Tracking the U.S. health sector: the impact of the COVID-19 pandemic

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Abstract

Health spending has grown faster than the U.S. economy for decades and currently represents approximately 18% of gross domestic product. As with other sectors of the economy, the COVID-19 pandemic has had a significant impact on this growth of the health sector and the labor force that supports it. This paper examines that impact, describing how health care spending, employment, and prices have evolved since the start of the pandemic, using data from the authors' Health Sector Economic Indicators (HSEI) series. After unprecedented drops in March and April of 2020, both spending and employment have gradually recovered but, by the end of the summer, remained below their pre-COVID levels. Prices, on the other hand, have continued to rise. The paper compares these patterns with those observed in earlier recessions and describes some likely reasons for them.

Keywords Health sector · Health spending · Health employment · Health care prices · COVID-19 · Health sector economic indicators

1 Introduction

At nearly 4 trillion dollars in annual revenues and 18% of gross domestic product (GDP), the health sector is one of the largest components of the U.S. economy and a major employer of U.S. workers. In 1970, the sector's share of GDP was only 7%, comparable to other developed countries at the time (Frakt and Carroll 2013). But in the decades since then, U.S. health spending has consistently grown faster than the rest of the economy, and now stands at nearly double the average of its peer nations in both the share of GDP going towards health spending and health spending per capita (Papanicolas et al. 2018).

The inexorable increase in health care spending is a problem for individuals, families, businesses, government, and the overall economic health of the country. This is particularly evident when viewing federal, state, and local government budgets. About half of health care spending is publicly financed, mostly through Medicare and Medicaid, and the

growth in health care spending continues to crowd out other priorities such as infrastructure needs and education (US Department of Health and Human Services 2007). These budgetary pressures will only increase as the population ages. Moreover, and perhaps in part due to more spending on medical care and less spending on social services, U.S. health outcomes such as life expectancy, infant and maternal mortality, and burden of disease are worse than other comparable developed countries (Bradley and Taylor 2013).

Given the importance of the health care sector to the economy, our fiscal future, and our nation's health and wellbeing, accurate and timely estimates of health sector spending, employment, and price trends are critical metrics needed to inform policy and business decisions. While traditional federal government data such as the Bureau of Labor Statistics (BLS) employment and price data, and Bureau of Economic Analysis (BEA) GDP and National Income and Product Accounts (NIPA) data, do include a health care component, health economists and policymakers most frequently cite and follow the data from the Centers for Medicare and Medicaid Services' (CMS) annual National Health Expenditure Accounts (NHEA; available at <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData>). The NHEA, reconciling information from a variety of sources (Centers for Medicare and Medicaid Services 2018), are

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released annually with about a 12-month lag, and provide a comprehensive look at national health spending, including by type of care and payment source.

The NHEA data, while thorough and well-developed, are significantly lagged, making them less useful for business and government leaders making short- and medium-term business and policy decisions. As an example, the 2020 COVID-19 pandemic has upturned the economy and the health sector itself, yet official NHEA estimates for 2020 will not be available until the end of 2021 under the usual release schedule. To fill the need for more timely tracking of the health economy, we developed (with the assistance of other current and former Altarum experts) the publicly available Health Sector Economic Indicators SM (HSEI; available at <https://altarum.org/solution/health-sector-spending>), a set of metrics and associated data briefs that provide preliminary health spending estimates on a monthly basis, while benchmarking to the CMS NHEA health categories and historical estimates. The HSEI also include monthly tracking of additional health sector performance and economic measures including employment, prices, and implicit utilization.

In this paper, we use historical and 2020 HSEI data to examine the impacts of the COVID-19 pandemic and resulting recession on the health sector, and to contrast the performance of the health sector in this recession to other downturns. Following a short description of methods, the paper describes the impact of the pandemic on health sector spending, employment, and prices, and puts these trends in context by comparing the first nine months of 2020 to a comparable period during the 2007 to 2009 “Great Recession.” We find that the current pandemic-induced recession is impacting the health sector in ways previously unseen in economic downturns. While prior recessions may have slowed the pace of growth in health sector spending and employment, this pandemic shows for the first time in our data series a massive (albeit temporary) reduction in many health sector spending and employment metrics. We briefly discuss likely drivers of these impacts and implications for future health sector trends based on our experience tracking the health sector economy over the past 10 years.

