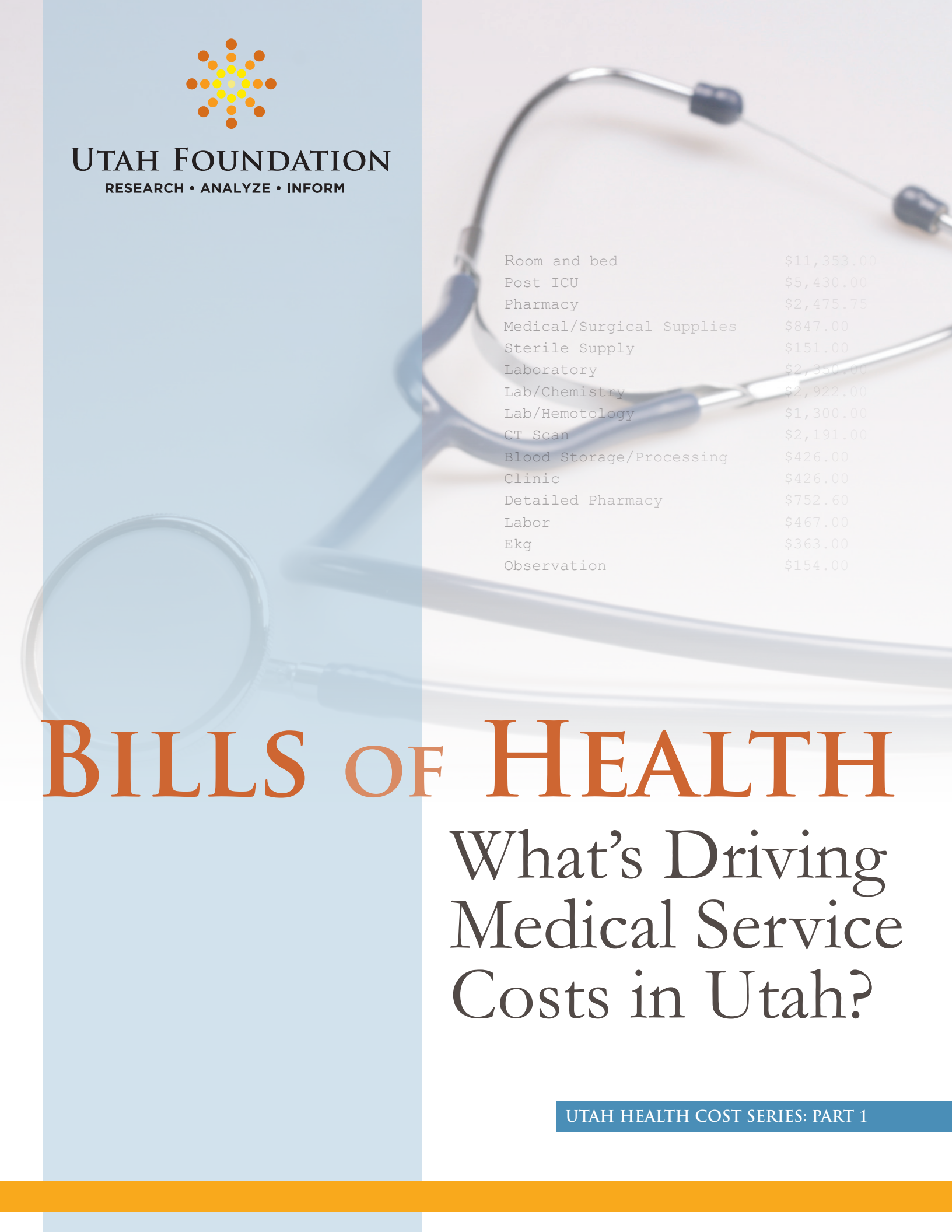

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BILLS OF HEALTH

What's Driving Medical Service Costs in Utah?

UTAH HEALTH COST SERIES: PART 1

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INTRODUCTION

In 2016, Utah Foundation's Priorities Project found that citizens were more concerned about health care costs than any other issue. The lively debate over health care costs during the past decade has focused primarily on the implications of national policy. However, states have unique health care landscapes, needs and opportunities.

In this part of the Utah Health Cost Series, Utah Foundation addresses total spending on health care services in the state, including all payments to Utah health care providers from individuals, government and insurers. The report analyzes spending by considering Utah's health-cost profile, existing provider prices and utilization of medical services.

In subsequent reports, Utah Foundation will examine the costs associated with health insurance and Medicaid spending in Utah.

BACKGROUND

Health care spending is on the rise both nationally and at the state level. Total health care spending has important implications for the state economy and future planning, to prepare for a growing and aging population. Utah now has the highest annual population growth rate in the nation.[1] Furthermore, by 2065, the share of Utah's population that is aged 65 and older is projected to be 20.3%, up from 10.2% in 2015.[2] Demographic changes, along with increases in medical care prices, will likely increase total health care spending in Utah.

Medical care inflation in the U.S. has consistently risen faster than general inflation since 1948 (the first year for which data are available).[3] Over the past seven decades, the cost of medical care has grown at an average annual rate of 5.3%, compared to 3.5% for the Consumer Price Index (CPI) at large.[4] In the past 20 years, though inflation slowed, the growth in medical care costs continued to significantly outpace the CPI at an average annual rate of 3.6%, compared to 2.2%.[5] The bottom line: Americans are spending an increasing share of personal income on medical care.

Another measure of health care inflation is the Personal Consumption Expenditures (PCE) index, prepared by the federal Bureau of Economic Analysis.

KEY FINDINGS OF THIS REPORT

- Utahns spend less per capita on health care than the people of any other state in the U.S. (Page 3.)
- Utah joins other low-cost states in exhibiting low-cost indicators such as low Medicare and Medicaid enrollments, a low number of hospital beds, and a high uninsured rate. (Page 4.)
- Utah's low spending is due in part to certain demographic characteristics and health behaviors. (Page 5.)
- Utah has the shortest average length of hospital stay in the country. (Page 6.)
- While overall health care spending is growing rapidly in Utah, much of this growth is attributable to population growth. (Page 6.)
- Two categories of care – hospital services and physician and clinical services – together account for nearly two-thirds of health expenditures. (Page 7.)
- Hospital rates for the same service vary significantly – in some cases, by up to three times. (Page 7.)
- Among the main drivers of provider cost increases are: the high cost of new medical devices and pharmaceuticals; overtreatment; consolidation among health care providers; and increasing administrative complexity. (Page 8.)
- Increases in the rates for health services, rather than increases in usage of services, are the main driver of per capita medical care cost inflation. (Page 11.)
- While an aging population is a cost driver, it may not be as significant a factor as some perceive. (Page 12.)

