Abstract by Alex Hoyt for MGH Institute Faculty Research Fellowship Grant 2010

Person, Place, and Prevention in Primary Care: A Multilevel Analysis of Variation in Behavioral Health Preventive Service Delivery

Background: Mental illness, substance abuse, and overweight are highly prevalent problems with immense consequences for the millions directly affected as well as the U.S. health care system and economy. Primary care providers (PCP) can play an important role in decreasing the burden of these conditions through screening, counseling, treatment, and referral when necessary. Despite the importance of their role, the availability of effective tools, and the urging of clinical practice guidelines, PCPs provide screening and counseling services less frequently than recommended.

Previous research into the discrepancies between the level of care recommended and that which is provided has focused on provider characteristics such as training or specialty. Another line of investigation has described disparities in screening and counseling as a function of age, gender, race/ethnicity, and income – despite the universal applicability of the services. A third line of study has demonstrated geographic variations in the quality of health care. However, this line of study has primarily examined rates of surgical procedures among Medicare beneficiaries as a function of hospital referral regions. While plausible hypotheses exist concerning the impact of community characteristics on the delivery of screening and counseling to the general population, they have not been empirically explored.

Objectives: My dissertation research addresses this void by (1) describing the rates of screening and counseling for mental illness, substance abuse, and overweight, (2) modeling the delivery of services as a function of patient level characteristics, and (3) developing multilevel models of the relationship between screening and counseling services and community characteristics. This research utilizes applications of Bounded Rationality Theory in health services research including Arrow's writing on health economics, Wennberg's conceptualization of medical decision making, Balsa's observations of racial disparities in health care, and Mishel's theory of uncertainty in illness.

Methods: This research will employ a cross-sectional, multilevel design using data from multiple sources including Healthcare for Communities, the Community Tracking Study, the National Survey of Substance Abuse Treatment Services, the U.S. Census, the Brandeis Survey of Health Plans and the Area Resource File. Individuals responding to a household survey, Healthcare for Communities, will be the primary unit of analysis. Healthcare for Communities utilizes a cluster sample design of sixty sites, defined as counties or groups of counties, across the United States. The community level data structure uses the Healthcare for Communities site definitions as the units of aggregation. Analytic techniques include logistic regression and multilevel modeling (also known as hierarchical modeling).

Significance: Screening and counseling for mental illness, substance abuse, and overweight can improve health outcomes for the patient and decrease the burden of these conditions on society. Yet primary care providers too frequently miss the opportunity to provide recommended care. Understanding the influences that shape the delivery of behavioral screening and counseling services is an important first step in understanding which policy levers can improve quality of care and teaching future health care providers how patients and practice environment shape practice.