2 Methods

2.1 National health expenditures and the HSEI spending brief

The NHEA, available at <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData>, are published annually by the Centers for Medicare and Medicaid Services (CMS), and represent the U.S. government’s official accounting

of national health expenditures. Historical estimates are published in December and measure spending for the previous year (e.g., spending data for 2018 were published in December 2019) and also include occasional revisions to prior periods. Total spending is partitioned by type of good or service (e.g., hospital care, physician and clinical services, retail spending on prescription drugs) and by source of funds for each good or service type (e.g., private health insurance, Medicare, Medicaid, out-of-pocket spending). In the spring of each year, CMS also publishes 10-year projections of these data; the March 2020 release projected spending from 2019 through 2028 (Keehan et al. 2020). As we will see, these projections for 2020 have been overtaken by events.

The CMS historical data for 2018 indicate that health spending increased by 4.6% from the previous year, reaching \$3.6 trillion and corresponding to 17.7% of GDP (Hartman et al. 2020). Spending on the personal health care (PHC) category of NHEA, which excludes categories such as public health, research, and net cost of health insurance, and represents 84% of the total, grew by 4.1% from 2017. Hospital spending, the largest spending category, constituted nearly one-third of total health spending, at \$1.19 trillion.

The HSEI spending briefs are intended to estimate current, monthly national health spending in a manner that aligns with the annual NHEA as closely as possible. The spending estimates are based on a combination of monthly health spending data published by the Bureau of Economic Analysis and the CMS historical estimates and projections. BEA spending categories are matched to NHEA components based on a published study that reconciles the NHEA with the BEA estimates (Hartman et al. 2010). For most NHEA personal health care categories, monthly estimates are based on BEA spending, adjusted to NHEA by using annual ratios. For the remaining categories, national health spending estimates and projections are allocated across months by using a simple trend. Annual ratio adjustments through 2018 are based on NHEA actuals and ensure that monthly estimates sum exactly to NHEA annual amounts. The 2018 ratios are used to adjust BEA spending for months in 2019 and 2020.

Important to note are particular issues that arise in estimating spending on prescription drugs from BEA NIPA data, due to the complex and opaque chain of financial transactions in the U.S. prescription drug market (Roehrig 2018). It is generally understood that the BEA expenditure data for prescription drugs measures spending based on transaction prices and does not account for rebates paid by drug manufacturers directly to the insurer or pharmacy benefit manager for some branded drugs. If rebates are consistent from period to period, this will not affect our estimates of spending or price growth. In periods where rebates are growing as a share of the price, the BEA data will overestimate the final net prices paid, and therefore overstate spending growth.

While we have not yet found a way to correct for this potential issue in the monthly data, the final CMS annual estimates do include rebates in their calculation of net spending on these drugs, correcting for any distortions rebate trends may create at the time each new annual NHEA data series becomes available.

2.2 Health care services employment and the HSEI labor brief

The U.S. BLS reports monthly on numbers of jobs by industry using data from the Current Employment Statistics (CES) or “establishment” survey. While estimates for the most recent two months are subject to revision, these data allow for very timely tracking of trends in overall health care employment as well as employment in hospitals, physician offices, nursing homes, and other health care settings. Our monthly HSEI labor brief presents the most recent CES data and examines trends in health sector jobs, informed by a time series of CES data going back to January 1990 and a decade of examining the impact of the business cycle and systemic changes such as the Affordable Care Act on health care jobs.

The CES data represent numbers of jobs, as identified by establishments surveyed in each industry. As such, they may not match estimates of the number of people working in an industry obtained from a household survey such as the Current Population Survey. Our HSEI labor brief data represent all types of workers employed in all settings providing health care services, including health care providers, health support occupations, and administrative and facilities staff. Settings include hospitals, provider offices, clinics, home health, and residential care. We do not include employment at pharmaceutical companies, retail pharmacies located in non-health care establishments such as grocery or drug stores, or insurance companies.

2.3 Health care prices, utilization, and the HSEI price brief

The primary data source for tracking health care prices is the monthly BLS estimate of price levels across sectors. BLS measures these price indexes by collecting data for a variety of health care products and services using surveys and direct, on-the-ground data observation of prevailing prices. The price data are made available monthly, with about a one-month lag (i.e., September price data are available mid- to late October). To produce a combined measure of overall health sector price growth, we blend the many health care price indexes into a single health care price index (HCPI) that mirrors the annual CMS personal health spending price index found in the NHEA. Just as the BLS data are used to estimate overall economywide prices for a “market basket”

of consumer goods, the HSEI report the blended health care price index based on the market basket of health care products and services. The HSEI data series is generated by combining a variety of BLS health sector indexes, using weights for each index from the monthly spending data described above. For hospital, physician, nursing home, and home health components, producer price indexes (PPIs) are the primary input to the HCPI, while consumer price indexes (CPIs) are used for prescription drugs and other remaining items.

