

# Health Informatics and Technology

June 29-30, 2016 New Orleans, USA

## Complex adaptive systems and informatics challenges: A case study of the Missouri maternal, infant, and early childhood home visiting programs

Julie M Kapp, Sara E Schlemper and Eduardo J Simoes  
University of Missouri School of Medicine, USA

The Patient Protection and Affordable Care Act of 2010 (ACA) has generated attention for programs that drive a systems-engineering approach to health-related services. The term ‘complex adaptive systems’ (CAS) acknowledges, programs and activities are not conducted in vacuums, but are part of larger networks, with histories and evolving dynamics. Systems-thinking considers how components within a larger structure operate and interact over the life cycle of the system; and how to optimize the design, implementation, and evaluation of that system. A ‘system’ can be defined as “a group of interacting, interrelated, and interdependent components that form a complex and unified whole.” To evaluate the population-level impact of programs requires a CAS-perspective, but also presents an enormous informatics challenge. We use the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program, as created by Section 2951 of the ACA, as a case study for illustration. MIECHV is intended to provide comprehensive services to pregnant women and at risk parents of children (birth to age 5) through home visiting programs. With all states receiving formula funds to address their at-risk communities, and home visiting programs having been in existence for decades, evaluating the effectiveness of these programs becomes a CAS and informatics challenge.

### Biography

Julie M Kapp is an Associate Professor with a background in Public Health and Evaluation. Her faculty appointments have included notable roles, such as: the Executive Director of the Health and Behavioral Risk Research Center, Margaret Proctor Mulligan Faculty Scholar, and Executive Director of the Partnership for Evaluation, Assessment, and Research. She has served as an NIH grant reviewer, an Associate Editor for *BMC Cancer*, and a journal reviewer for such notable titles as *Cancer*, *International Journal of Cancer*, and *The Lancet*. She recently completed a year-long Malcolm Baldrige Executive Fellows Program focused on aligning and integrating systems.

[kappj@health.missouri.edu](mailto:kappj@health.missouri.edu)

### Notes: