

## Physician Productivity Discussion Paper

### Introduction

Physician productivity is an integral part of many compensation systems for both employed physicians and physician owners in group practices. It has implications for staffing a practice and for workforce planning and other public policy issues. It forms a basis for comparison between physicians.

The purpose of this discussion paper is to provide balanced information on the topic of physician productivity. Its intent is to serve as a primer on the subject for physicians and others who are interested in the topic. It discusses how individuals and organizations currently measure productivity and how they use those measurements. It also discusses some of the variables that impact productivity. Finally, it presents a look at the future of physician productivity and some alternatives to the current understandings.

This discussion paper serves as an introduction to the topic of physician productivity. Many of the issues upon which it touches could be the subject of discussion papers in and of themselves. Consequently, this discussion paper may raise more issues and questions for the reader than it answers. An appendix at the end provides resources for those seeking more information.

### The Reality of Physician Productivity

#### **What is Physician Productivity?**

Conceptually, physician “productivity” is the result of a physician’s labor. It is a measure of the physician’s work or output. A physician is more productive when he or she generates greater results according to the measure used. For example, a physician who sees ten patients is more productive than a physician who sees five patients, if patients seen is the chosen measure of productivity.

Productivity also becomes a measure of efficiency when it includes a common unit of input, such as time. Thus, using the example above, if the physician who sees ten patients does so in two hours and the physician who sees five patients does so in an hour, they are equally efficient, since they see the same number of patients per hour.

Productivity and efficiency are closely related. However, productivity and efficiency are distinct from quality and service. A physician may be very productive and very efficient, but the quality of his or her work may be very low. Continuing with our example, if the physician who sees ten patients in two hours does so in such a way that none of the patients’ concerns are addressed and the patients leave the office feeling like none of their concerns were addressed, then the quality of the physician’s work may be low, even though his productivity and efficiency are high.

#### **How is Physician Productivity Measured?**

##### *Traditional Measures*

Individuals and organizations have historically used a variety of productivity measures, some of which are still in use today. One traditional measure of productivity is the number and types of patient encounters (e.g., office visits). To the extent that number and types of patient encounters says nothing about the efficiency of the physician, this measure is often accompanied by measures of time, too. For example, how many total hours did the physician work? How many hours were spent in direct patient care or on-call? Combining patient encounters with measures of time allow for measurement of efficiency (e.g., patients seen per hour) as well as productivity.

Another traditional measure of physician productivity is dollars generated to the practice. This may take the form of physician charges for services rendered. However, with the prevalence of discounted fee-for-

service, it may also take the form of collections, as a more accurate measure of dollars generated to the practice.

These traditional measures of productivity have limitations that inhibit cross-physician comparison. For example, although collections may accurately reflect the dollars generated to the practice, they are highly dependent on the type of insurance a given patient has. Thus, two physicians providing exactly the same services may generate entirely different collections for the practice, depending on the payer mix represented by their patients.

Similarly, measures of time and patient encounters suffer from the limitation that, conceptually, not every office visit or block of time spent with a patient is the same. For example, an office visit for treating tinea pedis with topical therapy is not the same as an office visit evaluating and managing a patient's complaint of chest pains. Likewise, an hour spent providing critical care in the hospital is not the same as an hour spent counseling a patient in the office.

#### *More Recent Measures*

A measure of physician productivity that seems to circumvent these limitations is work relative value units (RVUs). A work RVU is a number assigned to a service that establishes its work relative to the number assigned to another service. For example, a service with a work RVU of "2" would be considered to involve twice as much physician work as a service with a work RVU of "1." Use of RVUs as a measure of physician productivity appears to be growing.<sup>1,2</sup>

The Resource-Based Relative Value Scale (RBRVS), which is used by Medicare and many other third party payers, is a common source of RVUs. Under RBRVS, each *Current Procedural Terminology* (CPT) code is assigned a work RVU, as well as an RVU for practice expenses and malpractice expenses. The work RVUs are intended to reflect the relative:

- Time required to perform the service;
- Technical skill and physical effort;
- Mental effort and judgment; and
- Psychological stress associated with the physician's concern about iatrogenic risk to the patient.

The advantage of using RVUs as a measure of productivity is that they are independent of any dollar amounts involved, so they are not affected by the limitations associated with measuring charges or collections. Two physicians providing the same service would generate the same RVUs, regardless of the patients' insurance or the physicians' respective charge schedules. They also reflect the fact that not all encounter or hours spent in patient care are the same. An office visit for treating tinea pedis with topical therapy would generate different RVUs than an office visit evaluating and managing a patient's complaint of chest pains, assuming the visits reflected different CPT codes. Likewise, an hour spent providing critical care in the hospital would generate different RVUs than an hour spent counseling a patient in the office.

RVUs are not a perfect measure of physician productivity. Although the medical profession has input into the RVUs in the RBRVS, the Centers for Medicare and Medicaid Services, the federal agency that administers the Medicare program, ultimately decides what the RVUs for a given CPT code will be. Thus, universal consensus on all of the work RVUs for all of the CPT codes does not exist. Another limitation is that RVUs depend on appropriate CPT coding, so physicians who code incorrectly impact their productivity relative to the actual work they did.

Further, RVUs, like traditional productivity measures, are geared toward a fee-for-service model of healthcare. Thus, in capitated and other environments where the emphasis is not on generating patient encounters and CPT codes, RVUs may not work as well. In such environments, panel size may be more relevant. This measure, in turn, depends on defining what is meant by "the panel." Typically, a physician's panel is the number of patients who have either chosen or been assigned to the physician as their primary care physician. This is different from the number of patients seen in that patients on a physician's panel may never encounter that physician for services.

One limitation of panel size as a measure of productivity is that the physician may have little or no control over it. To the extent panel size depends on patient choice or assignment by a managed care employee, the physician does not control his or her panel size to the same extent he or she controls the number of patients seen, hours spent in direct patient care, etc. Another limitation is that two panels of the same size may represent very different workloads for the physicians assigned to them. Thus, a panel of 2,000 elderly patients probably represents a much different challenge than a panel of 2,000 young adults. Consequently, risk adjustment is important if panel size is a primary measure of physician productivity. Among the patient factors to be considered in actuarially risk adjusting panel size are:

- Age
- Gender
- Diagnoses
- Payer Type (e.g., Medicare, Medicaid, commercial, uninsured)
- Geographic Residence
- Institutional Status

Despite its limitations, panel size may grow in importance and use as physicians redesign their practices and as population-based care becomes more prevalent.

#### *Other Measures*

The traditional and more recent measures of physician productivity probably represent the most common measures. However, there are other measures of productivity that can be found in certain settings. For example, physicians engaged in clinical research, either on an ambulatory or academic basis, may have their research output measured. This may take the form of articles published, studies undertaken and completed, etc.. Similarly, time spent supervising medical students and residents or mid-level providers (e.g., nurse practitioners, physician assistants, etc.) may be counted for physicians in academic and other settings who supervise such individuals.

### **How are Measures of Physician Productivity Used?**

#### *Physician Compensation*

One use of physician productivity measures is in the design of physician compensation systems. In fact, this may be the most common use of such measures.<sup>2</sup> One reason that physician compensation systems commonly use productivity measures is that they are reliable; they produce consistent results. Another reason is that these measures are more objective than other measures of physician output, such as quality and service.

Successful use of productivity measures in compensation systems depends on several factors. First, productivity must be defined consistently within the system, so everyone understands productivity within the system the same way.

Second, the system must reward compensation consistent with that definition, in a way that is clear and understandable. If the link between compensation and productivity is not clear, compensation may not yield the intended effect in terms of productivity, even if everyone understands productivity consistently.

Third, productivity measures used should reflect the compensation milieu. For example, in a fully-capitated environment, measuring productivity in terms of patient encounters probably makes little sense. Similarly, in a totally fee-for-service environment, panel size as a measure of productivity probably has little meaning.

Productivity measures used should also reflect the mission of the organization. This, in turn, reflects the fact that what the organization measures is what it is likely to get, especially if compensation is clearly tied to what it is measuring.

Finally, a compensation system that includes a measure of productivity must allow for improvement in productivity. If a compensation system sets productivity goals too high, it may be impossible for physicians to meet them, let alone improve upon them. At that point, the productivity measures and associated compensation may have the opposite effect. If the goals are unobtainable, the desire to attain the goals disappears, and productivity may suffer as a result.

