![University of Massachusetts Medical School — UMASS logo]

GRADUATE SCHOOL OF BIOMEDICAL SCIENCES
CLINICAL & POPULATION HEALTH RESEARCH PROGRAM

Ph.D. THESIS DEFENSE

HASSAN FOUAYZI

MENTOR: Arlene S. Ash, PhD

Tuesday, May 21, 2019 9:00 a.m.
AS9-2072

Using Healthcare Data to Inform Health Policy:
Quantifying Cardiovascular Disease Risk and Assessing 30-Day Readmission Measures

Health policy makers are struggling to manage health care and spending. To identify strategies for improving health quality and reducing health spending, policy makers need to first understand health risks and outcomes. Despite lacking some desirable clinical detail, existing health care databases, such as national health surveys and claims and enrollment data for insured populations, are often rich in information relating patient characteristics to heath risks and outcomes. They typically encompass more inclusive populations than can feasibly be achieved with new data collection and are valuable resources for informing health policy. This dissertation illustrates how the Medicare Current Beneficiary Survey (MCBS) and MassHealth data can be used to develop models that provide useful estimates of risks and health quality measures. It provides insights into: 1) the benefits of a proxy for the Framingham cardiovascular disease (CVD) risk score, that relies only on variables available in the MCBS, to target health interventions to policy-relevant subgroups, such as elderly Medicare beneficiaries, based on their risk of developing CVD, 2) the importance of setting appropriate risk-adjusted quality of care standards for accountable care organizations (ACOs) based on the characteristics of their enrolled members, and 3) the outsized effect of high- frequency hospital users on re-admission measures and possibly other quality measures. This work develops tools that can be used to identify and support care of vulnerable patients to both improve their health outcomes and reduce spending – an important step on the road to health equity.

Mentor(s)
Arlene S. Ash, PhD

Dissertation Exam Committee
Robin Clark, PhD (Chair)
Jeroan Allison, MD, MS
Bo Zhang, PhD
Stephenie Lemon, PhD
Michael Shwartz, PhD