

McKinsey Center for US Health System Reform

# The productivity imperative for healthcare delivery in the United States

Executive Summary • February 2019

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## Executive summary

There is little doubt that the trajectory of healthcare spending in the United States is worrisome and perhaps unsustainable. Underlying this spending is the complex system used to deliver healthcare services to patients. Given that the US currently expends 18% of its gross domestic product (GDP) on healthcare, this system might be expected to deliver high-quality, affordable, and convenient patient care—yet it often fails to achieve that goal.

Numerous factors have been blamed for the US's higher healthcare spending, including an excess supply of healthcare services, poorly controlled demand for those services, other market irregularities (e.g., reimbursement mechanisms), regulatory requirements, structural differences between the US and other wealthy countries, and patient characteristics and behaviors (especially those influenced by social determinants of health). One explanation, however, has largely been overlooked: poor productivity in the healthcare delivery industry.\* Between 2001 and 2016, healthcare delivery contributed 9% of the \$8.1 trillion (\$4.2 trillion in real terms) growth in the US economy—but 29% of the 14.4 million net new jobs.† Looking at healthcare delivery in terms of productivity provides three important advantages.

- First, it puts the focus not on short-term spending minimization but on long-term growth and the overall spending trajectory.
- Second, it makes it possible to identify specific opportunities that are likely

to better control healthcare spending growth without harming—and in some cases improving—both patient outcomes and the overall economy.

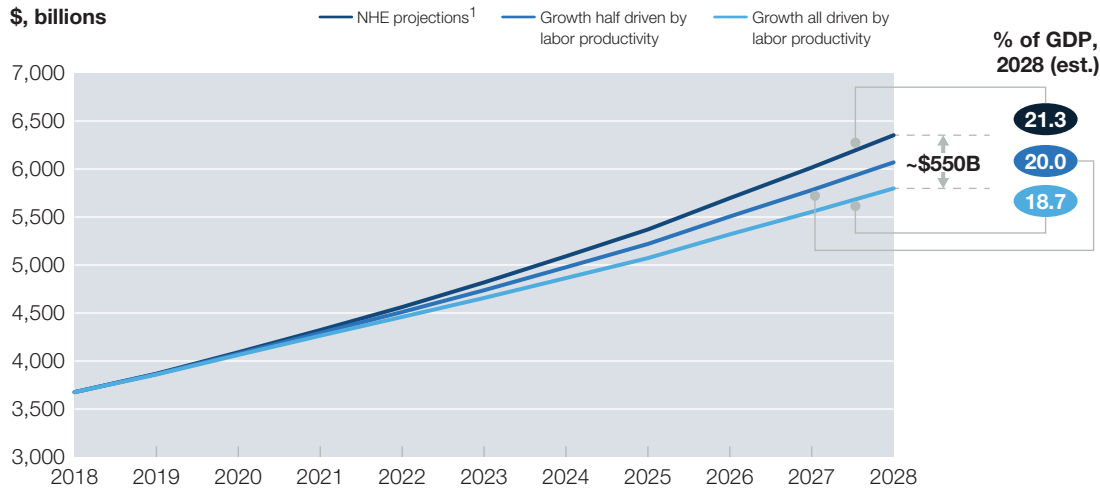
- Third, productivity is the lifeblood of any economy's ability to deliver more for less (or, at least, the same cost). In practical terms, increased productivity in healthcare delivery would make it possible to continue driving medical advances and meet the growing demand for services while improving affordability (and likely maintaining current employment and wages).

This report addresses the supply side of the healthcare delivery equation—what and how services are delivered. Thus, our focus is on the individuals and organizations that provide healthcare services, including ambulatory services, hospitals, and nursing and residential care facilities. Although we describe the implications of our findings for payers and governments, the productivity of these sectors (and others, such as pharmaceuticals and medical devices) is not analyzed in depth. Furthermore, we acknowledge that the demand side of healthcare delivery is also important for controlling the long-term healthcare spending trajectory. Demographic changes in the US make it highly likely that demand will continue to grow, although greater patient engagement in healthcare decisions could slow the rate of healthcare spending growth considerably. While demand-related opportunities can play a significant role, they do not eliminate the need to improve the productivity of healthcare delivery.

