RESEARCH CONSORTIUM
for Health Care Value Assessment

RESEARCH BRIEF NO. 3 | FEBRUARY 2021

Similarities and Differences Between States with Varying Rates of Low-Value Care: A Qualitative Review

Executive Summary

In a qualitative analysis of the common characteristics between states with lower and higher rates of low-value care in the privately insured population (from here on referred to as "Low LVC Group" and "High LVC Group" states respectively), we find that states in the High LVC Group often had higher rates of chronic conditions, more access to multiple health care resources (e.g. providers, specialists, facilities), and state policies trying to curb low-value care compared to states in the Low LVC Group.

This work, uses a qualitative methodology and finds support for research that suggests there are multiple factors contributing to the prevalence of low-value care, and one key driver may be access. The finding that more states in the High LVC Group have higher rates of chronic conditions supports the idea that low-value care and high-value care services may be in tandem with one another. Patients in need of receiving more overall care for chronic conditions are likely to receive more high-value, as well as low-value care. The finding that states in the High LVC Group have more access to multiple health care resources supports the conclusions of other researchers that suggest access to health care resources (e.g. providers, specialists, facilities), may have a significant impact on the amount of low-value care that is occurring. More dense populations with access to hospitals/providers and subsequent use of high intensity services all occur more frequently in states that have higher prevalence of low-value care. Finally, the finding that more states in the High LVC Group had public policies trying to reduce low-value care (such as refusing to pay for "never events", and universally implementing antibiotic stewardship programs using CDC's 7 Core Elements) may be a signal that there are drivers behind low-value care such as provider practice patterns and patient characteristics that are not addressed by existing policies and need to be addressed to reduce low-value care.

States in the Low LVC Group had smaller populations and were less likely to have densely populated areas in their state compared to the High LVC Group. States in the Low LVC Group also have fewer top 50 medical schools within their state and are less likely to have clusters of medical schools in their state compared to the High LVC Group. The qualitative findings of this study support other evidence that access to health care resources may indeed have an impact on the prevalence of low-value care. Further quantitative work would help in supporting the qualitative findings of this research. Because access to health care may be contributing to the prevalence of low-value care, introducing a "screen door" to block out low-value care, while allowing high-value services to pass through has the potential to increase the overall value of U.S. health care while cutting costs. Doing so will require disentangling low-value and high-value services from each other, while continuing to provide an appropriate level of access to health care for patients.

Acknowledgements

This work was completed under the Research Consortium for Health Care Value Assessment, a collaboration of Altarum and VBID Health and funded by The PhRMA Foundation's Value Assessment Initiative. This Consortium seeks to bring together research and discussion on value in health care from various stakeholders and researchers, and it conducts small, internally-funded annual research projects. This report highlights the findings of the consortium's third "Quick Strike" research project (QS 3), conducted in 2020. Findings from the first, 2018 Quick Strike project and the second, 2019 Quick Strike project are available on-line.

Authors

Beth Beaudin-Seiler; Corwin Rhyan; A. Mark Fendrick and George Miller

Background

In 2017, with funding from The PhRMA Foundation's Value Assessment Initiative, Altarum and VBID Health established the Research Consortium for Health Care Value Assessment (RC-HCVA). (Note: further information on the consortium can be found in this *Health Affairs* blog.) While this consortium seeks to bring together research and discussion on value in health care from various perspectives, it also conducts small research projects on its own. This paper delivers findings of the third "Quick Strike" research project conducted in 2020 under the RC-HCVA.