Like the CPI, the PCE measures the prices paid by consumers for goods and services. However, while the CPI measures only direct consumer spending, the PCE also measures the prices paid for medical care on behalf of consumers – for example, medical care services paid for by employers through employer-sponsored health insurance, the claims insurance companies pay for, as well as services paid for by government programs such as Medicare and Medicaid.[6] From 1998 to 2015, the average annual growth rate for the PCE was 4.5%, compared to 5.5% for the PCE health care component.[7] During the same time period, the PCE in Utah had an average annual growth rate of 5.4%, compared to 6.9% for health care.[8]

In fact, health care expenditures have grown even when the overall economy has shrunk. For example, in 2009, the year of the Great Recession, when all other goods and services decreased in price by 2.4%, health care increased by 5.3%. Utah mirrored the national trends precisely in 2009.[9]

DEFINITIONS OF SERVICE CATEGORIES

This report breaks down the costs of medical services into the following categories.

Hospital Care: This cost category reflects spending for all services that are provided to patients and billed by hospitals. The total revenue less any contractual adjustments, bad debts and charity care measures the total value of hospital care.

Physician and Clinical Services: This cost category includes three measures: expenditures in private physician offices, clinics and specialty clinics; fees from independently-billing laboratories; and expenditures in clinics operated by the U.S. Coast Guard, Department of Defense, Indian Health Service and the U.S. Department of Veterans Affairs.

Prescription Drugs: This cost category includes expenditures for the retail sales of human-use dosage-form drugs, biological drugs and diagnostic products that are available by prescription.

Dental Services: This cost category includes any services provided in establishments that are operated by a doctor of dental medicine, dental surgery or dental science.

Other Health, Residential and Personal Care: This cost category is defined by the care provided in residential care facilities, ambulance services and for services provided in non-traditional settings. The expenditures are estimated by three measures: private residential facilities for the intellectually disabled, residential mental health and substance abuse facilities; private expenditures for ambulance services; and services in non-traditional settings such as home and community-based services.

Nursing Home Care: This cost category includes spending for inpatient nursing care services, rehabilitative services and continuous personal care services that are provided in freestanding nursing home facilities.

Other Non-durable Medical Products: Spending in this category includes expenditures for the retail sales of non-prescription drugs and medical miscellanea.

Other Professional Services: This category includes expenditures for health professionals that are not physicians or dentists. These professional services include private-duty nurses, chiropractors, podiatrists, optometrists and physical, occupational and speech therapists.

Home Health Care: The services included in this category consists primarily of private establishments engaged with resident-based nursing services, such as: personal care services, homemaker and companion services; physical therapy; medical social services; medications; medical equipment supplies; counseling; 24-hour home care; occupation and vocational therapy; dietary and nutritional services; speech therapy; audiology; and high-tech care.

Durable Medical Products: This category includes expenditures for the retail sales of items such as contact lens, eyeglasses, surgical and orthopedic products, hearing aids, wheelchairs and medical equipment rentals.

Source: Centers for Medicare and Medicaid Services, State Health Expenditure Accounts, *pp. 2-8.*

METHODOLOGY, SCOPE AND LIMITATIONS

This report uses the State Health Expenditure Accounts produced by the federal Centers for Medicare and Medicaid Services (CMS) to identify costs associated with the provision of personal health care. It includes all of the medical goods and services that are used to treat or prevent a specific disease or condition in a specific person.[10] The service categories that comprise personal health care are: hospital care, physician and clinical services, prescription drugs, dental services, other health, residential and personal care, nursing home care, other non-durable medical products, other professional services, home health care and durable medical products.[11] Data from the Kaiser Family Foundation was used to identify per capita spending for Medicaid enrollees and utilization of hospital services. This report conducted a review of scholarly literature, including research reports, scientific articles and policy reports. The report also draws from interviews with experts in the health care industry in Utah.

Spending resulting from government administration, total costs of private insurance (administration or marketing), government public health activity (health communication outreach and education), non-commercial research (research that is not undertaken for profit), investment in structures and equipment, and uncompensated care costs are excluded from the estimates.

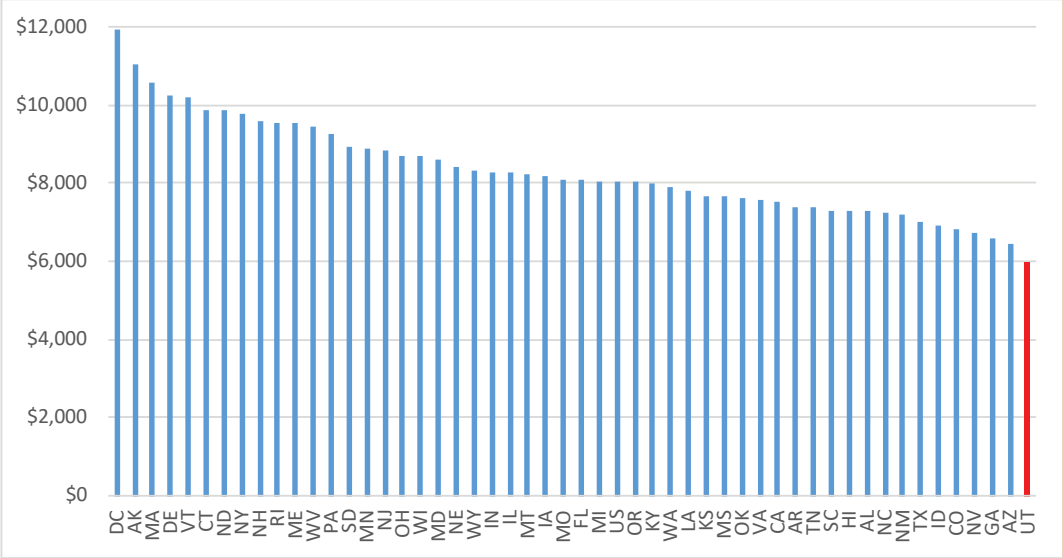
This report estimates Utah's health care costs based on data provided by CMS for the years 1991 through 2014.[12] However, the ongoing implementation of the Patient Protection and Affordable Care Act – also known as Obamacare – means there have been significant changes since 2014. While Utah's All Payers Claims Database provides more accurate and up to date data regarding prices charged by providers, the database is not accessible to the general public. Utah trends regarding health care costs beyond 2014 are therefore inferred from national trends. The cost drivers discussion is also inferred largely from national trends. Medical industry experts have advised Utah Foundation that state trend lines generally follow these national trend lines.