\*This report focuses on how healthcare services are delivered to patients, not how those services are paid for. The health insurance sector is also in need of productivity improvements, but that is an issue that needs to be investigated separately. In this report, we discuss payers only in terms of how their policies and activities have a direct impact on the delivery of patient care services.

†Source data does not adjust for the skill or education of the workforce.

**EXHIBIT Projections for healthcare spending growth over next decade**



GDP, gross domestic product.  
<sup>1</sup>National health expenditure (NHE) projections from the Centers for Medicare & Medicaid Services.  
 Sources: Bureau of Economic Analysis; McKinsey analysis

The impact of improving productivity would be profound. Our conservative estimates suggest that if the healthcare delivery industry could rely more heavily on labor productivity gains rather than workforce expansion to meet demand growth, by 2028 health-care spending could potentially be (on a nominal basis) about \$280 billion to \$550 billion less than current national health expenditures (NHE) projections suggest (Exhibit).<sup>‡</sup> Cumulatively, \$1.2 trillion to \$2.3 trillion could be saved over the next decade if healthcare delivery were to move to a productivity-driven growth model. Savings of this magnitude would bring the rise in healthcare spending in line with—and possibly below—GDP growth. In addition, the increased labor productivity in healthcare delivery would boost overall US economic

growth at a faster rate than current projections—an incremental 20 to 40 basis points (bps) per annum—both through direct economic growth and the spillover impact of greater consumption in other industries. However, meaningful action by, and collaboration among, all stakeholders will be needed to deliver this value.

### Inputs to healthcare delivery

In all industries, productivity growth can be assessed by comparing changes in inputs with changes in outputs. In economic terms, the inputs can be categorized as labor, capital, and multifactor productivity (MFP)—the contributions made by innovation, changes in technology, and inputs that cannot be

<sup>‡</sup>This calculation assumes that medical inflation would become partially or fully equivalent to economic inflation during that time.

properly measured or are unmeasured. (Parsing out each component's individual contribution to MFP is difficult, however.) Examples of innovations that hold the potential to improve MFP in healthcare include clinical products (e.g., pharmaceuticals and medical devices), new care delivery models, operating model changes,<sup>§</sup> and the democratization of information (e.g., electronic health records, price transparency). The outputs are the services delivered. Productivity rises, for example, when inputs hold steady while outputs increase, or when inputs decrease without a change in outputs.

From 2001 to 2016, the US economy grew (in real terms) by 1.9% per annum, to \$19.4 trillion. Just over half of this growth resulted from capital investments. Labor contributed another 25%, and MFP was responsible for 19%. In contrast, the healthcare delivery industry grew (in real terms) by 3.3% per annum during those years, to \$1.3 trillion.<sup>#</sup> Labor contributed 99% of this growth, and capital, 14%. MFP had a negative (–13%) contribution.<sup>¶</sup> More than two-thirds of the contribution made by labor resulted from workforce expansion (over 4 million net new jobs were added).

In short, job creation—not labor productivity gains—was responsible for most of the growth in the US healthcare delivery industry from 2001 to 2016. Innovation, changes in business practices, and the other variables that typically constitute MFP harmed the industry's growth. If the goal is to control healthcare spending growth, both trends must change.

## Outputs of healthcare delivery

In this report, our primary aim is to identify specific opportunities the healthcare delivery industry could pursue today to improve its productivity, and so we define the industry's outputs as services delivered (e.g., treatments administered to sick patients, preventive health measures given to the well).<sup>\*\*</sup> By focusing on services, we can explore how service delivery could be made more efficient—and pinpoint a number of opportunities that, we believe, will make it possible to effectively bend the spending curve without lowering the quality of care. (For example, better care coordination could deliver the same outputs by using fewer inputs more efficiently.)

<sup>§</sup> Operating model changes could include economies of scale, improved managerial skill, changes in the organization of production, or some combination of these factors.

<sup>#</sup> The technical appendix explains why this number differs from estimates of national health expenditures.