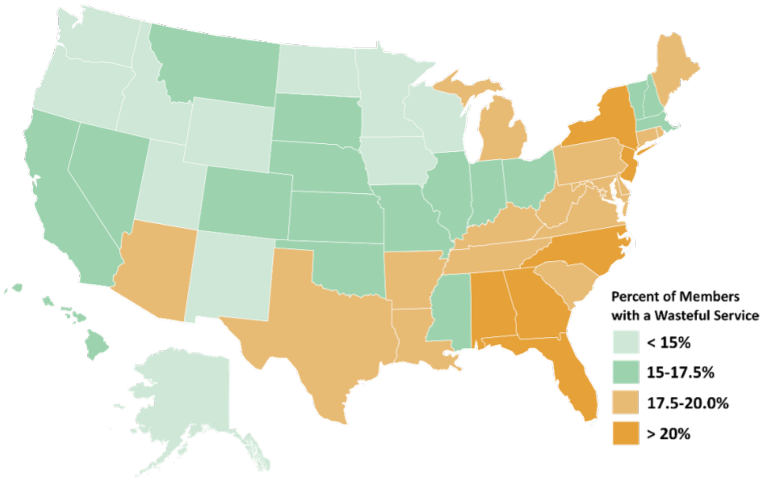
A recent study by William Shrank and his colleagues updated estimates of the levels of waste in the U.S. health care system. They conservatively found 20-25% of total health care expenditures are likely wasteful in the United States, including a portion of which are in the category of low-value care. In a country that spends over $3.5 trillion dollars a year on health care, 20-20% amounts to over $800 billion that is of no value to patients. Understanding where that waste is within the system and why it is there can further us down the path to solutions and improving overall value.

Work of the RC-HCVA in 2019 provided state-level estimates of low-value care, using a commercial data set that had representation in all fifty states and Washington DC. (See Figure 1.) In this qualitative Quick Strike 3 (QS 3) project, we springboard from those findings to assess the relationships between state characteristics and the rate of low-value care by state. The prior findings of the 2019 project suggested that nationally in 2015, 17.8% of the commercially insured population received at least 1 of the 20 low-value care services assessed, resulting in over $5.5 billion spent by commercial payers on services that were of little to no value. There was a wide range of low-value care prevalence rates across the U.S. with rates for these low-value care services from 10% - 22.2%. In this work, we examine a subset of 24 highly represented states in our dataset, to better understand the patterns of several different predictive and characterizing variables among these states.

Current Project

The RC-HCVA has focused its efforts on the measurement of both low-value and high-value care. This has included completion of prior quick strike research projects. In 2018, we examined the prevalence and cost of 5 low-value care services and 5 high-value care services using claims data from 2014 through 2016 from a large commercial insurer. In 2019, we used the same dataset, expanded the low value care services to 20, and created state level estimates of those selected low-value care services. This third quick strike project used a qualitative methodology to identify the similarities and differences in several variables at the state level to better understand patterns that may exist in states with lower low-value care rates compared to those with higher low-value care rates.

Figure 1: State Frequency of Low-Value Care Services, Privately Insured, 2015



Data and Methods

For this analysis, we selected states that had the highest percentage of commercially-insured population within our dataset. Any state that had less than 5% representation within our data set were not included, resulting in 24 states for analysis. States were then sorted by prevalence of aggregate low value care rate in the commercially insured population to receive at least one of twenty LVC services studied in 2015, to create lower and higher low-value care groups. Any state with an aggregate LVC rate in the lowest quartile was partitioned into the "Low LVC Group" and those states with an aggregate LVC rate in the highest quartile in the "High LVC Group". See Table 1 for the states included in the lower and upper analysis, their aggregate LVC rates, and their LVC group.

Table 1: State Groupings for Low-Value Care

State	% of Commercially Insured Members to Receive at Least 1 of the Twenty LVC Services Studied in 2015	LVC Group
Utah	11.3%	Low LVC Group
Wyoming	12.5%	Low LVC Group
Vermont	15.9%	Low LVC Group
Massachusetts	15.9%	Low LVC Group
Nevada	16.1%	Low LVC Group
Colorado	16.9%	Low LVC Group
Connecticut	19.8%	High LVC Group
Virginia	19.8%	High LVC Group
New York	20.2%	High LVC Group
North Carolina	20.3%	High LVC Group
New Jersey	20.7%	High LVC Group
Florida	22.2%	High LVC Group

The following additional variables were translated to a binary code (0=No; 1=Yes) and analyzed for each state in this project. (See Table 2.) The Value Hub Scorecard variables (from the Healthcare Value Hub's January 2020 Healthcare Affordability State Policy Scorecard) were used as a measure of state policy action. This scorecard took a retrospective look at "how well state policymakers steward their healthcare systems to address healthcare affordability". The scorecard provides scores for states on both policies and outcomes across four domains: Extend Coverage to All Residents; Make Out-of-Pocket Costs Affordable; Reduce Low-Value Care; and Curb Excess Prices in the System. (A full methodology of the State Policy Scorecard can be found here.) This project focused on two sets of these state policies: policies to reduce low-value care and policies curb excess prices in the system. The remaining variables represent characteristics of the state as well as the populations that reside in them.