UTAH'S HEALTH-COST PROFILE

There is significant variation in health care costs across the U.S. In 2014, Utah's health care spending totaled $18.8 billion.[13] Per capita total health care spending was lowest in the nation at approximately $5,982, roughly 74% of the national average. It should be noted that five of Utah's six neighboring states clustered at the low end of the cost picture, indicating a regional pattern. By contrast, the New England states clustered at the high end. (See Figure 1.)

Utah has the lowest per capita health care spending in the nation.

Figure 1: Total Personal Health Care Spending Per Capita by State, 2014



Source: Centers for Medicare and Medicaid Services, State of Residence.

State Variation in Health Care Costs

One study found the variation in per capita health care spending across states corresponds to factors such as personal per capita income, the share of the population enrolled in Medicare, the share of the population enrolled in Medicaid, the supply of community hospital beds and the share of the population that is uninsured.[14] States with comparatively lower per capita spending tend to have lower levels of personal income per capita, lower percentages of the population enrolled in Medicare and Medicaid, and lower health care capacity (i.e., fewer hospital beds per 1,000 people). States with lower spending also tend to have a higher uninsured rate.

Personal Income Per Capita. Personal income per capita is a key factor explaining variation in state-level health care spending. Generally, wealthier states are associated with higher per capita health spending, suggesting they are utilizing more services at a higher price point.[15] Wealthier states generally have a higher cost of living and higher prices for goods and services provided – health care being one of them. In 2014, Utah had the eighth lowest personal income per capita.[16]

However, it should be noted that Utah's median household income was in the top 10 highest that year. Utah's relatively low personal income per capita is largely attributed to the percentage of the population that are children. In 2014, Utah's child population was by far the largest in the nation, at 31%. The next largest, Texas, was at 26%.[17]

Medicare Enrollment. The study found that the share of the state population enrolled in Medicare was also associated with relatively higher per capita health care spending levels. Medicare beneficiaries are primarily individuals that are over the age of 65 and tend to require more health care goods and services. Similarly, Medicare beneficiaries that are under the age of 65 have a qualifying disability and require more long-term care. Both of these populations tend to have higher per capita health spending than a non-senior, non-disabled individual. Utah fits this pattern; in 2014 the state had the 2nd lowest Medicare enrollment.[18]

However, by 2065, approximately 20% of Utahns are expected to be eligible for Medicare.[19] While Medicare is entirely funded by the federal government, this will likely increase the demand and utilization of certain health care services.

Medicaid Enrollment. In 2014, Utah had the nation's fourth lowest Medicaid enrollment. Relatively lower enrollment in Medicaid is another indicator of lower health spending, although less so than Medicare. This is because some beneficiaries of Medicaid are aged or disabled and spending per capita for seniors and the disabled is substantially higher than adults and children. In 2014, although only 4% of total Medicaid enrollment in Utah was seniors and 12% was disabled, these two enrollment groups accounted for 54% of total Medicaid spending.[20] In Utah, per enrollee Medicaid spending for a senior was $11,462 and $19,375 for an individual with a disability.[21] This is compared to $3,403 for an adult enrollee and $2,482 for a child.[22]

Medicaid enrollment is particularly significant to consider as national health care policy determines the flexibility states can have when determining eligibility. In 2016, Utah expanded the income eligibility for parents (with dependent children) who earn up to 60% of the federal poverty level.[23] Utah also expanded Medicaid eligibility for childless adults who earn up to 5% of the federal poverty level and are also chronically homeless, involved in the justice system or need substance abuse treatment.

In late 2017, a Utah ballot initiative was filed to expand Medicaid eligibility for individuals earning up to 138% of the federal poverty level, the original

UTAH HOSPITALS AT A GLANCE

The Utah Hospital Association has a far-reaching membership, including: 42 community hospitals, a Veterans Administration regional hospital, two children's hospitals, a state teaching hospital, one rehabilitation hospital, two specialty hospitals, three substance abuse/psychiatric facilities, a state mental hospital and several county mental health clinics.

There are 6,548 beds. The University of Utah Health has the most beds (528), followed by Intermountain Medical Center (468) and Utah Valley Hospital (344). The hospital with the fewest beds is Blue Mountain Hospital (11) in Blanding.

Source: American Hospital Association Guide, 2016.

provision put forth under the Affordable Care Act.[24] This would both increase the percentage of the population enrolled in Medicaid and decrease the rate of the uninsured in Utah, possibly increasing Utah's per capita spending due to increased utilization of services.

Uninsured adults are far more likely to either delay health care or go without it altogether due to cost, which lowers overall total costs statewide.

It should be noted, however, that some of the cost associated with Medicaid expansion might be counterbalanced by certain economic benefits, such as increased economic activity through an increase in the demand for health care services and improved financial security for those previously uninsured.[25]

Hospital Beds. The cost study also found that an increase of one hospital bed per 1,000 people increased total personal health care spending per capita by 2.5%.[26] In other words, a higher concentration of hospital beds is associated with higher health spending due to increased utilization of those beds. One study also found the availability of hospital beds is positively associated with hospital utilization.[27] After controlling for need, demand and geography, the study found the more beds there are, the more likely it is that they will be utilized.[28]

To curb unnecessary supply of hospital facilities and beds, states in 1974 began implementing certificate of need programs. The basic assumption underlying these programs is that excess capacity stemming from overbuilding of health care facilities results in health care price inflation.[29] Price inflation can occur when hospitals cannot fill beds and therefore prices increase for the beds that are being used to cover costs. Utah is one of 14 states that do not have a certificate of need program.[30]

Hospital capacity planning is an important variable for Utah to consider for per capita and total state health care spending, particularly as Utah's population grows and ages. The new demand Utah will experience may also come in the form of outpatient services or residence-based long-term care.

Utah, as might be expected, in 2014 ranked second lowest in hospital beds per 1,000 people.