Available from BLS in more recent years are price data broken out by payer (Medicare, Medicaid, private health insurance, and other payers) for overall health care services and some subcategories. These data are used to estimate underlying trends in price growth and to identify some of the market and government trends driving health sector price growth. The HSEI reports also combine data on overall health sector spending and prices to estimate underlying trends in health care *utilization*. We calculate utilization as the residual of health sector spending growth and health sector price growth each month. It is important to note that this approach includes in HSEI a measure of utilization for both direct changes in utilization (e.g., the number of prescriptions filled or the number of hospital and office visits in a period) and changes in the intensity of services provided (e.g., the number of individual services and procedures provided per visit).

Similar to the issue discussed in the spending methodology, estimating prescription drug price growth from BLS price indexes has the tendency to overstate prescription drug price growth during periods of rising rebates. It is generally understood that the BLS price indexes for prescription drugs measure transaction prices, and therefore do not account for rebates paid by drug manufacturers directly to the insurer or pharmacy benefit manager for some branded drugs. While we do not currently correct for this potential issue in the monthly price data, the final CMS annual estimates do include estimates of rebates in the spending data, correcting for any distortions rebate trends may create in those series.

3 Findings

3.1 Health spending during the pandemic

The HSEI spending brief data provide an initial look at health care spending during the COVID-19 pandemic. They show that the year-over-year change in national health spending began to decline in March of 2020, fell to more than 20% below the previous year’s level in April, and then began to recover. By August 2020, health spending had regained essentially all its losses compared with August 2019 (Fig. 1).

Fig. 1 Year-over-year growth in national health spending

Fig. 2 Cumulative spending growth since February 2020 by major categories (percent difference for August 2020 shown in data labels)

To illustrate more clearly the impact of the pandemic on health spending, Fig. 2 shows time series of percent changes in major personal health care spending categories since the COVID-19 recession began in February 2020. It illustrates how care settings and categories have responded differently to the current crisis. Spending on hospital care and physician and clinical services dropped significantly in March and April and slowly recovered by August to levels that were still somewhat below their February 2020 values. Spending on dental services shows a similar but more extreme pattern, dropping by nearly 65% in April and remaining well below its February reading in August. Spending on home health care dropped by a smaller amount in March and April, recovering to show growth in August. Nursing home spending began a decline in April (one month later than most other categories) and continued to drop through August. Finally, spending on prescription drugs spiked slightly in March (perhaps because people were stockpiling medications), dropped slightly, and

subsequently recovered to be 1.8% higher in August than in February. Differences in these patterns appear to be associated with differences in the perceived relative risk of seeking or providing care in the pandemic environment.

3.2 A tale of two recessions: recent health spending trends compared to the Great Recession

Health spending has historically been resilient during recessions. People generally continue to pursue health care even when other parts of the economy are suffering, and government-funded health care coverage generally continues and even increases in a downturn. The difference between the COVID-19 recession and other contemporary recessions—in addition to the speed and magnitude of the disruption—is that it was caused by a health crisis. As a result, many people avoided health care for fear of infection, and many elective health services were curtailed both to ensure adequate

Fig. 3 Health care spending 12-month growth for selected categories

Fig. 4 Health care services spending and GDP change—COVID-19 Recession

capacity to address a surge in COVID-19 patients and to protect patients from unnecessary exposure.

Figure 3 contrasts year-over-year changes in personal health care and six of its major components for two periods: (1) the year ending in April 2020, when GDP reached a minimum as a result of the recession caused by the pandemic, and (2) the last year of the Great Recession, during which GDP reached its lowest point during that downturn. In April 2020, personal health care expenditures had dropped to 25.4% below their April 2019 level, whereas from June 2008 to June 2009, they grew by 5.6%. Among the major categories within personal health care, hospital spending was 34.5% lower in April 2020 than in April 2019. Spending on physician and clinical services had fallen by 34.4% below its previous April level. Spending on prescription drugs and nursing home care both were higher than in the previous April, though their year-over-year growth was lower than in the last year of the Great Recession. Spending on home

health care dropped by 12.8%. Finally, spending on dental care declined precipitously and in April 2020 was more than 60% below its April 2019 level. Spending in all these categories grew from June 2008 to June 2009 except for dental care, which fell by 0.1%. Health spending clearly behaved differently during these two economic downturns.