Table 2: Variables Used in the QS3 Analysis

Variable	Description
Healthcare Value Hub Scorecard[1]	Examined whether states had policies to A) Curb low-value care services; and B) Curb excessive pricing of health care services
Medicaid Expansion State[1]	Yes or no whether the state had expanded Medicaid coverage
High Uninsured Population[1]	Yes or no whether the state had a higher uninsured population than the national average
Top 50 Medical School in the U.S.[2]	Yes or no whether the state had a ranked top 50 medical school
At Least 1 Medical School[3]	Yes or no whether the state had at least 1 medical school (regardless of rank)
Medical School Clusters[4]	Yes or no whether the state had more than 3 medical schools (regardless of rank)
Dense Population[5]	Yes or no whether the state was densely populated (population per square mile)
Adults with Disabilities[6]	Yes or no whether the state had a higher rate of disabilities than the national rate
Cases of Cancer[7]	Yes or no whether the state had a higher rate of cancer incidence than the national rate
Cases of Coronary Heart Disease[7]	Yes or no whether the state had a higher rate of coronary heart disease incidence than the national rate
Cases of Obesity[7]	Yes or no whether the state had a higher rate of obesity than the national rate
Case of Two or More Chronic Conditions in Medicare Patients[7]	Yes or no whether the state had a higher rate of two or more chronic conditions in Medicare patients than the national rate
Cases of Stroke[7]	Yes or no whether the state had a higher rate of stroke than the national rate
Cases of Tobacco Use[7]	Yes or no whether the state had a higher rate of tobacco use than the national rate
Prevalence of Diabetes[7]	Yes or no whether the state had a higher rate of diabetes than the national rate
Adults with Self-Reported Health Status as Poor[8]	Yes or no whether the state had a higher rate of self-reported health status as poor than the national rate
Adults with Self-Reported Health Status as Fair[8]	Yes or no whether the state had a higher rate of self-reported health status as fair than the national rate

Results

State Characteristics

Results from the qualitative analysis of these two groups of states indicate that the states in the "Low LVC Group" had more of the following characteristics:

- Lower overall populations ranging from approximately 560,300 in Wyoming to over 6,659,000 in Massachusetts;
- 17% of this group have dense population areas;
- 33% of this group have high uninsured rates;
- 50% of this group have a top 50 medical school;
- 83% this group have at least 1 medical school;
- 17% of this group have a cluster (3 or more) of medical schools;
- 67% of this group had higher average health spend per enrollee for the privately insured than the national average.

In contrast, the states in the "High LVC Group" had more of the following characteristics:

- Higher overall populations ranging from approximately 3,466,000 in Connecticut to over 20,000,000 in Florida;
- 100% of this group have dense population areas;
- 33% of this group have high uninsured rate;
- 83% of this group have a top 50 medical school;
- 100% of this group have at least 1 medical school;
- 83% of this group have a cluster (3 or more) of medical schools;
- 67% of this group had higher average health spend per enrollee for the privately insured than the national average.

Policy Characteristics

After examining the state policies in place to reduce low-value care we found there were more states in the High LVC Group that refused to pay for "never events"; and universally implemented antibiotic stewardship programs using CDC's 7 Core Elements compared to states in the Low LVC Group. An examination of state polices aimed to curb excess health care prices shows more states in the Low LVC Group have implemented these types of policies than states in the High LVC Group.