Uninsured Rate. In contrast to increased spending, the share of the population that does not have health insurance is associated with a relative decrease in total personal health care spending per capita.[31] Uninsured adults are far more likely to either delay health care or go without it altogether due to cost, which lowers overall total costs statewide.[32] Here again, Utah fits the pattern, joining a collection of exclusively sunbelt states with a high percentage of uninsured residents.[33]

These five variables related to spending are demonstrated in Figure 2. Compared to the national average, Utah's per capita personal income was lower, Medicare and Medicaid enrollment was lower, Utah had fewer hospitals beds per 1,000 people, and the state had a higher rate of uninsured.

Utah's Healthy Demographics

Utah's relatively strong health profile helps keep costs down. In 2016, the United Health Foundation ranked Utah eighth in the nation for the health of its population. Utah ranked as the number one state for overall health behaviors, due largely to an active population and low levels of smoking, obesity and alcohol abuse.

Furthermore, Utah enjoys a key demographic advantage: It has the lowest median age in the country – 30.8 years, compared to the national average of 37.9 years. In fact, the state with the closest median age, Alaska, is still significantly higher than Utah, at 33.9 years. Utah's relatively healthy, young and active population means a decreased need for health care.

Utah fits the pattern for five indicators of low health care costs.

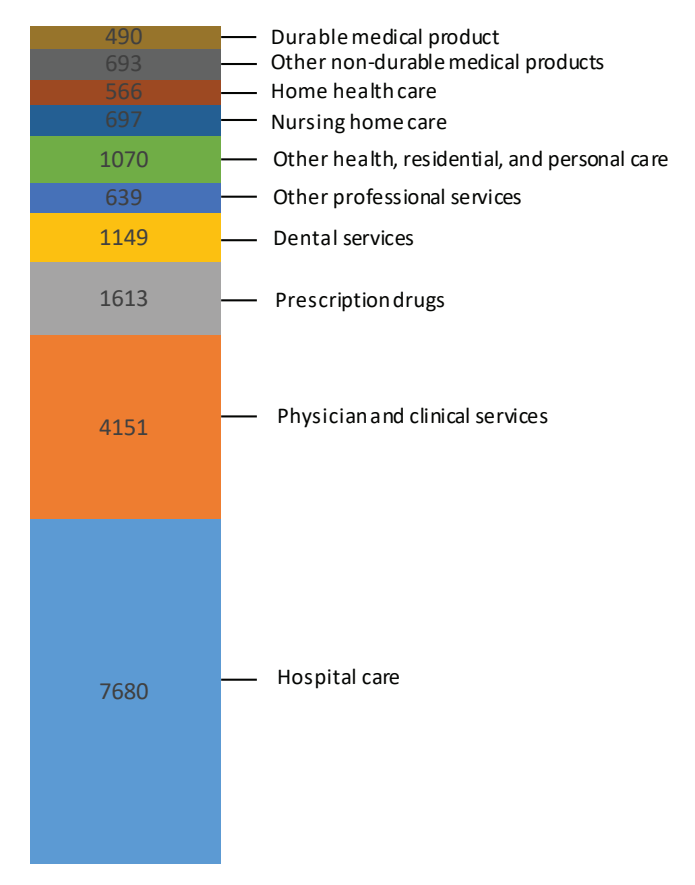
Figure 2: State Profile, 2014

Variables	U.S.	Utah
Per capita personal income	$46,494	$37,685
Medicare enrollment	17%	12%
Medicaid enrollment	26%	15%
Hospital beds per 1,000	2.5	1.8
Uninsured	10%	12%

Sources: Bureau of Economic Analysis, Kaiser Family Foundation, Census Bureau.

In 2014, Utah's health care costs totaled $18.8 billion.

Figure 3: Total Personal Health Care Spending by Service Category (in millions of dollars), 2014



Source: Centers for Medicare and Medicaid Services, State of Provider.

Utah's Overall Costs and Costs by Service Category

Per capita spending for almost every service category in Utah is also relatively low. For hospital care, only Arizona spent less per capita in 2014. Utah's low per capita hospital spending is likely due to Utah's hospital admission rates. Utah had the lowest inpatient hospital admission rate per 1,000 in the nation. Generally, inpatient hospital admissions account for the greatest proportion of hospital care costs, as opposed to outpatient services. Utah also had the shortest average length of hospital stay in the country.

Utah spent the least per capita on physician and clinical services. This might be in part because Utah is among the states with the highest percentage of adults (39%) who did not see a general doctor in 2014.[40] However, Montana had the highest percentage of adults who did not see a general doctor (48%), but had only the 13th lowest per capita charges. This suggests that while Utah had a substantial portion of adults who did not see a physician, prices for physician and clinical services are relatively less expensive. In fact, the Health Cost Institute found that in six out of nine primary doctor office visit scenarios in 2015, Utah's prices were lower than the national average.[41]

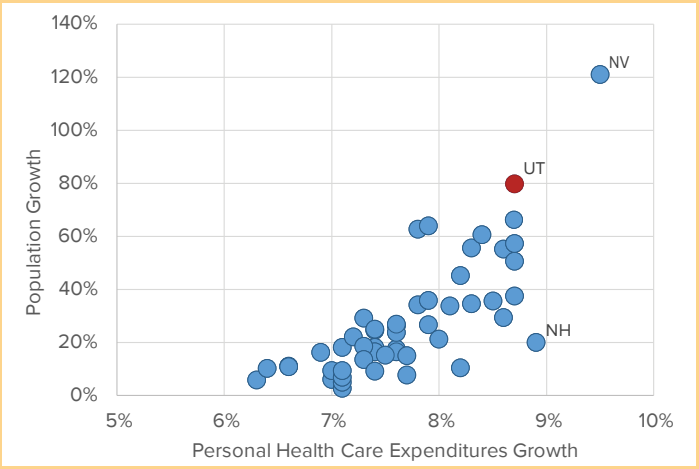
That said, Utah also has had one of the nation's highest average annual growth rates for total health care expenditures since 1991. Over the course of more than two decades, Utah's total personal health care expenditures had an average annual growth rate of 8.7%, the third fastest in the nation. One key factor is Utah's rapid population growth.

Figure 4 shows population growth is generally correlated with relatively higher rates in health care spending. For instance, Nevada had the fastest growth in total personal health care expenditures, and also had the fastest population growth in the na-

Utah has both rapid population growth and rapid growth in health care expenditures.