For additional comparison, Figs. 4 and 5 show the trajectory of change in spending on personal health care services (i.e., personal health care minus retail sales of medical products) and the portion of nominal GDP that excludes health care services (the monthly GDP estimates come from <https://ihsmarkit.com/products/us-monthly-gdp-index.html>). Figure 4 covers the first 6 months of the pandemic, while Fig. 5 includes the last 6 months of the Great Recession—the period during which GDP reached its lowest level. The figures further illustrate the significant differences between the two recessions.

Fig. 5 Health care services spending and GDP change—Great Recession

Fig. 6 Month-over-month change in health care jobs

As measured by GDP change, the COVID-19 recession has been much more severe than the final 6 months of the Great Recession. During the Great Recession, health care services spending continued to grow, helping to counter the impact of the recession on declining GDP. In contrast, during the pandemic, health care services spending not only declined, but fell faster than GDP, contributing to GDP decline rather than mitigating against it. While spending in the pandemic subsequently recovered more quickly than GDP, the level of spending decline as of August continued to be below that of GDP.

3.3 Health care employment and the pandemic

The HSEI labor brief data taken from the BLS CES show the dramatic impact of the COVID-19 pandemic and recession on health sector employment (Fig. 6). Health care employment fell by 1.58M jobs between February and April 2020.

To put this in perspective, in the 30 years of our time series, month-to-month health care job growth has dipped negative only four times, once during 2003 and three times in 2013—and the largest previous drop was only 9000. Health care jobs began to come back in June, although this recovery appears to be tapering off as of September 2020.

It may seem counterintuitive that health care was shedding jobs at an unprecedented rate at the height of a global pandemic. It is true that some parts of the health care system were stretched to capacity, especially early in the pandemic. However, many types of health care services were shut down and are still recovering, like other parts of the service economy. Health care job losses were concentrated in ambulatory care settings such as physician offices, dental offices, and offices of other types of health care practitioners. As non-essential visits were cancelled, and states began ordering social distancing, many such offices were completely closed for a period. The increased use of telemedicine boosted

Fig. 7 Cumulative job growth—COVID-19 Recession

volumes where remote patient–provider interactions made sense and were feasible, but these visits used less staff than typical in-person care. In hospitals, elective procedures, outpatient department visits, and general emergency department use plummeted. The resulting revenue losses led to the permanent layoff or retirement of some furloughed health workers.

Comparing recent health care employment trends to the overall economy, health care jobs fell a bit less steeply and have come back a bit more rapidly, but both remain below pre-COVID levels. Health care employment fell by 10% during spring 2020, while total non-farm employment fell by 15%. As of the end of the third quarter 2020, health care has regained 58% of the jobs lost compared to 52% of overall jobs regained. The pace of job recovery has been steadily slowing in both health care and the overall economy since June 2020.

As of September 2020, the health care workforce is 4.2% smaller than it was pre-COVID-19. The workforce in ambulatory care settings such as physician offices and clinics is 4.1% smaller, the workforce in hospitals is 2.5% smaller, and the workforce in nursing and residential care is 7.3% smaller than it was in February 2020.

3.4 Recent health employment trends compared to the Great Recession

In addition to maintaining economic activity during recessions, the health care sector has traditionally run counter to other parts of the U.S. economy by continuing to add jobs. Representing about one in nine non-farm jobs, health care has been a backstop to job losses in other recessions. For example, the U.S. lost 8.6 million jobs in the first 2 years of the Great Recession but would have lost 9.2 million had

health care not added nearly 600,000 jobs. It took more than 5 years into the economic expansion that started in 2009 for non-health jobs to return to their pre-recession level in November 2014, at which point health care had grown by 1.7 million jobs.

In the COVID-19 recession, for the first time, health care is contributing to instead of counterbalancing employment and economic losses. Figures 7 and 8 illustrate the stark difference between the health care labor impact of the COVID-19 recession and previous downturns such as the Great Recession. Figure 7 shows that 6 months out from the start of the COVID-19 recession, health care and non-health care jobs experienced similar sharp declines, followed by a gradual recovery, even though health care did not fall as far. In contrast, Fig. 8 shows the immediate divergence in health care job growth versus non-health care job declines in the early months of the Great Recession, a divergence that continued to widen for years.

