

Recent Publications:

Schmidt M, Hearn B, Gabriel M, **Spencer MD**, McCurdy L. 2017. [Predictors of Unplanned Hospitalization in Patients Receiving Outpatient Parenteral Antimicrobial Therapy Across a Large Integrated Healthcare Network](#). *Open Forum Infect Dis* 4:ofx086.

Taylor YJ, **Spencer MD**, Mahabaleshwar R, Ludden T. 2017. [Racial/ethnic differences in healthcare use among patients with uncontrolled and controlled diabetes](#). *Ethn Health* doi:10.1080/13557858.2017.1315372:1-12.

Corbin KD, Abdelmalek MF, **Spencer MD**, da Costa K-A, Galanko JA, Sha W, Suzuki A, Guy CD, Cardona DM, Torquati A, Diehl AM, Zeisel SH. 2013. [Genetic signatures in choline and 1-carbon metabolism are associated with the severity of hepatic steatosis](#). *The FASEB Journal* 27:1674-1689.

Spencer MD, Hamp TJ, Reid RW, Fischer LM, Zeisel SH, Fodor AA. 2011. [Association between composition of the human gastrointestinal microbiome and development of fatty liver with choline deficiency](#). *Gastroenterology* 140:976-986.

Melanie Spencer, PhD, MBA

Dr. Melanie Spencer is Executive Director of the Center for Outcomes Research and Evaluation (CORE) and Associate Professor of Outcomes Research at Carolinas HealthCare System (CHS), one of the largest public not-for-profit healthcare systems in the United States. She earned her PhD in Bioinformatics and Computational Biology from the University of North Carolina at Charlotte (UNCC). She completed post-doctoral training in Nutrition and Gastroenterology and received a Certificate in Epidemiology from The University of North Carolina at Chapel Hill (UNC Chapel Hill). She holds a Masters' degree in Business Administration from Queens University and a BA in economics and German from UNC Chapel Hill.

Dr. Spencer's scientific expertise is in the application of bacterial genomic analysis to problems in human health. Her postdoctoral work focused on the intersection of the human gut microbiome, choline metabolism, nutrition and human genetics. She teaches a nutritional biochemistry seminar at UNC Chapel Hill that covers the essential role of the microbiome in nutrition and human health. Her research at CHS focuses on multi-drug resistant infections and antibiotic stewardship. Her collaborative studies with CHS Infection Prevention, The Broad Institute and UNC Charlotte combine analysis of bacterial genomics and epidemiology to investigate the transmission dynamics of Carbapenem-Resistant *Enterobacteriaceae* infections. This work has led to significant changes in infection prevention and management throughout the CHS healthcare network. Other research interests include disparities in chronic disease. She has authored several business case



Executive Director of the Center for Outcomes Research and Evaluation (CORE)

Associate Professor of Outcomes Research
Carolinas HealthCare System (CHS)

studies and teaching notes in previous work at Harvard Business School.

At CORE, Dr. Spencer leads a team of data scientists, health services researchers, database developers, biostatisticians and project managers. This dynamic team focuses on applied research that provides real-world evidence to improve patient outcomes and transform healthcare quality. Many of these studies are designed to integrate research directly into clinical care and are conducted in collaboration with clinician investigators. CORE scientists direct investigator-led studies on diverse topics, such as health disparities, chronic disease outcomes, improvements in care delivery and infection prevention and management. In 2015, Dr. Spencer received the AAMC Learning Healthcare System Learner award in recognition of her leadership and CORE's efforts to foster a Learning Healthcare System at CHS. The AAMC sponsored visit to the University of Wisconsin was pivotal to the development of CORE.