Figure 4: Average Annual Percent Growth for Personal Health Care Expenditures by Average Annual Percent Population Growth, 1991-2014

Source: Centers for Medicare and Medicaid, State of Provider; *U.S. Census Bureau.*



tion during that time period. But this pattern does not hold in all cases. New Hampshire, for instance, had the second fastest growth in health care, but relatively low population growth.

Hospital care and physician and clinical services make up nearly two-thirds of total health care costs in Utah – and that category also experienced some of the fastest growth. Utah was the third fastest-growing state for total hospital care spending and the 10th fastest growing for total physician services.[42] The fastest growing category in Utah was home health care, with nearly a 17% average annual growth rate from 1991 to 2014.[43] However, Utah's per capita spending growth for hospital care and physician services were not particularly high, ranking 25th and 36th respectively.[44] This might also be due to Utah's rapid population growth.[45]

HEALTH CARE COST DRIVERS

Health care costs are driven both by increases in provider prices and the increased utilization of services. The following discussion examines both of these factors with regard to Utah's health care spending growth. It primarily examines the rates hospital providers charge, rather than physician rates, due to data limitations.

The financial autonomy of hospitals and physicians produced the fee-for-service model. The fee-for-service model is a quantity-driven payment delivery system, whereby patients pay the cost of each individual good and service provided. This is the case for both hospitals and physicians.

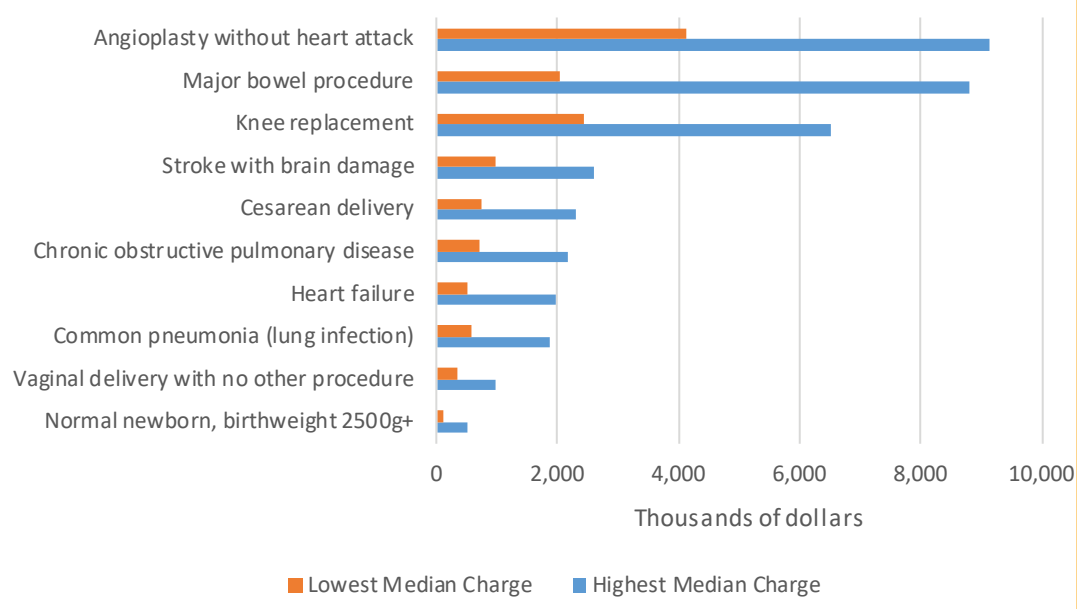
Provider Prices

Perhaps surprisingly, medical care prices can vary substantially within a single market depending on which hospital provides the service. Utah is not immune to these variations. In fact, the pricing variation among hospitals in Utah can be remarkable. (See Figure 5.)

For example, using the most recent data (2014) from the Utah PricePoint System, Utah Foundation found that a hospital in Weber County charged more than double what a hospital in Salt Lake County charged ($91,250 vs. $41,136) for an angioplasty (a surgical repair of a

Hospital charges in Utah can vary significantly.

Figure 5: Ten Most Common Types of Hospitalizations by Median Charge, 2014



Source: Utah PricePoint.

THE EVOLUTION OF MEDICAL SERVICES

In the U.S., the health care system functions through multiple models of care delivery and payment structures. Prior to 1900, however, personal health management was conducted through family medicine and local physicians in the community with minimal training. Early hospitals were mainly for the poor and offered little in the way of professional care. However, by the early 20th century, hospitals had proliferated into an important part of medicine and health care, expanding their reach to serve middle- and upper-class Americans.

Between the 1870s and 1920s, the number of hospitals increased from fewer than 200 to over 6,000, all of which operated independently, without any formal oversight, master plan or regulation. As hospitals evolved in size and finances, physicians worked directly with hospitals as the profession progressed. In 1904, the Flexner Report was published, providing a harsh criticism of the medical profession. It offered aggressive recommendations for improvements in training and education. As a result, the educational admitting process and curriculum became more advanced, and tended to focus more on (and reward) those that specialized.

Source: Abdelhak, Mervat, Sara Grostick, and Mary Alice Hanken, p.6.

blood vessel) with the same severity level. Utah Foundation could not attribute the difference to length of stay or quality of care.[46] Utah's PricePoint System provides a measure of cost transparency for services provided by every hospital in the state. However, the system does not analyze the range of prices to determine what cost levels are warranted or unwarranted. It should also be noted that a charge does not necessarily indicate the price paid. The price will vary depending on who is paying the bill (commercial insurer, Medicare, Medicaid or an uninsured individual).

Some policymakers have begun taking a closer look at price variations. For example, Massachusetts – which spends more per capita on health care than any state but Alaska – in 2016 created a Special Commission on Provider Price Variation. The commission's charge was to identify the acceptable and unacceptable factors contributing to price variation in physician, hospital, diagnostic testing and ancillary services.[47] In a 2017 report, the commission asserted that factors such as a measurably higher quality of care warrant higher prices, but factors such as hospital brand identity do not.[48]

There are a number of factors that affect hospital pricing. First off, the prices Medicare sets serve as a starting point for the "sticker price." That rate is never less than the rate Medicare reimburses, no matter the actual cost of the service. Otherwise, Medicare would pay the cheapest price. Then there are the rates negotiated with insurance companies, which are always more than the Medicare rate, but less than the "sticker price." Every provider has its own negotiated rate with each insurance company for each good and service. And finally, Medicaid also sets the rate it reimburses providers. However, Utah's Medicaid program has largely moved away from the fee-for-service model and into a flat monthly rate per enrollee regardless of what services are used.[49] Approximately 93% of Utah Medicaid enrollees are enrolled in this type of plan.[50]

The rate insurers pay and the "sticker price" paid by those without insurance who do not receive charity care serve as a means of cross-subsidization. The higher rates subsidize the lower rates received from Medicare, Medicaid and those who cannot pay. Cross-subsidization is a tool used to meet hospital expenses.