<sup>¶</sup> To understand how MFP can affect the productivity of healthcare delivery, consider the example of a new treatment option for back pain. If the treatment that had routinely been offered patients is surgery, the inputs would include labor (the surgeon, anesthesiologist, nursing staff, etc.) and associated capital (for the operating room, recovery room, etc.). If, instead, the patient could obtain similar relief from back pain through physical therapy, the inputs would decrease markedly. These types of changes in the operating model can affect MFP positively.

<sup>\*\*</sup> We chose to define the system's outputs as the services delivered—not as the outcomes achieved (the metric often used in academic studies, typically measured in terms of quality-adjusted life-years, or QALYs). We acknowledge that better outcomes are the ultimate goal of the healthcare delivery industry. However, outcomes are influenced by a range of factors (e.g., social determinants of health), not all of which are within the control of those who deliver healthcare services; furthermore, QALYs can be difficult to measure objectively. Furthermore, a focus on outcomes rather than services would not have allowed us to identify specific opportunities to improve the efficiency of how healthcare is delivered, which was our goal.

## How productivity can be improved

Our investigation revealed a range of issues that have been hampering productivity growth in the healthcare delivery industry; the primary problems are detailed in the sidebar that begins on p. 8. However, we also confirmed that none of these problems are intractable. Industry stakeholders have numerous opportunities to improve the productivity of healthcare delivery—and there are concrete steps they could take *today* to seize these opportunities. A sizable portion of the opportunities do not require major technological advances or massive operating model shifts.

Minor changes, for example, could help provider systems more fully utilize their clinical workforce. Physician utilization, for example, could be increased through a combination of approaches:

- Modifying scheduling systems by periodically “pruning” clinically inappropriate preference rules that limit the types of patients clinicians will see at certain times
- Broadening the application of automatic reminder systems to reduce the number of patients who fail to show up for appointments

Our analysis suggests that given the current unused capacity in physician schedules, these types of improvements could fill much—if not all—of the projected national physician shortage. (Note: this analysis does not fully account for differences in specialty or geography.) To prevent physicians from burning out after these changes are made, provider systems could encourage all clinical staff members to maximize

the amount of time they spend on the highest-complexity activities commensurate with their training and experience (what is referred to as working at “top of license”). Our research has shown, for example, that in the inpatient units at many hospitals, 36% of the tasks performed by registered nurses (RNs) could safely be performed by non-RN team members. In addition, technological advances, including artificial intelligence, computer-assisted coding, and natural language processing, could be used. The key to success when integrating these opportunities into a provider system is to leave sufficient flexibility in the team structure to ensure that services can always be provided in the most efficient and effective way possible.

Productivity gains through asset reallocation are likely to be harder to achieve in the near term, but not in the longer term. Demand for inpatient services continues to drop, yet excess—and therefore unproductive—capital continues to remain in the healthcare delivery infrastructure. (For example, US bed capacity is 62%, compared with 75% to 90% in other wealthy countries.) As provider systems contemplate renovations or rebuilding, they have the chance to more aggressively rethink service distribution in light of modern care pathways. Even in the short term, provider systems could increase the productivity of some fixed assets by consolidating certain services (e.g., pathology and radiology reviews) and delivering some services in the community or at home.

Payers have an opportunity to take the lead in simplifying and streamlining administrative processes, and in standardizing reporting requirements and the incentives offered

## The causes of low productivity growth: Our findings

Although the US economy experienced approximately 370 bps per annum MFP growth from 2001 to 2016, MFP decreased by about 420 bps per annum within healthcare delivery. To determine why productivity improvements have been so small—and what could be done to change that situation—we looked closely at the two factors that have contributed most to economic growth in healthcare delivery: labor and capital. (We did not investigate MFP closely because its impact on economic growth was small. However, improvements in the productivity of labor and capital would eventually translate to improvements in MFP.)

We looked at clinical labor and administrative labor separately, given the marked difference in their responsibilities. We also considered the effect of historical forces on current capital allocations within the industry. In all cases, we used comparisons with other US services industries and other wealthy countries to identify problems and potential solutions.

