Medicaid on Cardiovascular Health

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ABSTRACT:

Background: In America, heart disease has become one of the most prevalent conditions, ensuring that almost half of all Americans have at least one risk factor. However, given the rising costs in the healthcare industry, fewer people can afford private health insurance. However, a governmental program, Medicaid, which provides health insurance to people with unstable financial situations, was expanded through the 2010 Affordable Care Act.

Methods: Using PubMed and Google Scholar, articles about Medicaid expansion's effects on cardiovascular health were selected from the key search words of Medicaid, Cardiovascular disease, CVD, and Affordable Care Act. This study excluded articles that were older than 10 years to ensure relevancy.

Results: There was a decrease in the number of uninsured patients with acute myocardial infarction and an increase in vascular-related surgeries in expansion states compared to non-expansion states. Racial disparities in terms of access to treatment dropped in expansion states. In states that have expanded Medicaid, they have seen more increases in insured treatment procedures and hospitalizations that are equitable. In non-expansion areas that saw similar albeit smaller results.

Discussion: If Medicaid is expanded to all states, we could see comparable results in non-expansion states. This study, however, cannot answer how Medicaid can be expanded in a fashion that will gain universal political support. However, further avenues of research can find a way to implement Medicaid in a way that will garner support or find an alternative to achieving more equitable access to healthcare insurance.

INTRODUCTION:

According to the Center of Disease Control and Prevention (CDC), 47% of all Americans have at least one risk factor for heart disease [1]. Typically, people have a higher risk of heart disease if they have unhealthy cholesterol levels, high blood pressure, diabetes mellitus, or obesity. One type of heart disease is coronary artery disease (CAD), a condition that affects the flow of blood to the heart. Common symptoms of CAD include arrhythmia, heart failure, and myocardial infarction. In fact, more than 365,000 people have an out-of-hospital cardiac arrest in the United States each year, and 60-80% die before they reach the hospital [2].

The Affordable Care Act (ACA), a reformative healthcare law passed in March 2010, expanded access to Medicaid, a governmental program that provides health insurance to adults

and children with limited resources and income. In states that expanded Medicaid, access was expanded to preventive screening, services, and treatments. According to the American Heart Association (AHA), 64% of studies on tracking insurance of cardiac treatments done on a meta-analysis of 30 studies found an increase in insured cardiac treatments in states with Medicaid [3]. Despite this, there are still states that have not yet expanded Medicaid, so doing so would grant access to more people to prevent and alleviate the effects of heart disease.

The objective of this scoping review is to examine the difference in cardiovascular outcomes across states with and without expanded Medicaid in the United States. If increasing access to healthcare by expanding Medicaid improves cardiovascular health outcomes it could inform policymakers in the future to ensure equitable access to cardiovascular health care across all demographics.

METHODS:

In this literature review, Google Scholar and PubMed were searched with key search terms including Medicaid, cardiovascular disease, CVD, and Affordable Care Act. In addition, studies were chosen only from the past 10 years (from 2013 to 2023) to ensure the relevancy of these papers for the scoping review. Articles that compared areas of Medicaid expansion and non-expansion to cardiovascular-related treatments, access to treatments, and fatalities were selected in order to measure the effects of Medicaid expansion to use them as a predictor of expansion in every state. Systematic reviews and meta-analyses were excluded.

RESULTS:

Medicaid on Cardiovascular Mortality

A paper by Khatana et al. used a longitudinal, observational design, using a difference-in-differences approach with county-level data from counties in 48 states (excluding Massachusetts and Wisconsin) and Washington, DC, from 2010 to 2016 found that counties in expansion states had 146.4 to 146.5 cardiovascular deaths per 100,000 people compared to counties in non-expansion states, which had 176.3 to 180.9 cardiovascular deaths per 100,000 people [4]. Furthermore, adjusting for demographic, clinical, and economic differences, counties in states that had expanded Medicaid had 4.3 fewer deaths out of 100,000 people than counties in states that have not [4].

Medicaid on Access to Insured Treatment

Wadhera et al. used a retrospective cohort study at hospitals participating in the National Cardiovascular Data Registry Acute Coronary Treatment and Intervention Outcomes Network Registry from patients who were hospitalized with acute myocardial infarction (AMI) [5]. They found that the chances of defect-free low-income adults in expansion states increased by 76.3% to 76.5%, but only increased in non-expansion states by 76.2% to 74.5% [5]. In addition,

uninsured hospitalizations of AMI patients declined from 18% (4395 out of 24358 hospitalizations) to 8.4% (2638 out of 31382 hospitalizations) in expansion states compared to 25.6% (7963 out of 31137 hospitalizations) to 21.1% (8668 out of 41120 hospitalizations) [5].