#### *Administrative Decision Making and Efficiency Measures*

Productivity measures also serve a variety of functions in administrative decision making. One function is workload management. Related to that are the functions of resource allocation and cost accounting. Physicians who are more productive (i.e., who see more patients, spend more time in direct patient contact, generate more RVUs, etc.) are more likely to consume more practice resources (e.g., staff time, supplies, etc.) and generate more related practice costs than their less productive colleagues. Consequently, resources and costs, especially variable costs, may be allocated based on the same measures used for physician productivity.

Of course, two physicians who are equally productive in absolute terms may be relatively more or less efficient in the process, necessitating resource and cost allocations that differ from those dictated based on absolute productivity. For example, a physician who sees four patients in two hours and a physician who sees four patients in an hour are equally productive, in terms of the number of patients seen. However, the physician who sees four patients in an hour is more efficient (all other things being equal) and, thus, may require fewer resources (in terms of space, personnel, etc.). As noted, productivity becomes a measure of efficiency when it includes a common unit of input, such as time, and standards of productivity may become standards for office efficiency evaluation and improvement.

Other administrative uses of productivity data include recruitment decisions and employee evaluations, whether or not the productivity is tied to compensation.

#### *Other Uses*

Individuals and organizations outside a physician's practice may also measure productivity for their own purposes. For example, health plans may use productivity measures when doing economic profiling of physicians in their plans. Or policy makers may use productivity measures to assist in public policy development (e.g., related to workforce planning). Finally, researchers may use these measures to compare physician work among medical specialties.

### **What Impacts Physician Productivity?**

#### *Physician characteristics*

Multiple variables that can impact physician productivity. One set of variables relates to the physician's characteristics. For example, age can affect physician productivity, as older physicians tend to spend less time in direct patient care and more time per encounter than younger physicians.<sup>3,4</sup>

Full-time or part-time status is another physician characteristic that can impact a physician's productivity. Part-time physician's spend fewer hours in direct patient care, have fewer patient encounters, and, as a result, tend to generate fewer charges than their full-time colleagues.<sup>5</sup> Thus, they appear less productive in an absolute sense. However, when these absolute measures of productivity are adjusted based on a common unit of input (e.g., patients seen per hour), part-time physicians may be as or more efficient than their full-time colleagues.

Other physician characteristics that may impact productivity are personality, personal values, and scope of practice. For example, a more outgoing physician may be less productive, in terms of patient encounters, than a less outgoing partner due to more time spent with each patient during each encounter. Similarly, a physician who places greater value on time with his or her family may spend less time in direct patient care than a colleague and thus be viewed as less productive, in terms of hours worked. As for scope of practice, Medical Group Management Association data suggest that family physicians who do maternity care tend to generate more gross charges and more RVUs than family physicians who do not, although they tend to have fewer ambulatory encounters.<sup>5</sup>

#### *Organization Characteristics*

Another set of variables that can impact physician productivity are characteristics of the organization or practice in which the physician works. For example, the mission and vision of the organization in which a physician works may impact his or her productivity. Likewise, physician productivity may be affected by the size of the practice or whether or not the practice does its own laboratory work.<sup>4,6</sup>

#### *Other Impacts*

Other variables that may impact physician productivity include patient characteristics and case mix. For example, older patients and patients who are new to a practice tend to generate longer encounters, thus decreasing the number of patients the physician can see, without any commensurate increase in RVUs generated as a result.<sup>4</sup> Also, as noted a family physician whose case mix includes maternity care is likely to generate more gross charges and RVUs but fewer patient encounters than colleagues without such cases.

A physician's ability to control these independent variables ranges considerably. On one hand, the physician has absolutely no control over his or her age. On the other, a physician may have complete control over whether or not he or she practices full-time and the scope of his or her practice. Those who measure physician productivity and use such measures for whatever purpose must be cognizant of this range of control.

