RESEARCH CONSORTIUM
for Health Care Value Assessment

CONCEPT PAPER NO. 9 | FEBRUARY 2021

Barriers to Our Understanding of Low-Value and High-Value Care

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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[1](RC-HCVA). Over the last three years, the RC-HCVA has authored research briefs on Quick Strike projects as well as authored/co-authored several concept papers on a variety of topics focused on value in health care. The Quick Strike research projects conducted by the RC-HCVA have been focused on measurement of low-value and high-value care. There are different approaches to measuring low value care, as outlined in our *Value in Health* publication.[2]

Regardless of the methodology, the need for comprehensive data is imperative to the validity of the findings. This paper will discuss the challenges of using claims data as a comprehensive data source for measuring low-value and high-value care by illustrating three approaches we call the additive, indicator, and comparative approaches. The discussion will focus on the claims data required by each approach, the challenges in using the data for measuring value, and offer suggestions to create a more comprehensive dataset that can provide researchers and policymakers with timely and accurate information.

APPROACHES TO MEASURING LOW-VALUE CARE

The *additive approach* is a method of measuring low-value care by using claims data to count up services that are highly likely low-value. This approach uses both inclusion and exclusion criteria. For example, measuring the prevalence of low-value care Vitamin D testing would require claims data that can be queried for Vitamin D testing/screening codes (the inclusion codes). Additionally, the query would need to search for exclusion codes, those diagnosis codes or procedure codes that exist on a patient's claim/history, that when coupled with a Vitamin D test would show that was a warranted procedure. The additive approach requires a resource-intensive process of building algorithms needed to identify low-value care. Several researchers have used this approach to measure low-value care on a small scale.[3,4,5]

The *indicator approach* is a method of measuring low-value care that also uses claims data to measure low-value care but assumes that a smaller set of targeted services can signal larger systematic waste. Researchers at Johns Hopkins have developed and validated the Johns Hopkins Overuse Index. This index examines claims data for 20 low-value care services, using them as bellwethers to identify systematic overuse within a health care system.[6]

The *comparative approach* is a method of measuring low-value care that compares counts of services across different providers or groupings of providers (such as systems, or geographical regions). Once adjusted for patient characteristics, excessive spending in one grouping compared to another may possibly point to the occurrence of low-value care. The Dartmouth Atlas[7] is an example of the comparative approach and uses Medicare reimbursements per enrollee as the basis of the approach.

Data Sources Needed

Each of the approaches to measuring low/high-value care comes with its share of benefits and challenges. Available data sources for these measurement approaches are useful but are less than ideal. Each of the methods discussed uses claims data or reimbursement data as the foundation for the approach. Claims data are available, are structured so that they are relatively easy to aggregate and quantify and provide a minimum level of detail needed to use these identified approaches. However, there are several challenges to using claims data to measure low-value care:

Timeliness — Researchers who are not attached to a hospital system or health plan often use claims data from the [Centers for Medicare and Medicaid Services](#) or Qualified Entities. Medicare, Medicaid, and CHIP claims data generally lag by a few years, depending on the program. Organizations that procure massive amounts of claims, such as [Fair Health and HCCI,](#) can offer claims data from multiple payers, including some commercial insurers. All Payers Claims Databases are another good source for multiple payer data, depending on their ability to make data available to researchers based on state laws. Commercial claims data sets are usually timelier than claims from government sponsored insurance, but generally lag at least one year. Claims data that are closer to real-time are generally only provided by insurance companies to their claims processing vendors and are rarely available for any type of research.

Clinical Nuance — Determining whether a service is warranted based on claims data is a challenge. When a clinical provider recommends or delivers a service, they have more insight into the nuances of the patient's condition than claims data can provide researchers. Clinical nuance may include patient health history, co-morbidities, or current treatments. Proxy measures have been created from claims data to account for some facets of clinical nuance; for example, insurers usually have some patient demographics that can be matched to claims records, and patient health history—as indicated by diagnosis and procedure codes—are usually available in historical claims. But patients do not always have the same insurer over time, and administrative and historical data are not always available to researchers.

Quality and Patient Experience — Value depends on quality and patient experience as well as cost. Research shows that the quality of many services varies[8] but claims do not indicate the quality of the service provided. This is controlled for somewhat by the conceptualization and operationalization of LVC and HVC algorithms. Generally, recommendations against low value care take into account quality, because even if the service rendered is of high quality, it is still not recommended for the clinical situation it describes. Patient experience is generally measured by surveys outside the claims system and not matched to their claims data. This makes it difficult to include patient preferences and perspectives in measurement strategies that rely on claims data.

Social Determinants of Health — Ever-increasing research is establishing an important link between a patient's social determinants of health and their overall health outcomes. Social determinants of health include factors such as education, neighborhood and physical environment, socioeconomic status, employment, social support systems, and access to health care,[9] none of which are available in claims data.

Price Clarity — Often, the paid amounts in claims data made available for research are censored. Hospitals and insurers often treat negotiated rates as trade secrets. This causes several challenges to understanding what health care services cost, even though it is an important part of the value equation. These challenges include:

- Proxy pricing — when real prices are unavailable, researchers often us proxy prices;
- Breaking out consumer out-of-pocket vs. insurer-covered costs;

- Claims for services that are included in alternative payment arrangements (non-FFS) need to be treated differently (e.g., a bundled payment may have a lot of $0 claims for services provided);
- List prices vs actual prices — even when hospitals are required to publish prices, with an uptick in price transparency legislation, they publish list prices and not the negotiated prices that are actually paid.

Addressing These Challenges

APCDs and other claims data aggregators have made significant progress in standardizing data submissions, but there are challenges that remain. Integrating multiple data sets (such as claims data with patient survey data) to develop a comprehensive health care service data set can address the challenges we currently see in using claims data alone.

Future Research

There are several measurement strategies that rely on claims data to determine the prevalence of low-or-high value care in the U.S. While claims data represent an important resource to understanding what services are occurring most often and the costs associated with them, use of these data is not without its challenges, as we have discussed here. As we move forward with improved measurement strategies, an integration of claims data with information regarding clinical nuance, patient preferences, social determinants of health and clear cost transparency would produce an ideal dataset for researchers, academics, and health care systems alike to better understand not only what is happening, but why it may be happening.

A research agenda should focus on:

- Better understanding what is missed when we only used claims data;
- How best to integrate multiple datasets together; and
- How best to reflect prices in a clear and concise way.

The current gaps in claims data that include limited information about clinical nuance, quality and patient perspectives, social determinants of health, and clear prices inhibits our ability to uncover evidence-based solutions to reduce the prevalence of low-value care and increase the prevalence of high-value care in the U.S. health care system. Taking steps to close these gaps will create incredible research opportunities to better understand not only what health care services we are utilizing and why, but what is of value to patients.

Notes

1. Note: further information on the Consortium can be found in this article from *Health Affairs*.

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