Patient Characteristics

Concerning patient medical characteristics and chronic conditions, more states in the High LVC Group have higher cases of cancer, coronary disease, obesity, multiple chronic conditions in the Medicare population, and stroke than states in the Low LVC Group. The prevalence of diabetes is higher in the states with higher LVC Rates, and self-reported health status as being fair is higher in states that are in the High LVC Group (self-reported health status as being poor has an equal number of states in both the Low LVC group and the High LVC Group). The Low LVC Group has more states with tobacco use per 100,000 than the states in the High LVC Group. See table 4.

Table 3: State Policies Available to Address Health Care Affordability Concerns in States with Lower and Higher Prevalence of Low-Value Care

Policy Description	Low LVC Group (N =6)	High LVC Group (N =6)
1. Reduce Low-Value Care		
1a. Require validated patient-safety reporting for hospitals.	83%	83%
1b. Refuse to pay for "never events".	50%	67%
1c. Universally implement antibiotic stewardship programs using CDC's 7 Core Elements.	83%	100%
1d. Analyze claims and EHR data to understand how much is spent on low-and no-value services.	17%	0%
2. Curb Excess Healthcare Prices		
2a. Implement free, public-facing healthcare price transparency that reflects negotiated rates and features treatment—and provider—specific prices.	33%	17%
2b. Create an all-payer or multi-payer claims database to analyze healthcare price inflation, price variation and utilization.	83%	67%
2c. Create a permanently convened health spending oversight entity.	33%	0%
2d. Create all-payer healthcare spending and quality benchmarks for the state.	50%	0%

Table 4: Patient Risk and Co-Morbidities in states with lower and higher prevalence of low-value care rates

Health Condition Description	Lower LVC Group (N=6)	Higher LVC Group (N =6)
Adults with Disabilities Higher than the National Rate	50%	43%
Cases of Cancer Higher than the National Rate	44%*	57%
Cases of Coronary Heart Disease Higher than the National Rate	40%	36%
Cases of Obesity Higher than the National Rate	30%	36%
Cases of 2 or More Chronic Conditions in the Medicare Population Higher than the National Rate	40%	79%
Cases of Stroke Higher than the National Rate	30%	57%
Prevalence of Diabetes	30%	43%
Self-reported Health Status as Poor	30%	50%
Self-reported Health Status as Fair	30%	21%
Cases of Tobacco Use Higher than National Rate	40%	29%
Average Health Care Spending in Privately Insured Population for 2014 higher than national average	67%	67%

*N=5 states, not 6.

Discussion

This qualitative analysis had several notable findings. First, states in the High LVC Group often had higher rates of chronic conditions than the national rate compared to states in the Low LVC Group. This finding supports the idea those patients in need of more overall care for chronic conditions are likely to receive more care overall, including low-value care as well as high-value care.

Second, states in the High LVC Group are more likely to have access to multiple health care resources. This finding supports the conclusions of other researchers that suggest access to health care resources may have a significant impact on the amount of low-value care that is occurring. More dense populations, more access to high intensity services with more access to hospitals/providers all occur more frequently in states that have higher prevalence of low-value care.

Finally, states that appeared in the High LVC Group had state policies trying to reduce low-value care as often as states that were in the Lower LVC Group. This finding may be counterintuitive at first, given that we would hope LVC policies would on net decrease the rates of low-value care. Yet, it is also possible that this is a signal that there are drivers behind low-value care such as provider practice patterns and patient characteristics that are not addressed by existing policies and that states with higher rates of low-value care today are aware of the need to attack low-value care drivers through public policy. Further research is needed to assess these two hypotheses on this relationship. Furthermore, more research is needed to understand if specific policies are required to make sustainable changes to the prevalence of low-value care.

All of these findings touch on the general theme of access and support the idea of including access in the discussion of how to measure (and how to curb) low-value care in the U.S. For example, evidence suggests that any primary care visit has the potential to provide both low-value and high-value care. Someone with more chronic conditions has the opportunity for a primary care visit more often than someone who does not. One program, designed to increase high-value care in primary care services, acted as an "open door", pushing patients through for ease of access and higher utilization of high-value services. The program in fact successfully increased high-value care utilization; however, it also unintentionally increased low-value care as well (Cliff, et al, 2019). When there is access to health care resources, patients may receive more care, both low-value and high-value.

