New Research on How Healthcare Providers Respond to Changing Economic Circumstances

The United States spends $2.9 trillion on healthcare according to the Centers for Disease Control and Prevention. The costs of providing healthcare are even greater when informal, or unpaid, care provided by relatives and friends to patients at home is included. One study estimates that the annual cost of informal care to the elderly alone reaches over $520 billion (Chari et al., 2015). Yet, a range of economic factors, including providers’ payment levels and even informal caregivers’ employment status, can affect healthcare providers as they deliver care. In different studies that address the effects of changing economic circumstances on the provision of healthcare, Schroeder Center faculty affiliates tackle two questions. First, is informal caregiving in the home affected by healthcare providers’ formal employment status? And second, is the provision of hospital outpatient care to the uninsured affected by Medicare payment rate cuts?

William & Mary economics faculty members Daifeng He and Peter McHenry recently published “Does Formal Employment Reduce Informal Caregiving?” in Health Economics. In the United States, the elderly frequently rely on informal care providers to assist them as they age. However, many of these providers—most of whom are women—face competing demands for their limited time as a result of formal employment arrangements. While most prior research focuses on the effect of informal caregiving on caregivers’ work opportunities, He and McHenry instead quantify the effect of women’s formal employment on their ability to provide informal care. With data from the large nationally representative Survey of Income and Program Participation (SIPP) dataset, He and McHenry use econometric methods to identify the causal effect of formal employment on informal caregiving as distinct from the effect of caregiving on employment. They find that about 8% of women between the ages of 40 and 64 years
provide informal care, and that the average caregiver provides care for 28 hours per week. Moreover, He and McHenry find that increased formal employment opportunities reduce the probability of caregiving. For example, women between the ages of 40 to 64, prime caregiving years, who work 10% more hours per week are 2 percentage points less likely to provide informal care generally and 3 percentage points less likely to provide informal care if the care recipient is a household member. These results suggest that a strong labor market may have the unintended consequence of reducing informal caregiving by increasing formal employment opportunities. In the case of the elderly who rely heavily on informal care, this situation may further constrain their ability to find appropriate care, particularly as care provided in more formal settings, such as nursing homes, is prohibitively expensive.

While informal caregiving at home is one important form of healthcare, inpatient and outpatient care provided in the hospital is another. Hospitals are also an important source of care for individuals lacking health insurance, providing about 60% of all uncompensated care according to the Kaiser Family Foundation (2014). In a study forthcoming in *Health Services Research*, Schroeder Center faculty affiliates Daifeng He and Jennifer Mellor examine how Medicare payment cuts affect the amount of outpatient care provided to the uninsured generally and by non-profit and for-profit hospitals specifically. Effective in 2000, the Hospital Outpatient Prospective Payment System (OPPS) created a new payment system, whereby predetermined payment rates were assigned to all procedures in a given group of outpatient procedures. Prior research demonstrates that the OPPS ultimately reduced average Medicare payments for certain outpatient procedures. Using Medicare reimbursement rates for the 10 most commonly used hospital outpatient surgical procedures and more than 10 years of hospital outpatient discharge records from one state, He and Mellor find that the OPPS-induced Medicare payment cuts clearly affected the provision of care to the uninsured. Between 2004 and 2008, for example, the number of uninsured patients seen on an outpatient basis decreased by nearly 11,300 patients. In non-profit hospitals in particular, He and Mellor find that the Medicare payment cuts resulted in providing decreased care (as measured by total charges and share of charges) to the uninsured. Specifically, they found that a 1% decrease in the Medicare payment measure is associated with a decrease of $20,200 on average in annual outpatient care charges for the uninsured at non-profit hospitals. These findings suggest that further Medicare reimbursement rate cuts, including those associated with the full implementation of the Affordable Care Act, may result in uninsured individuals experiencing a decline in outpatient services provided by hospitals.

Both studies by William & Mary faculty show how changing economic circumstances may decrease the provision of healthcare in two different settings. First, He and McHenry demonstrate that strong labor markets, while creating increased formal employment opportunities, may reduce informal caregiving provided at home. Second, He and Mellor find that reimbursement rate cuts to hospitals, designed to control healthcare costs, may decrease care to the uninsured in hospitals, a setting where they have traditionally received the majority of uncompensated care.
Focus on Virginia Hospitalizations and Dependent Coverage

Under the Schroeder Center – Brock Institute (SC-BI) Summer Health Policy Research Fellowship Program, students from William & Mary and medical students from Eastern Virginia Medical School (EVMS) were competitively selected to conduct independent research studies focused on health policy/health services issues in Virginia. The William & Mary student fellows, who worked under the supervision of Dr. Jen Mellor, Professor of Economics and Director of the Schroeder Center, recently presented their research and findings on these important health policy issues currently facing the Commonwealth:

