling daily rounds to support efficient task management in ICU workflow**
Preethi Srinivas, PhDc and Anthony Faiola, PhD
Indiana University School of Informatics & Computing, IUPUI

14. **Informational Support Exchanges in Online Health Communities**
Shupei Yuan, MA; Jina Huh, PhD
Michigan State University, East Lansing, MI

15. **Iterative design of an Interactive Clinical Evidence Summarization Tool**
Guilherme Del Fiol, MD, PhD, Dongqiuye Pu, MS, Charlene R. Weir, RN, PhD, Richard Medlin, Siddhartha Jonnalagadda, PhD, Rashmi Mishra, BDS, MPH, Stacey Slager, MS, Javed Mostafa, PhD
1. University of Utah, Salt Lake City, UT; 2. University of North Carolina, Chapel Hill, NC; 3. Department of Veterans Affairs Medical Center, Salt Lake City, UT; 4. Northwestern University, Chicago, IL

16. **Getting in Sync: Health and Digital Literacy in Patient Deep Brain Stimulation Device Use**
Rita A. Shewbridge MS, Helena M. Mentis PhD, Courtney D. Pharr, Sharon Powell RN, Paul Fishman MD, Melissa Armstrong MD, Lisa Shulman, MD
1. University of Maryland Baltimore County, Baltimore, MD; 2. Clark University, Worcester, MA; 3. University of Maryland School of Medicine, Baltimore, MD

17. **“iCuro”™ (Intensive Care Unit Real-time Observer) : A Real-Time ICU Patient Data Integration and Presentation System**
Willa H Drummond, MD, MS, T Chris Carnes, PhD, Samuel W Coons, ME, Kevin R Birkett, ME, Jingqi Xian, MS, Rebecca Roys RN, MS
ICU DataSystems, Inc. & University of Florida, Gainesville, FL

18. **The effects of interpersonal communication and enacted support on exercise motivation for high risk breast cancer survivors**
Miraida Morales, Xiaomu Zhou, PhD, Rita Musanti
1. School of Communication and Information, Rutgers University, New Brunswick, NJ; 2. College of Nursing, Rutgers University, Newark, NJ

Xuan Hung Le, PhD, Monica Barbosu MD, PhD, Terry Doll, Matthew Bernhardt, MS, Thomas DellaPorta, MS, Amneris Luque, MD, Dongwen Wang, PhD
University of Rochester Medical Center, Rochester, NY 14642
20. A Randomized Controlled Trial of Interactive Education in Older Adults with Diabetes: Preliminary Results
McKenzie E. Bedra, MPH, Xuan Li, MPH, Joseph Finkelstein, MD, PhD
Chronic Disease Informatics Program, Johns Hopkins University, Baltimore, MD

21. The Challenges of Collaboratively Managing Patient Information in a Hospital’s In-Patient Unit
Alison R. Murphy, BS, Madhu C. Reddy, PhD
The College of Information Sciences and Technology, The Pennsylvania State University, University Park, PA

22. Exploring Provider Effects in Patient Portal Use Data
Yun Lin, Bengisu Tulu, PhD, Sharon A. Johnson, PhD, Diane M. Strong, PhD
Worcester Polytechnic Institute, Worcester, MA

23. Enhancing Patient Safety Event Reporting By K-nearest Neighbor Classifier
Chen Liang, MS, Yang Gong, MD, PhD
University of Texas Health Science Center at Houston, Houston, TX

24. Design and Usability Testing of a Smartphone App for Remote Informal Caregivers
Steven S. Williamson, BS¹, Paul N. Gorman, MD¹, Holly B. Jimison, PhD²
¹Oregon Health & Science University, Portland, OR; ²Northeastern University, Boston, MA

25. Design Implications of a Workflow-Enabled Computer-Based Documentation System
Danny T.Y. Wu, MS¹,³, Tiffany C. Veinot, PhD¹,², David J. Bradley, MD³, Kai Zheng, PhD¹,²
¹School of Information; ²School of Public Health; ³Division of Pediatric Cardiology, Medical School, University of Michigan Ann Arbor, MI

26. A Preliminary Investigation of Patient Information Needs during Emergency Care
Sun Young Park, Yunan Chen, PhD
University of California, Irvine, CA