Other studies have found that high-deductible health plans, which can act as a "closed door" because of the high out-of-pocket costs associated with them, often result in people going without care entirely (even if they need it), receiving less low-value care, but also receiving less high-value care (Cliff and Fendrick, 2019). A recent study by Fronstin and Fendrick (2020) also found that for people with high-deductible health care plans, once they have met their deductible the door opens and the likelihood of them receiving a low-value care service increased as much as 83%, depending on the service. These studies and the results of the QS 3 work, suggest that low-value care is really moving in tandem with high-value care, and access to health care resources may be a potential driver of low-value care.

Despite this conclusion it is clear that broadly and bluntly restricting access to health care products and services is not a solution that will increase health outcomes or value. Instead research on reducing the prevalence of low-value care has emphasized the idea that we need a more targeted approach, one that introduces the use of a "screen door" (see Figure 2) when it comes to primary care services. This concept, explained by Dr. Mark Fendrick and colleagues at the University of Michigan VBID

Figure 2: Use of Doors to Illustrate How Benefit Design Influences Use of High- and Low-Value Care

Figure Source: Cliff and Fendrick, 2019, "Open Doors to Primary Care Should Add a "Screen" to Reduce Low-Value Care." *AJMC*, 25(5), 294-295. Retrieved from ajmc.com/link/3941.

Center, identifies the need to separate the low-value care from high-value care. If access plays a role in the amount of health care services that are utilized, then we would expect to see (and we do see) less care being utilized (regardless of it being low-or high-value) in "closed-door" programs. We would also expect to see (and we do see) more health care services being utilized (regardless of low- or high-value) in "open-door" programs. What is needed then is a "screen door", a barrier that allows the high-value care services to come through but blocks the low-value care from entering the system.

Conclusion

Findings from this study support the idea that access to health care services and resources may be one of the drivers of low-value care in the U.S. States that have access to clusters of medical schools with high intensity services have the ability to refer patients, utilize high-tech resources, and perpetuate the prevalence of low-value care merely because the resources to provide it are available. States that do not have access to clusters of medical schools or quick access to high intensity services may be more conservative in care management and in doing so can shield patients from unnecessary, low-value care, while also be missing needed high-value care.

The qualitative findings of this Quick Strike 3 study support other evidence that access to health care resources may indeed have an impact on the prevalence of low-value care. Further quantitative work is needed to further study the issue and define specific connections between access, state characteristics, state policies and the use of low-value care. With access to health care a contributing to the prevalence of low-value care, introducing a "screen door" to block out low-value care, while allowing high-value services to pass through, may help disentangle low-value and high-value services from each other, while continuing to provide an appropriate level of access to health care for patients.

Notes

1. https://www.healthcarevaluehub.org/affordability-scorecard
2. https://www.usnews.com/best-graduate-schools/top-medical-schools/research-rankings?location=Arizona
3. https://www.google.com/maps/d/viewer?mid=1-RpY2gusu6ygJzlDtedKfHFN7w8&ll=41.171650742660 6%2C-101.23578648140518&z=6
4. https://www.google.com/maps/d/viewer?mid=1-RpY2gusu6ygJzlDtedKfHFN7w8&ll=41.171650742660 6%2C-101.23578648140518&z=6
5. https://www.statista.com/statistics/183588/population-density-in-the-federal-states-of-the-us/
6. https://www.cdc.gov/ncbddd/disabilityandhealth/data.html
7. https://chronicdata.cdc.gov/
8. https://www.kff.org/statedata/

ABOUT US

The Research Consortium for Health Care Value Assessment is a partnership between Altarum and VBID Health, with funding from the PhRMA Foundation as part of its Value Assessment Initiative, established to promote the pursuit of value in health care delivery in the U.S.

Contact: Beth Beaudin-Seiler, Ph.D., 3520 Green Court, Suite 300, Ann Arbor, MI 48105

(734) 302-5691 | www.hcvalueassessment.org | @ValueConsortium

Support provided by the PhRMA Foundation