

The Cost of Health Care in North Carolina

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Health care costs in North Carolina are substantial, costing \$72.1 billion, or 15.2% of state gross domestic product in 2014. The purpose of this issue is to explore the causes of increased health care costs from a variety of perspectives and highlight current policy attempts to slow costs.

Rising health care costs are a perennial concern among health policymakers, politicians, insurance companies, health economists, health services researchers, medical providers, and patients. The health care market is so big that it affects nearly everyone's life in some way. Collectively, we spend an enormous amount of resources preventing, treating, and insuring ourselves against the financial consequences of negative health events.

Costs can be defined in a variety of ways. Economists prefer "opportunity cost," which assigns costs based on the value of the next best alternative use of the resources used. Cost can also refer to the price of a unit of care. We will focus on expenditures as our proxy. This, admittedly, combines prices and quantities of service and ignores non-market costs like lost productive time to seek treatment.

Nationally, in 2015, the Centers for Medicare & Medicaid Services estimated that we spent \$3.2 trillion on health care, representing 17.8% of gross domestic product (GDP) [1]. That means that about \$1 out of every \$6 of economic activity in our country goes toward health care. Not only do we spend a lot, but every year, we spend significantly more than the last; health care spending rose 5.8% from 2014 to 2015 [1].

What does the situation look like for North Carolina? On a per-person basis, health care spending is lower in the state compared to national expenditures: \$7,264 per person compared to \$8,045 in 2014 [2]. When summed over the state's population, total health care spending in 2014 was \$72.1 billion, representing 15.2% of state GDP. Broken down by payer, North Carolina has lower per-person spending for Medicare and private health insurance (\$10,260 and \$3,859 versus \$10,986 and \$4,551 nationally) but higher spending for Medicaid (\$7,225 versus \$6,815) [2].

Looking at statewide and national trends over the last 20 years, per-person expenditures have increased on average 2.6% annually above general inflation between 1997 and 2014 in North Carolina. Currently, health care expenditures account for 15.2% of state GDP, up from 11.0% in 1997. However, national and state trends show a slowdown in the growth of health care expenditures in recent years, concur-

rent with the passage of the Affordable Care Act (ACA) (see Figure 1).

Why Health Care Costs Matter

From the perspective of the entire economy, one person's medical costs are another person's income. For example, in North Carolina, health care is one of the fastest growing industries and employers. High paying jobs in pharmaceutical manufacturing, biotechnology, nationally-ranked teaching hospitals, and health insurance are a big draw for people to the state.

There are 3 major reasons that the levels and growth rate of health care spending are important. First, the market for health care differs in many significant ways from that of other markets. The first paper, in what has come to be known as "health economics," by Nobel laureate Kenneth Arrow enumerated several of these unique features (eg, incomplete information, price discrimination, barriers to entry for providers) [3]. These features often lead markets to "fail" in the sense that free trade among patients and providers will not lead to efficient outcomes (eg, too much medical care consumed). The main point here is that these market "failures" have led to massive levels of government involvement in the health care market (eg, providing insurance and services, regulation). Thus, decisions about health care spending are not purely private (eg, "Should I order Blue Apron this week?"), but a matter of public policy at the state and federal level.

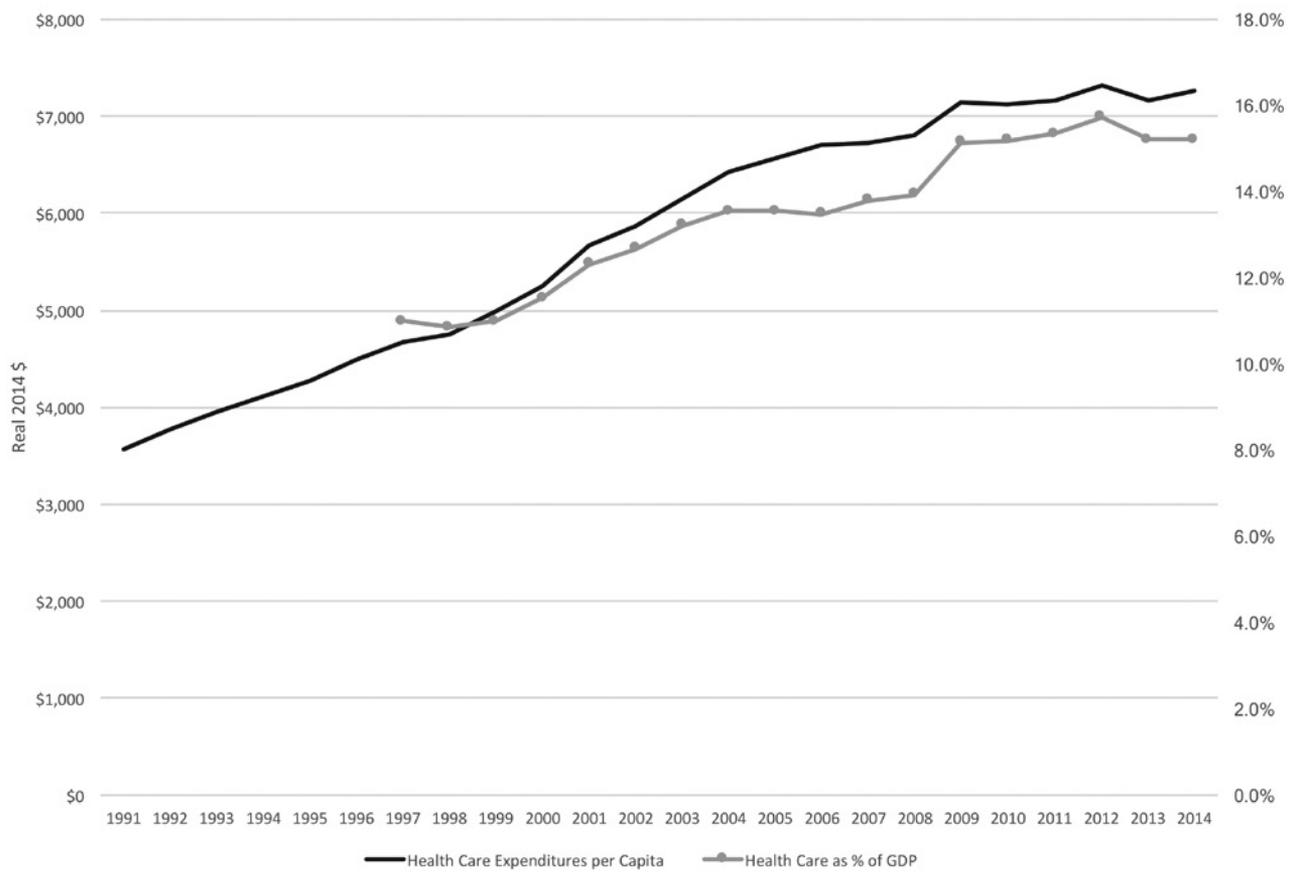
Second, health policy decisions involve major distributional issues. Who ultimately ends up paying for all this spending? Because of high levels of government involvement, almost half of health care spending (46%) is paid by public sources financed through taxes [1]. Our income tax system is progressive, meaning that higher income households pay a higher share of the taxes. However, our medical care safety net system for lower income households has massive holes in it. In 2016, 9% of the US population did not have health insurance, despite massive decreases in the uninsured rate after the ACA [4]. In North Carolina,

