

Biomedical Informatics Grand Rounds
Wednesday, March 17, 2021 3:00 pm – 4:00 pm

Designing inclusive health information to promote equity: Applications for health professionals, informal caregivers, and patients



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Remote Access

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Bio: Natalie (Nat) Benda, PhD is a postdoctoral associated at Weill Cornell Medicine in the Department of Population Health Sciences, Division of Health Informatics. Dr. Benda’s work utilizes human factors methods to improve the quality, safety, and equity of healthcare, with a special focus on health IT. Human factors is the science that investigates how people acquire, use, and interpret information. Human factors experts leverage this understanding to build tools that support cognitive work in high-risk environments, such as healthcare. Dr. Benda’s work has been published in high impact clinical, informatics, and public health journals. Her work has been supported by National Science Foundation (NSF) Graduate Research Fellowship Program; the Dean’s Fellowship from the University at Buffalo’s School of Engineering and Applied Sciences; and the Charles and Mary Latham Foundation, which funds projects targeting medically under-served patients in the Washington, DC area.

Abstract: Informatics interventions exist, by definition, to harness data and translate it into knowledge. Many interventions assume that simply presenting health data to health professionals and patients will result in them deriving knowledge. However, ample evidence shows that the ways in which people derive knowledge from medical concepts, terms, and data varies drastically between individuals. Because poor comprehension (i.e. knowledge derivation) is associated with negative health outcomes, poor design inclusivity can be dangerous to patients and can further perpetuate existing inequalities in the healthcare system. My work leverages a work systems framework from the field of human factors engineering to design inclusive interventions for health professionals and patients with the ultimate goal of promoting health equity. A work system recognizes work as influenced by the interactions between system dimensions including: the external environment, social system, the organization, and the people involved. In this talk, I will present a work systems framework for inclusive health information design and illustrate applications of this framework to:

1. A stakeholder needs assessment for a predictive algorithm to proactively identify high-need, high-cost patients.
2. The development of a text-mining algorithm using patient portal secure messages to identify and support informal caregivers in oncology.
3. Evaluating and implementing technology to enhance mental health treatment for older adults.

Educational Objects: Upon completion, participants should be able to:

- Describe the importance of designing inclusive health information.
- Define a work system and how related approaches may aid in designing inclusive health information.
- Identify qualitative and quantitative methods for designing and evaluating health IT interventions.

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