Hypertension and Healthy People 2020:
The Role of Health Insurance Expansion

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Hypertension remains one of the most prevalent and treatable risk factors for cardiovascular disease and is associated with an enormous public health burden in terms of morbidity, mortality, and health care spending.\textsuperscript{1} Both clinical and policy interventions have important roles to play in primary prevention, prompt diagnosis, and appropriate treatment. However, while the tools at clinicians’ disposal for managing hypertension have proliferated over the past decades, policymakers continue to struggle with a refractory set of social and economic determinants of health in this area. With nearly 50 million Americans lacking any health insurance,\textsuperscript{2} and millions more underinsured and exposed to high out-of-pocket costs,\textsuperscript{3} financial barriers play an important role in preventing the appropriate management of chronic diseases such as hypertension – particularly in lower-income populations. The year 2014, with the full implementation of the Affordable Care Act (ACA), brings with it a dramatic change to the set of policies in place to help tackle these challenges.

In this week’s issue of *Circulation*, Egan and colleagues present findings on the nation’s progress towards meeting Healthy People 2020 goals for the management of hypertension.\textsuperscript{4} Their careful analysis of nearly 15 years of data from the National Health and Nutrition Examination Surveys (NHANES) shows that while progress has been made since 1999 in some areas – most notably in the proportion of adults treated and the proportion with adequate control – there have been no changes in the prevalence of hypertension. Furthermore, the proportion of treated individuals under adequate control has plateaued in recent years and remains roughly 20 percentage points below the Healthy People goal of 88%. How, if at all, will the ACA impact these figures?

The main mechanism by which the ACA may impact the diagnosis and treatment of hypertension is through the expansion of insurance coverage. Through its combination of new
regulations in the private insurance market (most notably the elimination of coverage denials or premiums related to pre-existing conditions), tax credits to purchase coverage through health insurance Marketplaces, the individual mandate for coverage, and the expansion of Medicaid in participating states, the ACA is expected to cover an additional 30 million individuals within the next decade. After the initial open enrollment period for the ACA’s Marketplaces in late 2013 and early 2014, the number of uninsured adults fell by an estimated 10 million, suggesting the law is well on its way towards dramatically decreasing the number of Americans without health insurance. Absolute gains in coverage have been largest for racial and ethnic minorities, welcome news in terms of hypertension-related disparities as demonstrated by Egan and colleagues, who show that blood pressure control among blacks and Hispanics continues to lag behind that of whites.

But these early coverage gains under the ACA raise the important question – does having health insurance improve outcomes for hypertension? One could imagine several plausible pathways for such an effect: better diagnosis, better treatment adherence, more consistent follow-up care, and an improvement in underlying health behaviors that might reduce the overall prevalence of hypertension in the first place. While this proposed pathway makes intuitive sense, the evidence base for these effects of coverage on hypertension is more mixed than many might imagine.

Studies like that of Egan and colleagues and other observational cross-sectional analyses have shown an association between being uninsured and having undiagnosed hypertension, and between being uninsured and having poorly-controlled hypertension even among those with a diagnosis. Egan and colleagues also note that less healthcare utilization (measured in office visits per year) was another major risk factor for poor hypertension control.
However, even in well-done multivariate analyses, there is a strong threat of unmeasured confounding that makes it impossible to ascribe a causal effect of insurance coverage or health care service use on poor blood pressure control (or, for that matter, on any other chronic disease). People who are uninsured or who use fewer health care services than other individuals likely differ from the rest of the population in fundamental ways. Health literacy, attitudes towards health, comorbid mental illness, diet, workplace stress, and exercise are all potential confounders, likely to be correlated with insurance status and also directly affecting one’s blood pressure control. Some of these factors not included in Egan et al.’s paper could be adjusted for using a rich dataset like the NHANES – such as diet, exercise, and mental illness – which would likely attenuate the reported association between insurance, utilization, and hypertension outcomes. But others are not easily measured and point to the inherent limitations of cross-sectional observational analyses.

What do other study designs, namely quasi-experimental and true randomized trials, tell us about the ability of health insurance to improve care for chronic conditions like hypertension? The classic RAND Health Insurance Experiment conducted from 1971 to 1982, which randomized individuals to insurance with no cost-sharing (“free care”) versus a variety of cost-sharing plans, found little evidence of any population-wide impact of cost-sharing on hypertension outcomes, but did find that more generous coverage led to a small significant improvement in blood pressure control among the subset of low-income individuals with hypertension. More recent experimental data from Oregon’s Medicaid lottery, in which low-income adults on a waitlist were randomized to receive an offer of Medicaid coverage versus no offer, notably did not demonstrate any significant change in either mean blood pressure or diagnosis rate of hypertension over a 2 year follow-up period. However, the study did detect
major gains in access to a usual source of care, use of outpatient services, prescription drugs, and self-reported health status.\textsuperscript{11} Thus, two RCT’s of health insurance provide mixed evidence on the role of insurance in improving care for individuals with hypertension.

Most recently, a large scale quasi-experimental analysis of Massachusetts’ health reform law of 2006 found that near-universal insurance coverage in the state led to increased use of preventive visits and significant reductions in healthcare-amenable causes of death, including cardiovascular disease, stroke, and hypertension.\textsuperscript{12} Mortality changes were concentrated in the populations most likely to gain coverage under the law – adults in low-income areas and racial/ethnic minorities. While these findings were not specific to hypertension and relied on a natural experiment comparing Massachusetts to propensity-score matched counties in other states, the very large sample size and several years of follow-up offer suggestive evidence to support the view that health insurance can lead to better access to care and better outcomes for chronic disease.

Of course, other challenges to chronic disease management transcend whether or not a person has insurance coverage, and prior evidence suggests that these barriers such as inability to get an appointment, being too busy to obtain care, and lack of knowledge about how to use health insurance – play major roles in health care, particularly for lower-income adults and for minorities.\textsuperscript{13} Getting coverage is a key first step in obtaining high-quality health care, but numerous barriers remain that require ongoing policy attention.\textsuperscript{14} Additionally, the prevalence of hypertension itself is clearly driven by lifestyle factors such as diet and exercise,\textsuperscript{15} for which the benefits of health insurance coverage are even more speculative. This suggests that ongoing efforts to increase healthy behaviors will be critical to reducing the population burden of hypertension.
In conclusion, Egan and colleagues have added to our knowledge base about the major epidemiological trends in hypertension prevalence, diagnosis, and management, and while some progress has been made, there is still much work to be done. Healthy People 2020 provides a useful set of targets for these efforts, and the Affordable Care Act’s promise of expanding health insurance coverage to millions of Americans may help contribute to progress on this front. But the ACA is unlikely to achieve these goals on its own. Overall, health insurance clearly expands access to care, and the ACA will likely increase the diagnosis and treatment of hypertension, particularly among minority populations with a high burden of hypertension. Whether this coverage expansion in turn will lead to population-level improvements in blood pressure control or reduce the long-term incidence of hypertension remain critical and unanswered questions for the nation’s public health.

**Conflict of Interest Disclosures:** Dr. Sommers has no financial conflicts of interest. He serves part time as an adviser in the Office of the Assistant Secretary for Planning and Evaluation at the Department of Health and Human Services (HHS). This article does not represent the views of HHS.

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