Using Medicare Claims data to Generate New Evidence on Physician Practice Organization and Market Structure

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Anecdotal evidence suggests that there have been important changes in the organization of physician practices over the past decade (or more). Physician practices appear to have been consolidating and growing larger, so that physicians increasingly work in larger, multi-specialty groups. The degree of integration between physicians and hospitals has also been increasing, perhaps most noticeably driven by hospital purchases of physician practices in recent years. These changes could have important effects on health care delivery. For example, larger multi-specialty practices may be able to deliver higher quality of care, or deliver care at lower cost, than smaller ones. They may also affect prices. As physician practices grow larger or become more integrated with hospitals, they may gain economic power in their bargaining with insurers over prices for their services, leading to higher prices and greater spending.

Understanding the patterns of change in physician markets in recent years could provide an important foundation for understanding how these changes have affected care delivery and costs, and create a useful baseline for tracking future changes, such as may be induced by planned health reforms. However, currently available data with which to characterize practice organization is limited.

We are engaged in an effort to construct measures of physician practice characteristics using Medicare claims data. Using physician IDs, tax IDs, place of service designations, and other features of the claims data, we believe we can develop useful specialty-specific year-by-year measures of (1) the size of physician practices, (2) the number and types of specialties present in multi-specialty practices, and (3) whether or not physician practices are owned by or closely affiliated with hospitals. With measures of practice size, we can develop measures of market shares for practices for defined

geographic areas (e.g. HRRs or MSAs) and from those measures of concentration such as Herfindahl-Hirschman Indices. Preliminary work thus far shows that it is possible to develop measures of all of these things that seem reasonable and that track with other known information about changes in practices.

We believe the measures under development will be novel and useful. We are not aware of previous published work that has created measures like them (though we are aware of a couple of other ongoing efforts to use generally-similar claims-based approaches to study physician practices). We expect that these measures will enable a range of further analyses of effects of changes in physician organizations on a range of aspects of health care delivery and costs.

We propose to write a paper that would accomplish a number of objectives with respect to developing a foundation for measuring and tracking physician practice characteristics. First, we would describe the approaches to measurement that we are using, and discuss issues that we have detected that can have important impacts on conclusions. Practice size, for example, can be characterized using number of claims submitted, RVUs produced, or unique billing physicians. Claims-based measures of practice size could be derived from particular types of procedures (e.g. E&M procedures) or from broader ranges of procedures. Preliminary work suggests that estimates of practice size, and thus estimates of market shares and HHIs derived from them, can be significantly influenced by these choices. We would describe and analyze the implications of different measurement strategies.

Second, we would compare these measures to other available work on physician practices, such as from the Center for Studying Health Systems Change physician surveys or other sources.

Third, we would characterize trends in physician practice size, the prevalence of multi-specialty groups, and the degree of physician-hospital integration using the measures developed. We would also characterize and track trends in market share measures and HHIs for geographic areas such as HRRs and MSAs. These would be tracked separately by physician specialty, likely for a number of large specialties.

Fourth, we would present results of market-level analyses of the correlates of changes in physician practices. We would explore the extent to which known characteristics of areas (e.g. demographics, economic conditions, health system characteristics, state regulations) are associated with changes in characteristics of physician organizations.

Finally, time permitting, we may be able to present some analyses of the relationship between the variables we develop and measures of health care delivery, such as utilization patterns for Medicare patients. Our approach would be to use area-level regression analysis to study the relationship between changes over time in average practice size or HHI within areas and changes in measures of utilization. We could similarly study changes in the degree of hospital-physician integration and changes in utilization measures.

We believe that this could offer a useful addition to discussions about data infrastructure. We hope that these measures will turn out to be useful foundations for further analysis. Creating, examining, and discussing them will also provide an opportunity to highlight further challenges and opportunities that may exist for improving data infrastructure in this area.