Utah's hospital expenses per inpatient day have consistently increased from 1999 to 2015 (years data are available), averaging a 5% annual growth rate, right in line with the national average.[51] However, for each year between 1999 and 2015, hospital operating expenses in Utah were more expensive than the national average. While hospital inpatient expenses are not a substitute for actual charges, the expenses represent increasing fixed costs hospitals pay for with rates charged to patients. One notable aspect of expenses hospitals incur is advanced medical technology.

Price Drivers

Medical Technology and Prescription Drugs. Medical technology has been identified as a key driver of rising health care costs in the U.S. during the past 10 years.[52] While the relationship between costs and medical technology is complex, one study suggests that the proportion of the annual cost increase that can be attributed to medical technology averages about 50%.[53]

Even at the low end, therefore, there's a steep price to pay for the benefits of new medical technology.

However, the estimates only approximate the collective effect of technology, as opposed to the effect of individual technologies, as some technologies will have cost-savings or be cost-neutral.[54]

Per capita prescription drug spending in the United States has been increasing in recent years far faster than inflation, mainly due to increases in prices for brand-name drugs.[55] While Utah saw low per capita prescription drug spending compared to the nation at large in 2014, and one of the slowest per capita average annual growth rates from 1991-2014, medical experts in Utah have speculated there is no reason to believe national prescription drug trends are not also occurring in Utah.

In some cases, the rising cost of medical technology has been accompanied by an increase in health care value. For example, from 1989 to 2015, death rates from breast cancer dropped 39%.[56] The decrease is largely attributed to improved preventative and treatment options.[57] Another example of the increase in value is with hepatitis C advancements. Medical providers can now cure the disease. However, the cost is high. One pharmaceutical company charges $1,000 per pill, or $84,000 for the full 12-week treatment course.[58] In 2014, spending on prescription drugs rose by 12.4% from the previous year, outpacing overall spending growth.[59] Centers for Medicare and Medicaid Services found the rapid growth was in part due to the new drug treatments for hepatitis C.

STRUCTURING HOSPITAL RATES

Within the fee-for-service model are different rates for the same service depending on who is paying the bill.

Payment Rate	Description
Chargemaster or "Sticker Price"	The "sticker price" is the list price for all billable items, such as: x-rays, aspirin, gauze pads, etc.
Commercial Insurer	Each insurer negotiates with each hospital for each billable item.
Medicare	Medicare sets the rate they are willing to reimburse providers. It is lower than the sticker price.
Medicaid	Medicaid sets the rate they are willing to reimburse providers. It is the lowest rate.
Actual Cost	This price represents the "true" cost of supplies, technology, time and labor. Some hospitals have not yet been able to quantify their actual costs.

Source: Emanuel, p. 73.

Overtreatment. While advanced medical technology has largely contributed to extending lifespans and improving quality of life, research indicates it is also largely overused.[60] A report by Centers for Medicare and Medicaid Services estimated 18% to 37% of total health care spending is wasted on overuse.[61] While the cause for the overuse – whether it is induced by supply or demand – is understudied, research suggests both parties have a role in the overuse of advanced medical technology.[62]

A number of studies have shown providers can cause overtreatment by overdiagnosing. In broad terms, overdiagnosis happens when a provider diagnoses a patient who has mild symptoms or has a very low risk for future illness. One study suggests overdiagnosing is a harmful practice that is growing in high-income countries where more sensitive tests, more testing, more screening and earlier diagnosis are growing in prevalence.[63]

For instance, one study estimated that on average, nearly 12% of stents for patients without an obvious need were are given to "inappropriate patients."[64] For some hospitals, that number was closer to 20%. In another example, since resolution increased in CT scans in the 1990s, the number of persons treated for blood clots has doubled since 1998, with no reduction in mortality rates as result.[65] In fact, the treatment may have more risk of harm than good.

Some research speculates providers over-treat because of a desire to have an answer to a patient complaint. Providers may rely on diagnostic tests or consultations with specialists to deliver certainty, both of which are costly practices.[66]

Another frequently cited reason for overtreatment is the fear of being sued by a patient that was harmed because a test was not provided.[67] This is also known as "defensive medicine." A survey of providers found that 91% believed physicians ordered more tests and procedures than needed to protect against malpractice lawsuits.[68]

THE MEMBERSHIP MEDICINE MODEL

Some physician offices in Utah are moving away from the fee-for-service model and instead implementing the membership medicine model. Physicians who implement membership medicine, also known as direct primary care, do not accept health insurance, but rather cash-only or monthly "membership" fees. In exchange for the monthly fee, members can receive discounted medical services. For example, an individual membership with Medallus Medical is $45 a month for an individual and $100 a month for a family (capped at eight people), with a $10 flat rate per visit. This can be beneficial for patients who may require frequent care and are either uninsured or have a high-deductible plan. This model is beneficial for physicians as it provides a steady stream of income and reduces costs by eliminating the administrative complexity associated with paperwork for insurance programs.

Source: Medallus Medical.

In addition to overtreatment caused by the provider, it is possible patients are requesting unnecessary tests. As access to medical information continues grow, patients may approach physicians with a greater knowledge of potential diagnoses and specific requests for treatment. The requests may be based on misinformation, misunderstanding and anxiety. These occurrences, however, may not happen all that often.

For instance, a study of cancer patients found that only 8.7% of patients asked for a particular treatment.[69] Another study found more than half (54%) of respondents said they had not requested a brand-name drug over a generic drug.[70] A different report found that when patients do request brand-name drugs, approximately 40% of providers will prescribe the brand-name, even when a generic equivalent is available.[71] The same study found that physicians who received food, drinks and samples from pharmaceutical representatives were significantly more likely to submit to patient requests.