**Clinical workforce.** This group's productivity remains low because the clinical workforce is neither fully nor optimally utilized. Our research suggests that at many provider systems, physicians' schedule density is currently about 80%, but high-performing practices can consistently reach a 90% to 95% density without physician burnout.

The lower density results primarily from suboptimal scheduling practices for physicians and other clinicians. An additional problem is that tasks are not consistently assigned to workers at the appropriate skill level (e.g., RNs perform activities that could be delegated to nursing assistants). However, other industries, such as legal services, have found that task reallocation can usher in rapid labor productivity growth. Furthermore, most provider systems have not fully harnessed the ability of technology to safely automate certain tasks, even though doing so would free up clinical staff for more complex patient care services.

To date, approaches to address these issues have been slow to spread (e.g., better scheduling), too blunt in nature (e.g., mandated nursing staff ratios), or inadequate in scope (e.g., automation efforts that address only a small minority of tasks). Also, the clinical workforce is not always sufficiently supported or given appropriate—and aligned—incentives to make changes that would benefit overall industry productivity.

**Administrative functions.** The degree of administrative complexity in the US healthcare delivery industry is high, especially because of the considerable number of provider systems and payers that must interact to process billing and insurance-related (BIR) information. In 2017, the top

10 US provider systems were responsible for only 18% of all inpatient days; an additional 3,000+ systems accounted for the remaining 152 million inpatient days. That year, Medicare (Part A/B only), Medicaid (fee-for-service only), and the top five private health insurers accounted for only 58% of covered lives; more than 350 other payers covered the remaining 120+ million Americans with health insurance. According to the Institute of Medicine, the absence of standardization among these players has produced “excess” BIR costs of about 50% to 70%.

An additional problem results from the industry’s substantial performance reporting requirements. The Centers for Medicare & Medicaid Services alone uses more than 1,700 metrics, most of which focus on processes, not outcomes.

Because of the industry’s administrative complexity, healthcare delivery has an unusually high number of non-clinical workers, many of whom focus on routine transactions that could easily be digitized or automated. Other industries with a similar high number of players (e.g., financial services) have found ways to standardize and streamline the interactions among the players. The healthcare delivery industry would also benefit from more aggressive efforts to streamline and improve performance metric reporting.

**Capital.** Capital’s contribution to the healthcare delivery industry’s GDP growth from 2001 to 2016 (14%) was the lowest among major US services industries. Often, capital is not optimally allocated in the healthcare delivery industry—much of it is tied up in or allocated to underutilized fixed assets rather than productivity-enhancing investments. (In 2016, for example, several other sectors, including utilities, had capacity utilization of 73% to 86%, whereas hospital bed utilization was 63%.)

Healthcare delivery has historically been hospital-centric, and thus significant sums have been spent on buildings and beds that once were, but no longer are, central to care pathways. Requirements to serve the public good (e.g., through critical access hospitals) have also entailed major investments. Most provider systems have market-driven incentives to keep installed capacity in use even when it is not needed on a total-system level.

In addition, some provider systems may invest in equipment to meet patient expectations, such as short wait times for diagnostic imaging, even if the equipment duplicates what is available nearby. (The US has more imaging devices per person than most other wealthy countries, and utilization of those devices is below average.)

through alternative payment models. As a first step, they could aggregate certain functions (e.g., claims processing and adjudication) and further automate their BIR processes. We estimate that if payers were to collaborate to develop a clearinghouse for BIR data (similar to the approach taken in the financial services industry), overall administrative spending could be reduced by up to 30%.

Government agencies could consider moving forward with the adoption of “smart” regulations—those well aligned with current healthcare delivery needs and flexible enough to accommodate industry evolution. For example, research has shown that US physician practices currently spend more than \$15 billion

annually to report performance metrics; streamlining reporting requirements holds the potential to reduce this sum considerably. Updating some healthcare regulations might make it easier for provider systems and payers to undertake the innovations needed to improve the productivity of healthcare delivery.

In addition, some government agencies might want to consider taking steps to encourage payers to increase their streamlining and standardizing activities, or even to help develop a clearinghouse for BIR data.

The opportunities described above—and many more—are discussed in greater detail in this report. [○](#)