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Measuring High-Value Care Pre and Post COVID-19

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Low-value care, or health services that provide no or minimal benefit to a patient, is a major driver of inefficiency in health care and a mostly untapped opportunity to increase quality and reduce spending. Inefficient spending not only drives up costs, but also can negatively impact patient outcomes and consumes resources that could be redirected towards both underutilized routine care (e.g., colonoscopies, lifestyle counseling by primary care providers, and vaccinations), and underutilized innovative care that offers higher value (e.g., Hepatitis C drugs or novel cancer therapeutics). Reducing low-value care creates the "headroom" for additional spending on high-value services. However, a thorough assessment of value requires understanding not only the extent to which efforts to reduce low-value care are succeeding, but also to what extent the resulting headroom is being used or should be used in the future to increase high-value care.

There is substantial evidence that high-value clinical services have historically been underutilized within the U.S. For example, one study found only one-third of the potential health and economic benefits of tobacco counseling are being realized [American Academy of Family Physicians 2017]. Moreover, researchers have demonstrated that patients with chronic conditions such as hypertension, heart disease, and diabetes often do not receive proven and effective treatments such as drug therapies or self-management services to help them more effectively manage their conditions. This is true for insured, uninsured, and under-insured Americans [Brennan et al. 2009].

The onset of the COVID-19 pandemic brought about an unprecedented decline followed by a gradual recovery in the delivery of health care in the U.S. [Hughes-Cromwick and Rhyan 2020], with a decrease in the provision of both low-value and high-value clinical services [Gavidia 2020]. Some researchers argue that this shift in care patterns presents an opportunity to improve the efficiency of the delivery system by investing more in high-value services while deterring an increase in low-value care [Kim et al. 2020].

An ability to systematically measure the extent to which high-value services are being appropriately delivered and which are underutilized would help identify more precisely the nature of the problem and motivate providers, payers, patients, and government entities to increase the delivery of high-value care post pandemic. It appears that no such ability currently exists.

The Challenge

It is relatively straightforward to measure the overall utilization and expenditures for medical services deemed to be of high value using administrative claims data. This approach provides a rough indication of the extent to which care is shifting to services with high value and works well for some services for which it is reasonable to assume that more is better. For example, if one assumes that individuals will not obtain more than one influenza vaccination in a year, it is reasonable to conclude that an increase in such vaccinations corresponds to an increase in high-value care.

However, this approach neglects several factors that, for many services, affect whether increased utilization truly reflects an increase in the use of high-value services. Many services have high value only for some patients (e.g., breast cancer screening only for women within a specific age range). The use of some services can vary with disease prevalence (e.g., many chronic disease treatments), making it difficult to ascertain to what extent a change in utilization is driven by a change in prevalence rather than a change in intensity of use. Other services have high value only if they are performed at appropriate frequencies (e.g., colonoscopies every ten years for patients not at risk for colon cancer). Furthermore, it would not only be useful to understand whether high-value care is increasing, but also to what extent shortfalls remain in the delivery of such care. While many researchers are actively pursuing measurement of the utilization of low-value services that accounts for the inherent clinical nuance [e.g., Schwartz et al. 2014, Colla et al. 2014, Rosenburg et al. 2015, Jiron et al., 2016], there seems to be no comparable community of researchers developing and applying similar methods to measure the use of and shortfalls in high-value care.

The Approach

There thus appears to be a need for improved metrics and methods for accurate measurement of the levels of and shortfalls in high-value clinical care utilization and spending. These methods could be used to investigate current shifts in provision of high-value care brought about by the COVID-19 pandemic. An approach to address this deficit could involve the following steps:

1. Identify classes of services that require refined metrics to determine whether they have high value. A literature review would be important to develop a representative list of services believed to be of high value when delivered under appropriate circumstances. Additionally, one would want to identify and understand the circumstances under which delivery of each service is deemed appropriate. For example, the National Commission on Prevention Priorities released a list in 2016 of 28 high-value services with strong evidence of effectiveness, population-wide health impact, and cost-effectiveness [American Academy of Family Physicians 2017]. Highest ranked services included immunizing children, counseling to prevent tobacco initiation among youth and tobacco-use screening and brief intervention to encourage cessation among adults, alcohol misuse screening with brief intervention, discussing aspirin use with high-risk adults, colorectal cancer screening, cervical cancer screening, chlamydia and gonorrhea screening, cholesterol screening, hypertension screening, and obesity screening. The Center for Value-Based Insurance Design has identified several high-value services, including immunizations and high-value specialty medications [Center for Value-Based Insurance Design 2020]. The Tufts Cost-Effectiveness Analysis Registry [Center for the Evaluation of Value and Risk in Health 2018] catalogs numerous services that have been shown to be highly cost-effective. HEDIS measures also include many high-value services [National Committee for Quality Assurance 2020], as do some of the measures identified by the National Quality Forum [National Quality Forum 2020].

   The resultant list of services could be the basis for a taxonomy that could be used to classify services by the types of circumstances that characterize their appropriateness. Possible types of circumstances include patient age, frequency of use, presence of a medical condition for which the service is beneficial, and patient risk factors.