Consolidation. Market power is a significant factor in how providers set prices. Market power for providers and insurance companies alike helps dictate what prices will be. Consolidation is the chief means by which providers expand market power.

Provider consolidation enhances bargaining power against insurance companies during the price negotiation process. It can occur in three different ways: horizontal hospital consolidation (hospitals merge together into larger entities), horizontal physician consolidation (physician practices merge together into larger entities) and vertical consolidation (hospitals acquire physician practices).[72] According to one study, all three types of consolidation tend to yield price increases.[73]

From 2010 to 2016, national hospital merger and acquisition transactions increased by 55%.[74] The number of hospital and health system partnership transactions continued with an upward trajectory in the first quarter of 2017, with 27 transactions compared to 25 in the first quarter of 2016.[75]

In 2016, 90% of all metropolitan areas were considered "highly concentrated" hospital markets according to the Herfindahl Hirschman Index, a commonly accepted measure of market concentration.[76] The index measures hospital concentration based on hospital referral regions.[77] The more concentrated the market, the more consolidated.

Utah is primarily comprised of three hospital referral regions: Salt Lake City, Provo and Ogden. Provo and Ogden were both considered "highly concentrated," while Salt Lake City was considered "moderately concentrated."[78] One study found wide price variations among hospitals within a similar geographic area are due to the degree of provider market power.[79]

For instance, a cost trends and drivers report conducted by the Massachusetts Attorney General in 2010 found prices ranging up to 100% for the same service in that state.[80] The price variations could not be attributed to quality of care, the acuity of the population served, the payer mix or the status as an academic teaching hospital or research facility. Instead, the variation was explained by the negotiating leverage among the providers against insurance companies.[81]

Advocates for provider consolidation say economies of scale will allow providers to both

reduce costs and increase quality. They argue that increasing provider consolidation could make it easier to share electronic record systems, coordinate care of patients, eliminate redundant costs and reduce disparities in outcomes.[82]

There are a number of reasons why providers are looking to merge. In some cases, small not-for-profit hospitals may seek financial stability through increased capital and resources that larger organizations can offer. Providers may also be seeking the benefits of scale to offset any economic pressures from the increased IT and compliance regulatory costs since the passage of the Affordable Care Act, increasing costs of pharmaceuticals, the changing reimbursement structure from Medicare and the uncertainty surrounding national health care reform.

Regardless of the impetus for provider consolidation, studies have shown a strong link between the resulting decreased competition and higher prices for services. A commonly cited study by the Robert Wood Johnson Foundation found that when hospitals merge in already concentrated markets, the price increase often exceeds 20%.[83] One study of eight consolidated markets found that payment rates for inpatient care in 2010 was 147% to 210% higher than Medicare, with even higher costs for outpatient care (234% above Medicare in Cleveland and 366% in San Francisco).[84] In competitive markets, hospitals would not be able to sustain these kinds of increases in prices as purchasers would move to lower-priced providers.

AFFORDABLE CARE ACT PAYMENT REFORM

The Patient Protection and Affordable Care Act included a number of payment reform provisions to promote innovative payment methods. One of the earliest provisions was meant to slow growth in fee-for-service payment levels for Medicare. The goal is to relieve some pressure for the Medicare Trust Fund, and to send clear signals to providers that adoption of high-quality care, rather than high-quantity care, would be rewarded through incentive programs. The Affordable Care Act lowered annual increases in Medicare payment rates for hospitals in the hope that uncompensated care costs would be reduced due to the increase in insured adults. The law also targeted quality improvements by imposing financial penalties on hospitals with high rates of hospital-acquired conditions and readmissions. While all of these provisions were implemented seeking long-term, systemic change in the way health care is organized and delivered, it is possible it has made smaller, less-equipped hospitals and providers more vulnerable to financial pressures, leading them to seek mergers with larger organizations.

Source: The Commonwealth Fund.

Administrative Complexity. The complexity of the U.S. health care system requires medical professionals to engage in time-consuming billing and administrative paperwork. In 2017, most physicians (57%) reported spending more than 10 hours per week on paperwork, with 19% of them reporting spending 20 hours or more.[85] The hours that medical professionals and staff devote to paperwork can significantly increase the overhead costs that need to be recouped through provider rates.

For instance, one health care official told Utah Foundation that a major Utah-based health provider has doubled its administrative compliance staff since the passage of the Affordable Care Act in 2010.

Hospitals are regulated by federal, state and local agencies, with nearly 30 agencies at the federal level alone involved in regulating hospitals.[86] There are more than 130,000 pages of rules and instructions for the Medicare and Medicaid program (three times the size the Internal Revenue Service Code and its federal tax regulation).[87] Regulations, coupled with the fragmentation of the health care and health insurance model, can produce a sea of paperwork for each patient seen.

Utilization of Services. During the same time period that per inpatient hospital expenses were increasing, hospital utilization actually decreased in Utah. In 1999, there were 89 hospital admissions for every 1,000 people. In 2015, hospital admissions per 1,000 people decreased to 79 patients. Similarly, the amount of hospital inpatient days per 1,000 people in Utah has also decreased from 409 in 1999 to 343 in 2015.[88]

Nationally, the Health Cost Institute found that in 2015, prices for acute inpatient hospital care, outpatient care, professional services and prescriptions all increased, while utilization either decreased or increased only nominally.[89] Utilization of acute inpatient hospital care decreased by 3.8% from 2014 to 2015, while prices increased 6.6%.[90] Furthermore, the Office of the Actuary at Centers for Medicare and Medicaid Services projects increases in medical prices will drive overall health care spending growth through 2025.[91] In fact, growth in medical prices will be partially offset by projected decreases in the use and intensity of med-

THE ROLE OF HIGH-DEDUCTIBLE HEALTH PLANS

Nationally, enrollment in high-deductible health plans increased from 26.3% in 2011 to 39.3% in 2016. In 2016, high-deductible plans were defined as having an annual deductible of at least $1,300 for self-only coverage or $2,600 for family coverage.

These plans originally gained momentum in 2003 with the Medicare Modernization Act, which granted tax exemptions for funds set aside to pay for out-of-pocket medical expenses, most commonly known today as a Health Savings Account.

Proponents of a market-based consumer-driven health care model advocate for high-deductible plans as a strategy for making consumers more cost-conscious, which in turn could reduce utilization and health care spending.