Jimmy Cao's study, “Alcohol-related Hospitalizations in Virginia: The Role of Race, Economic Conditions, and Alcohol Licenses,” found that the percentage of African Americans living in a county is associated with an increase in a county’s alcoholic liver disease (ALD) rate. The association is even greater if the county also experiences a high poverty rate. Cao’s work also suggests that of those individuals admitted to a hospital for ALD treatment, African Americans tend to have higher costs for their care and are more likely to be admitted as emergency hospitalizations. Unexpectedly, Cao also found that the density of alcohol licenses in a county is not strongly associated with an increase in the county’s ALD rate. Cao focused on the alcohol license density issue in a recently prepared policy brief, located at www.wm.edu/schroeder.

Molly Smith’s study, “Hospital Readmissions Among Virginia Medicare Beneficiaries After the Affordable Care Act,” examined the effectiveness of the Affordable Care Act’s recent implementation of the Hospital Readmissions Reduction Program (HRRP) on reducing readmissions for Medicare patients in Virginia hospitals. Previous research suggested that readmissions would decrease as a result of the HRRP, particularly for integrated hospitals, hospitals in counties with high patient care availability, and non-safety net hospitals. Smith’s study produced different results, and found instead that the HRRP is largely ineffective in reducing readmissions of Medicare patients in Virginia at this time.

John Snouffer’s study, “Young Adulthood in Virginia: Evidence from the Dependent Coverage Expansion of the Affordable Care Act,” found that the Affordable Care Act’s dependent coverage mandate is responsible for increases in inpatient utilization in Virginia and a decrease in the number of uninsured, young adult patients diagnosed with mental illness and admitted to Virginia inpatient hospitals. This is the case for all non-birth non-emergency admissions, all mental illness admissions, and all substance abuse admissions. Snouffer presents his findings in a policy brief, located at www.wm.edu/schroeder.

Prior to completing their research studies, the health policy fellows received training in research methods/data analytics, and they met with various health policy experts, including Michele Chesser (Senior Health Policy Analyst on the General Assembly’s Joint Commission on Health Care) and Kathie Zimbro, Ph.D., R.N. (Director of Clinical & Business Intelligence & Quality Research Institute, Sentara Healthcare).
Presentations on Medicare Hospital Payments, Medicaid Expansion, Standards of Care, and Healthcare Equity

Schroeder Center faculty affiliates routinely present their health policy research around the country. Below are some recent examples of their work in 2015:

McHenry, P. “Medicare Hospital Payments and Nursing Labor Markets,” presentation of a paper written by P. McHenry and J. Mellor at the Regional Economics Workshop, Federal Reserve Bank of Richmond, Richmond, VA.

McInerney, M., Mellor, J., and Sabik, L., “The Effects of State Medicaid Expansions for Working-Age Adults on Senior Medicare Beneficiaries’ Healthcare Spending and Health,” presentation at the Frank Batten School of Leadership and Public Policy, University of Virginia, Charlottesville, VA.


Rossiter, L. “Equity of Healthcare,” presentation to the Healthcare Administrators of Tidewater, American College of Healthcare Executives meeting, Williamsburg, VA.

Student - Faculty Health Research Collaborations

The Schroeder Center is proud to support three health policy projects that offer undergraduates the opportunity to collaborate with William & Mary faculty:

**Evaluating the Efficacy of Public Health Initiatives** (Faculty Mentor: Brian Beach, Ph.D., Economics; Research Assistant: Yi Wang, Economics, Class of 2016). This project’s goal is to digitize annual mortality statistics (1900-1960) from the Centers for Disease Control and Prevention and to use this data to evaluate the efficacy of public health initiatives.

**Assessing the Ability of Mandatory Testing to Control the Spread of Disease** (Faculty Mentor: John Parman, Ph.D., Economics; Research Assistant: Lauren Hurley, Economics, Class of 2017). This project studies the timing and scope of premarital blood test laws to examine their impact on marriage rates, birth rates, and syphilis morbidity rates among adults and infants.

**Cardiac Patients at Sentara Heart Hospital – Assessment of Post Discharge Care and Costs/Quality Outcomes Related to This Care** (Faculty Mentor: Chon Abraham, Ph.D., Business; Research Assistant: Yi Wang, Economics, Class of 2016). This research will use IBM cognitive intelligence based tools, such as Watson Analytics and geospatial analytics, to assess how to better plan post discharge care for cardiac patients of Sentara Heart Hospital and to assess costs and quality outcomes associated with this care.