2. Design metrics and methods for measuring the high-value use of each class of service using claims data. For each of the circumstances identified in the taxonomy, one would need to develop an approach for using claims data to measure high-value utilization. Some of these methods will be relatively straightforward. For example, services that are appropriate only for patients within a specified age range will be counted as high value only if the patient's age falls within

that range. High-value services that should be conducted only annually but which are delivered more frequently to some patients will be counted as high value only once per year. Services that are appropriate only for patients with a specified clinical condition or specified risk factors will be counted as high value only for patients with the appropriate diagnosis or risk factor (to the extent that the latter can be inferred from claims data). Other services may require more complex methods. Services whose high-value use should vary with the prevalence of a condition will require an estimate of that prevalence within the population under study. Claims can be used to count the diagnosed prevalence of such conditions. Metrics for measuring high-value use of these conditions should either (1) include an adjustment to remove the effect of changes in diagnosed prevalence from the measurement, or (2) be supplemented with additional metrics that measure per-capita utilization of the service by patients for whom the service is of high value, and/or (3) be combined with metrics for estimating the frequency of service delivery that would occur with no shortfalls in delivery (as discussed below) to estimate shortfalls in high-value service delivery. Some services will require methods that treat combinations of circumstances. For example, the appropriate frequency of some screening procedures, such as colonoscopies, varies with patient risk.

Identifying methods and metrics for estimating the magnitude of service delivery that would be obtained if there were no shortfalls in such delivery is also important. This set of metrics could serve as a basis for estimating the magnitude of such shortfalls as the difference between the ideal frequency of service delivery and the measured frequency of actual high-value service delivery. Examples of such metrics are simple population counts within a specific age range (for services such as influenza immunizations and other preventive measures) or estimates of populations with diagnosed conditions that warrant the use of a particular high-value service (such as eye and foot examinations for diabetics). The latter metrics can be estimated from diagnostic data included in the claims.

3. Implement and test these metrics and methods with available claims data. To understand the extent to which the metrics and methods indeed capture the prevalence (or lack of) high-value care services, they must be implemented as algorithms for use with claims data. They must be refined and revised as needed to provide the most clarity.

The Limitations

We suggest the use of claims data for measuring the use of high-value care because they are readily available and capture the frequency with which clinical services are provided. However, claims data lack the clinical detail that is sometimes necessary to determine whether a service was of high value in the circumstances in which it was delivered. This limits our ability to estimate high-value utilization and spending for some services. In the long run, this issue can be addressed by supplementing claims-based analysis with other methods similar to those we have suggested for estimating utilization of low-value care [Miller et al. 2017]. Supplementary data, such as from electronic health records could also be used to address this limitation. However, in the near term, the approach outlined here should go far toward improving our understanding of the extent to which the headroom created by a reduction in low-value care is being exploited effectively and can be further exploited post pandemic.

The Potential Impact

The resultant methods and metrics could be used to develop preliminary inferences regarding the extent to which high-value service utilization is changing during the COVID pandemic and existing shortfalls in such utilization. They could also be applied in efforts that exploit the current crisis to increase use of high-value care for services that are currently underutilized:

- State Medicaid offices could apply the methodology to Medicaid data to identify underutilization of high-value services. These results could be used to develop incentives or future adjustments to per-capita funding formulas under Medicaid managed care contracts. Existing Medicaid managed care providers could be compared according to these measures, and benchmarks or targets could be developed.

- A health care provider or system could apply the methodology to identify priority areas for increasing high-value care by clinical area, specific measure, site of care, or other dimensions, using claims data and other automated data including possibly electronic medical record data.

- A large employer with access to employee claims data could assess the magnitude of underutilized high-value care to inform employee education, wellness incentives, or benefit design changes to increase provision of these services.

- An insurer could apply the methodology to its claims and other automated data to develop incentives, insurance design, and payment policies to increase the use of high-value services. For insurers looking to experiment with innovative benefit design (e.g., using value-based insurance design (V-BID) principles), measuring and characterizing this care would be an essential component to structuring new policies.

- Federal policy makers or advisors, such as the Centers for Medicare & Medicaid Services and MedPAC, could use the results of the methodology applied to Medicare claims data to assess and inform payment policies designed to increase access to underutilized services.

- Application of the methodology to a national all-payer dataset could contribute to the national dialogue on increasing value in health spending by developing a comprehensive, well-defined estimate of underuse of high-value services. National averages and best practice benchmarks for underuse rates by clinical area, payer type, and overall services could be produced.

- Consistent application of the methodology over time, with broad dissemination, could inform the general public, researchers, and policy makers on the scope of high-value care underutilization and any progress being made over time.

- Nearer-term application of the methodology, as well as results from the demonstration study, could help researchers, policy makers, and providers better understand the impact of the pandemic on high-value care utilization in order to prepare for the next health care crisis.

In summary, the metrics and methods outlined here could be used by researchers to further develop our understanding of high-value care utilization and the impact of the pandemic on that use. Feedback from such research could be used by providers, payers, policy makers, and patients to support increased use of high-value care for services that are historically or currently underutilized, both during the pandemic and after it is brought under control.

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