A study from Health Affairs found health care spending and utilization have decreased as a result of these plans, including preventative care. The Commonwealth Fund found that 38% of adults with a $1,000 (or more) deductible reported at least one of these four cost-related access problems: not filling a prescription, not getting needed specialist care, skipping a recommended test or follow-up, or having a medical problem but not visiting a doctor or clinic. By contrast, 21% of adults with no deductible reported one of these problems.

Research shows that increasing consumers' cost-sharing reduces both necessary and unnecessary care use. This is concerning for consumers with chronic conditions, mental health disorders, long-term care needs that require regular health care intervention and those with an emergency. While these plans might be lowering costs in the short-term, it is possible costs in the long-term will increase as a result of consumers foregoing or delaying necessary medical care.

Source: Health Affairs, The Commonwealth Fund, National Center for Health Statistics.

ical goods and services.[92] The Health Research Institute at PricewaterhouseCoopers also suggests medical pricing will continue to be the primary driver of healthcare costs, as the growth in utilization has increased at lower average annual growth rates than price increases.[93]

However, this is not to say that utilization is not a driver of health care costs.

For certain categories of service, utilization may be the number one driver of spending. For example, total spending for the home health care category is expected to grow based on increased utilization. Nationally, home health is also the fastest growing category, and is expected to continue to grow faster than any other sector in personal health care. The increase in home health care will largely be driven by the growth of seniors, a population expected to require more home health care more often.[94]

A Growing Senior Population. The growth of the senior population is in part due to increased life-spans. The average life-span of a U.S. resident is nearly 79 years, compared to 69 years in the 1950s.[95] Longer life-spans were once due to reductions in infant mortality, driven by improvements in sanitation and public health, and advances in childhood diseases such as smallpox, polio and measles.[96] Over the past few decades, however, gains in life expectancy have been almost entirely realized at older ages because of medical advances in cancer and heart disease treatment. [97]

The senior population is also growing as the "baby boomers" enter Medicare. The "baby boomers" started turning 65 in 2011. The population of seniors in the U.S. is expected to increase at an average annual rate of 3% from 2010 to 2030. However, the last of this cohort will turn 65 by 2030, and from 2030 to 2050 the U.S. senior population is expected to increase at a rate of only 0.8% a year. The average annual growth rate of the "baby boomer" senior population from 2010 and 2050 will be no greater than the rate from 1950 to 2010.[98]

The Health Cost Institute found on average, costs are very high in the first year or two of birth and then drop significantly by age five.[99] Thereafter, health care costs generally increase with age.

However, the impact of an aging population on health care costs may not be as great as some perceive. One study found that the economic burden of aging in 2030 (when the "baby boomers" will be aged 66 to 84), should be no greater than the economic burden associated with raising large numbers of baby boom children in the 1960s.[100] This theory is consistent with other research that shows the cost at birth is approximately the same as a 64-year-old person.[101]

Costs thereafter, however, continue to increase with age. A study by the Kaiser Family Foundation found per capita spending increased with age until 96 and then began to decline, which suggests patients, families and providers are opting for less intensive and less costly end-of-life interventions.[102]

However, increased costs from longer life spans depends on health status. It turns out, U.S. seniors are not only living longer, but are generally living healthier. Since 2000, the percentage of adults aged 65 and older who were still in the workforce increased from 12.8% to 18.8%.[103]

This is likely because the duration of healthy old-age is increasing, due to in part to illness occurring in shorter and later periods of life.[104] In fact, increases in life expectancy have also been accompanied by more disability-free years.[105]

Living longer does not necessarily increase health spending so much as it postpones the amount spent closer to death.

These findings are also in line with the perspective of seniors. The United States of Aging Survey found more than three in four seniors aged 60 to 69 expect their quality of life to stay the same or get better over the next five to 10 years.[106] In other words, living longer does not necessarily increase health spending so much as it postpones the amount spent closer to death.

This is consistent with other work that shows seniors aged at least 80 years old account for a disproportionate share of Medicare spending.[107] The Kaiser Family Foundation found in 2011, 26% of Medicare enrollees were 65-69 years old and accounted for 15% of total spending, 32% were 70-79 years old and accounted for 30% of spending and 24% of enrollees were at least 80 years old and accounted for 33% of spending. Another study indicated that approaching death, rather than age, is more likely the main demographic driver of health care costs.[108]

Therefore, the prevalence of an older age cohort is a more relevant indicator of spending. Utah's population that was at least 80 years old in 2015 was 2.5% of the population.[109] By 2065, this population will comprise 7.3% of the population.

The Congressional Budget Office found spending for Medicare is growing in part because of rising enrollment, but mostly because of the rising costs per enrollee.[110] The study cites the emergence, adoption and widespread diffusion of new medical technologies and services as a central factor underlying the rise in per capita Medicare spending.[111] The study also found that although older adults have higher average medical expenses than younger adults do, the age composition of the population has not changed enough to account for much of the increase in per capita spending.[112]

Another study by the Congressional Budget Office projected health care cost growth for 2017 to 2047 for Medicare and also found projected growth to be mostly a result of rising health care costs per person rather than increased utilization from old age.[113]

Similarly, the Health Cost Institute examined age as a driver of health spending growth from 1930 to 2010 and also found age was not a main driver of health care cost growth. Specifically, the study found that aging demographics contributed less than 0.5% towards per capita national health care costs each year.[114]

CONCLUSION

Utah's spending on health care services is the lowest per capita in the nation. The state benefits from a young population with healthy habits and lifestyles. It also exhibits a set of factors that tend to correlate with lower expenditures: a per capita personal income that is lower than the nation at large; low enrollments in Medicare and Medicaid; a lower number of hospital beds than the nation at large; and a higher uninsured rate than the nation at large.

Yet costs continue to rise rapidly, both nationally and in Utah. Overall spending growth clearly relates to rapid population growth and the increased use of medical services that comes with more people. An aging population is another factor in health cost increases, though it may not be as big a factor as it is generally perceived to be.

Rather, per capita spending increases are being driven primarily by a number of other factors, including: the high cost of new medical devices and pharmaceuticals; overtreatment; consolidation among health care providers; and increasing administrative complexity. Therefore, it is critical that the public dialogue surrounding medical costs focuses squarely on these issues. The public should also pay close attention to the significant variations in prices for medical services among providers.

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