3.5 Health care prices during the pandemic

Unlike the COVID-19 pandemic impacts on health care sector spending and employment in early 2020, the impacts on health care prices have been subtle. Lower health care utilization, including the hiatuses in elective care, drops in many types of in-person visits, and the temporary closure of some outpatient offices, dramatically shrank the amount of health care spending and labor required; yet, the average prices paid for the remaining health care services appears to have changed only slightly. Overall HCPI year-over-year growth has been between 1 and 3% since late 2017 and, while slightly rising since February 2020, remains within a range that would be expected given historical trends (Fig. 9). Over this period, economywide price growth—measured

Fig. 8 Cumulative job growth—Great Recession

Fig. 9 Health care price index year-over-year growth rate

using the GDP Deflator (GDPD)—has slowed, but remained positive, leading to a larger gap between health care price growth and economywide inflation. This is notable, given that health care price growth since 2011 has been at or below the level of overall inflation in the U.S. For the most recent period available at the time of writing, August 2020, HCPI grew at a year-over-year rate of 2.7%, contrasted with a GDP deflator value of 0.9%.

Across the different health sector categories, year-over-year price growth at the bottom of the 2020 pandemic-induced recession was the greatest for nursing home care (4.2%), dental care (3.1%), home health care (2.7%), and hospital services (2.6%). Year-over-year price growth for prescription drugs (1.1%) and physician services (0.8%) were more moderate, especially when compared to the price growth observed during the Great Recession, measured as of June 2009 (Fig. 10). Since April 2020, health sector prices for these major categories have accelerated slightly, except for dental care, which is now at 3.0%. The

positive year-over-year growth rate in prescription drug prices, a notable and frequently cited health sector component, represents a reversion from the 2019 trend, where prices were nearly flat for the year. The slight increase in early 2020 appeared immediately in January, indicating negotiated increases in prescription drug prices were likely the driver of the 2020 increase, not pandemic-induced impacts (such as price increases driven by stockpiling behaviors observed in early spring; Pagliarulo 2020).

For health care services, where the reduction in the volume of care received could be hypothesized to result from a drop in the demand for services (given the perceived increased risk of COVID-19 infection in health care settings and the delay of many elective procedures), one might expect overall health sector prices to fall in response. Yet, price declines have not occurred, likely due to the fact that health care “markets” (and particularly the way health care prices are set) are unique, such that the limited price changes in the near term are not unexpected. First, many health care

Fig. 10 Health care year-over-year price growth, by major category

prices are set administratively through government action (including many Medicare and Medicaid prices), and even most private sector prices are set via negotiations between health insurers and providers, fixing unit prices for a period of time in a way that makes them unlikely to respond to changes in the short-term demand for care. Moreover, some of the utilization drops were also attributable to decreases in the supply of services available, as many states in the spring of 2020 forced a pause of elective care in order to preserve space in hospitals for COVID-19 patients and also to decrease the risk of health care setting acquired infections (Gamble 2020). Lastly, some government responses to the pandemic included actions that may have put upward pressure on public sector health care prices to compensate for the decrease in utilization and help keep health care providers afloat. The best example that is observable in the HSEI price data is the temporary increase in the Federal Medical Assistance Percentage (FMAP) matching rate for Medicaid services, driving up the Medicaid price index in July 2020 (Centers for Medicare and Medicaid Services 2020). Therefore, the minimal changes (and in fact slight increases) in overall health care prices paid for products and services over this period are likely explainable via a mixture of these factors.

One area where “prices” have fallen dramatically over this period is in the total cost of health insurance (both for employers, their employees, and those purchasing individual insurance directly). Insurers have begun issuing rebates to their customers, as underlying medical expenditures fell dramatically during the initial months of the pandemic, resulting in collected premiums far exceeding insurer expenditures on care. While data on these rebates and health insurance prices are not collected in a way that allows us to report on this “price” decrease as a price index, anecdotally, these rebates have been significant and are expected to continue

as insurers reconcile their 2020 medical loss ratios (MLRs) with the minimum requirements set by the Affordable Care Act (Hall and McCue 2019).