A paper by Glance et al. used a retrospective analysis study to analyze data from hospitals participating in the University Health Systems Consortium, now renamed the Vizient Clinical Database from 2010 to 2018 [6]. Changes were analyzed between white and non-Hispanic black revascularization therapy patients hospitalized with ST-segment elevation (STEMI) and non-ST-segment elevation acute myocardial infarction (NSTEMI). The study found that for STEMI patients, differences between white and non-Hispanic black revascularization rates decreased by 2.9% in expansion states versus non-expansion states when the data was adjusted for patient and hospital differences [6]. In addition, the researchers concluded that the expansion of Medicaid had resulted in a decrease in the number of uninsured black patients to uninsured white patients [6].

A paper by Eguila et al. used the Healthcare Cost and Utilization Project State Inpatient Database to find patients undergoing care for major vascular pathology from 2010 to 2014 of patients aged 18 to 64 [7]. Inpatient admissions for insured patients in expansion states with an abdominal or thoracic aneurysm and carotid stenosis diagnosis grew greatly compared with non-expansion states. There were also more vascular-related surgeries for carotid endarterectomy, lower extremity revascularization, lower extremity amputation, and arteriovenous fistula in expansion states than in non-expansion states [7].

A paper by Eslami et al. used data that was gathered from patients who had infrainguinal bypass procedures performed due to occlusive pathology from 2010 to 2017 [8]. Interrupted time-series analyses were used to analyze their primary outcomes from 1-year follow-ups. The researchers found that among non-acute cases, elective procedures increased in Medicaid expansion states by 3.9% with a decrease in annual mortality rates by 0.4% [8]. According to the researchers, the results were statistically significant after comparing them to annual trends of states that did not expand Medicaid [8].

DISCUSSION:

Based on the evidence from the studies, the data suggests that there is generally a decrease in cardiovascular mortality rates and an increase in treatment for cardiovascular disease in states that have expanded Medicaid [4]. In addition, Medicaid expansion also appears to decrease disparities between demographics in terms of health insurance access [6]. This suggests that there could be a similar effect if Medicaid is expanded to other states.

Overall, one clear pattern throughout the data is shown: expanding Medicaid results makes access to cardiovascular treatment more equitable. Initial expectations were that Medicaid expansion would result in higher numbers of insured treatments for cardiovascular disease patients. The results mostly met my expectations that access to health insurance would help

address concerns about cardiovascular mortality. However, one unexpected result was that there was a decrease in the number of uninsured AMI patients in states that did not have Medicaid expansion [5]. One explanation for this could be that people living in a coverage gap in non-expansion states could have moved to expansion states to get health insurance. This would result in a higher percentage of insured patients, but would not be an accurate assessment of that particular state's access to medical insurance. Another explanation could be that as more people had access to free healthcare in expansion states, private insurers lowered their prices in response in both expansion and non-expansion states. This would result in a higher level of access to health insurance in non-expansion states.

These results are significant because states that have not expanded Medicaid yet could see similar results if Medicaid was expanded, building on existing evidence that it allows more people to access lifesaving treatments. In addition, it ensures that there is also more equitable access to healthcare that does not discriminate against certain demographics. Due to the benefits of increased access to treatments, Medicaid should be expanded in all states to minimize cardiovascular deaths that can be prevented.

This study can conclude that Medicaid expansion's positive effects on insured access to cardiovascular treatment and potentially cardiovascular mortality can be replicated in states that have not expanded it. However, it is beyond the scope of this study to find a solution to expanding Medicaid across all states because that is a political issue. It cannot determine whether Medicaid should be expanded because other factors need to be considered. Political factors, economic implications, ethical considerations regarding social justice, and existing legal frameworks must also be considered to determine further whether or not to expand Medicaid in all states. However, this study effectively answers that Medicaid expansion will result in greater and more equitable access to insured treatment, leading to increased odds of surviving severe symptoms of heart disease.

Further research is required to see if Medicaid expansion can have a positive economic effect through ensuring longer life spans. Another avenue of research would be to see if perhaps another solution exists in broadening access to health care insurance by working with the private sector. Alternatively, another area of potential research could be investigating how to lower costs in the healthcare industry. However, with the current state of the healthcare system, expanding Medicaid in all states would be the best avenue for ensuring an increase in access to cardiovascular treatment.

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