#### The Future of Physician Productivity

##### **Physician Productivity and the Idealized Design in Clinical Office Practice (IDCOP)**

The Institute for Healthcare Improvement's IDCOP initiative is a comprehensive redesign of the office system as a whole. Its aim is to significantly improve the performance of clinical office practices through dramatic and sustained system-level changes. IDCOP designs, tests, and deploys new models of office-based practices capable of fundamentally improved performance levels, better clinical outcomes, lower costs, higher satisfaction, and improved efficiency in a more rewarding work setting.

Under IDCOP, there is an emphasis on alternatives to the face-to-face encounter that forms the basis for the traditional model of office practice. These alternatives include more telephone contact and greater use of e-mail with patients in lieu of office visits. They also include the use of group medical visits in lieu of one-on-one encounters. Such a fundamental redesign of clinical office practice raises questions about the ongoing applicability of traditional and current productivity measures. For example, how does one account for e-mail with patients when productivity is measured using patient visits?

##### **Physician Productivity in a Population-Based Care Model**

Population-based models of care also pose challenges to traditional and current measures of productivity. Population-based care is patient-centered, proactive healthcare for a defined population, and it incorporates evidence-based medicine, cost-effective practice, and continuing improvement of outcomes.<sup>7</sup> Population-based care is not tied to the patients who walk through the door; most traditional and current measures of productivity are. Outcomes are not a factor in current productivity measures; in population-based care, they are critical.

## **New Measures of Physician Productivity**

As noted, both IDCOP and population-based care pose challenges to current and traditional measures of physician productivity. This has led to a search for new measures of physician productivity that are more consistent with these emerging models of care. Possible alternatives include quality and outcomes measures. Other potential measures of physician productivity are service measures, such as patient satisfaction and physician accessibility.

### Conclusion

In summary:

- Physician productivity is a measure of a physician's work or output. It is closely related to efficiency and entirely distinct from quality and service, as currently understood.
- There are well-defined measures of physician productivity that have been used traditionally and other well-defined measures that have come into use more recently. No measure is perfect; each has its own limitations.
- Measures of physician productivity are used for a variety of purposes. The most common use is as an element of physician compensation plans.
- Physician productivity is impacted by a large range of independent variables, including characteristics of the physician and the organization in which the physician practices. Consequently, physicians do not exercise complete control over their own productivity.
- Traditional and current productivity measures do not fit the future of physician office practice. New measures of physician productivity related to quality, service, and outcomes are needed. Future productivity measures need to account for all that a physician does in practice and for participation in activities that are not easily valued in an objective way.

As noted, this discussion paper is intended as an introduction to the topic of physician productivity. It serves as a primer to the issues surrounding physician productivity, and as such, it may raise as many questions as it answers. The appendix offers sources for more information.

### References

1. Jacob, Julie A. "Modest Compensation Gains for Most Doctors." American Medical News. August 13, 2001. page 25.
2. Rodeghero, James A. "Benchmarking Physicians' Practices: Trends Toward the Millennium." Journal of Health Care Finance. 1999;25(4):15-37.
3. American Academy of Family Physicians. FACTS About Family Practice. 2000.
4. Blumenthal, MD, MPP, David. Duration of Ambulatory Visits to Physicians. Journal of Family Practice. 1999;48(4):264-271.
5. Medical Group Management Association. Physician Compensation and Production Survey: 2000 Report Based on 1999 Data. 2000
6. American Medical Association. Center for Health Policy Research. Physician Socioeconomic Statistics: 2000-2002 Edition. 2001.
7. American Academy of Family Physicians. AAFP Policies on Health Issues. 2001

Appendix: Sources for More Information

American Academy of Family Physicians  
11400 Tomahawk Creek Parkway  
Leawood, KS 66211-2672  
Phone: 1-800-274-2237  
Web Address: [www.aafp.org](http://www.aafp.org)

American Medical Association  
515 North State Street  
Chicago, IL 60610  
Phone: 312-464-5000  
Web address: [www.ama-assn.org](http://www.ama-assn.org)

Institute for Healthcare Improvement  
375 Longwood Avenue., 4th Floor  
Boston, MA 02215  
Phone: 617-754-4800  
Web address: [www.ihl.org](http://www.ihl.org)

Medical Group Management Association  
104 Inverness Terrace East  
Englewood, CO 80112-5306  
Phone: (888) 608-5601  
Web address: [www.mgma.com](http://www.mgma.com)