Health Information: The Heart of the Matter
"The Devil is in the Details"

Abstract: The use of health information and informatics can provide better data, improve care, and assist research in the clinical domain of heart failure in the Department of Veterans Affairs (VA). For example, ejection faction, evidence of guideline-direct medical therapy, and reasons for not prescribing medications, such as contraindications can be obtained using natural language processing (NLP) and information extraction (IE). We can also use this data in decision support with existing functionality of the VA electronic health record, CPRS. We also used cognitive task analysis and formative evaluation based on several theoretic frameworks and models to design a clinical reminder to prompt beta blocker titration in primary care.

In our development of NLP and IE we targeted the concepts of left ventricular systolic function (LVSF) assessment and ejection fraction (EF), angiotensin-converting enzyme (ACE) inhibitor, angiotensin receptor blocker (ARB), and beta blocker (BB) therapy for appropriate patients, and reasons why patients may not be on medications. We constructed and tested automated algorithms to transform unstructured data within text into structured data representing these concepts. We partnered with clinicians to develop needed decision support and to identify the delivery mechanism of this support using Cognitive Task Analysis (CTA) and Usability Assessment (UA). We undertook qualitative interviews to assess the clinical content and acceptability of design of the prototype.

About the Speaker: Dr. Garvin is currently the Division Director and Associate Professor in the School of Health and Rehabilitation Sciences at The Ohio State University. She develops methods and applied informatics to adopt evidence to advance clinical and public health practice and health services research. She works with several research teams to use administrative data for health services research, development of survivorship care plans, the use of arts and music in medicine to build resilience, and as a co-investigator to develop balance as part of vital sign assessment. She is also a VA Research Health Scientist and an Affiliated Investigator with Center for Health Information and Communication at the Richard L. Roudebush VAMC, Indianapolis, IN. In terms of clinical practice, she and her team developed natural language processing tools to improve care for chronic systolic heart failure in the Department of Veterans Affairs (VA). As part of this research she also studied the contextual factors related to implementation of these tools using the Promoting Action on Research Implementation in Health Services framework, the Sociotechnical Model for Health Information Technology (HIT) Model, and User-centered Design to guide the research. These approaches allowed her to study how to use HIT to facilitate the adoption of evidence into clinical practice, to partner with clinicians and other stakeholders in development, and to design and deliver clinical content so that it supports decision making.

Jennifer Garvin, PhD, MBA, RHIA, CPHQ, CCS, CTR, FAHIMA, FAHA
Friday, January 10th, 11:00am-12:00pm
105 BRT