For the remaining months of 2020, we expect health care price growth to continue to exceed overall economywide rates, with nursing home, home health care, and hospital settings likely showing the fastest growth. Prescription drug and physician services year-over-year price growth rates are likely to remain closer 1%. When looking to longer-term trends in health care prices (over the next 5–10 years), before the pandemic, some predicted a period of accelerated price growth for the sector, particularly in relation to overall inflation. Driven by continued provider consolidation plus other factors, CMS has predicted HCPI will rise almost twice as fast over the 2019 to 2028 period, when compared to the 2014 to 2018 timeframe (Keehan et al. 2020). It remains to be seen how the COVID-19 pandemic impacts these predictions and the larger health care sector.

3.6 Recent health care price trends compared to the Great Recession

While overall health sector price growth has not swung as dramatically as other health sector metrics during the pandemic, the price response has differed from the previous Great Recession period of 2008 and 2009. During the Great Recession, economywide and health care price growth rates both initially slowed and, while neither year-over-year rate fell below zero, the decline was detectable in the overall HCPI for the first 12 months of that period (Fig. 11). In the previous three recessions, health care price growth slowed in the initial months of the recession, but then accelerated in later months, all while economywide prices continued to fall (data not shown). This is consistent with the story of health care spending and employment, where those trends

Fig. 11 Health care price index year-over-year growth rate (Great Recession)

Fig. 12 Hospital year-over-year price growth, by major payers

typically run counter to overall economic trends during a recession, pulling expenditures and employment levels up during downturns.

This pattern of initially falling and then rising health care prices in prior recessions is contrasted with the HCPI trend observed in 2020, where health care prices rose almost immediately, beginning in March 2020 (Fig. 9). We believe a major factor in the unique HCPI change during the pandemic was the swiftness of the federal government response (including general economic stimulus) and the direct health sector support provided in initial monies. The clearest picture of this comes from the different price growth rates in the public sector (Medicare and Medicaid), where government policy has a bigger influence on health prices than private sector prices. Figure 12 shows the growth in hospital prices

by payer in 2020 and the acceleration in public sector prices, compared to nearly constant private sector price growth. This can be contrasted with the same hospital price growth metrics during the Great Recession, where Medicare and Medicaid price growth tended to fall during the recession and post-recession periods (Fig. 13).¹

Lastly, as discussed in previous sections, a major difference in this COVID-19 recession compared to prior

¹ Private health insurance growth is estimated for the Great Recession period, as the official BLS price series did not begin until 2014. Private price growth is estimated using the available total hospital, hospital Medicare, and hospital Medicaid price indices. Hospital private insurance price growth is estimated as the remainder of averaged overall hospital price growth after including the two public insurer data sources.

Fig. 13 Hospital year-over-year price growth, by major payers (Great Recession)

Fig. 14 Utilization and price components of personal health care spending year-over-year growth

recessions has been the dramatic decline in overall utilization. For the first time in our HSEI series since 1990, year-over-year utilization growth has fallen significantly below zero (it was also briefly negative in 2011 and 2013). The net difference between personal health care (PHC) spending growth and price inflation suggest that PHC utilization fell by over 25% in April 2020 (Fig. 14). This was the largest factor in the overall health care spending decline, but also the cause of the rapid recovery to near pre-COVID spending levels. Throughout this period, HCPI growth slightly buffered overall spending declines from the drops in utilization; yet, the drops in spending far outweighed the moderate price growth. Perhaps the largest question remaining for 2020 is: when will utilization growth return to a positive contributor to overall health spending? As of August 2020, utilization growth remained at -4.0% year-over-year, with the rate of the return of utilization showing

signs of stalling out. Some have predicted the pent-up demand for delayed health care services, expenditures associated with new COVID-19 treatments and vaccines, and health care costs resulting from missed preventative care will drive 2021 utilization to much higher levels (Kronick 2020), yet this remains to be seen.

4 Conclusion

The impacts we have measured on the usually unperturbable health sector are one more way in which the COVID-19 pandemic and recession are unprecedented in modern times. Both health care revenues and employment have bounced back significantly since spring, but neither employment nor personal health care spending have fully recovered as we enter the final quarter of 2020. Over the

same period, health care prices have continued to rise, now outpacing economywide price growth by a larger margin. This recession also represents a rare interruption in the growth in health care spending and employment that has been relentless for decades, and so at a minimum has likely reset both to a level lower than what would have been, absent the pandemic. The extent to which any permanent reductions are good or bad for our health and our economy will be a major part of the U.S. health services research agenda.

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