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FIGURE 1.
Health Expenditures in North Carolina



Source. Kaiser Family Foundation (per capita medical expenditures by state), the Federal Reserve (gross state product), and US Census (population).

11% of the population was uninsured, representing 1,087,000 people—the 8th highest uninsured rate in the nation [4]. Even those with health insurance are often underinsured, a problem highlighted in this issue by Oberlander [5]. Further, in a recent comparison of “silver” plans on the ACA marketplaces, North Carolina ranked 36th in the nation for health insurance costs [6]. The holes in the safety net can lead to serious financial stress, bankruptcy, and even death [7, 8].

Finally, if we are dedicating more and more of our collective resources to health care, we want to be confident that we are happy with what we get in return. International comparisons indicate that other developed, industrialized countries seem to have better population health outcomes at much lower levels of spending (either per capita or as a share of GDP). What about North Carolina? What are we getting in return? In 2014, the state’s health care spending per person ranked 43rd in the country [2]. Our health metrics are also comparatively low. According to United Health Foundation’s America’s Health Rankings, North Carolina is 32nd in the nation using their overall health index [9]. While the state scored well for immunizations, we ranked very low for the number of children in poverty (43rd), low birthweight babies

(41st), and infant mortality (41st). In fact, North Carolina ranked 30th or lower for all health outcomes: cancer deaths, cardiovascular deaths, diabetes, health disparities, frequent mental distress, infant mortality, premature death, and frequent physical distress. Thus, relative to other states, North Carolina ranks near the bottom for health care spending and health outcomes.

Purpose of Issue

The purpose of this issue of the NCMJ is first to explore the causes of increased health care costs from a variety of perspectives: societal/systemic causes, patients, insurers, and suppliers of health care. The importance of perspective (ie, whose cost?) will resurface in several of the papers included in this issue [8, 10, 11]. The second purpose of this issue is to highlight current policy attempts to slow costs while maintaining or improving access and quality of care.

Societal/Systemic Drivers of Health Care Costs

The first set of papers in this issue discuss systemic drivers of health care costs in North Carolina. Bush sets the stage by considering social determinants of health and health

care [12]. Social determinants are defined as “the structural determinants and conditions in which people are born, grow, live, work, and age” [13]. Social determinants include a large set of factors that extend past health care into public health and beyond. For example, research suggests that of all the factors leading to premature death, 90% of the factors are outside of health care and 60% are influenced directly by social determinants [12]. As Bush notes, “social determinants include whether you live in a safe neighborhood, whether you live in adequate housing, what you eat, and whether you have clean air to breathe and clean water to drink” [12]. The article makes important claims as to the importance of social determinants for population health and as potential targets for public policy.

Examining social determinants is one way to maintain a broad perspective in debates about controlling health care costs, which is significant for at least 2 reasons: to keep the focus on the goal of better health and because system-wide solutions have the potential to affect primary drivers of health for large parts of the population. However, to be effective, policies to address social determinants of health must address 2 major challenges. First, institutional incentives are currently not constructed to reward work across jurisdictional “silos.” Second, although the potential reach and benefits of system-wide policies are indeed large, the cost of truly changing those systems must also be taken into account. Together, these challenges can stymie change because the costs of action are concentrated to a few agencies, but the benefits are diffuse in the population.

Costs also vary depending on region. Williams and Holmes focus on health care costs in rural North Carolina, with geography being a major determinant of health and spending [10]. They define alternative measures of costs, emphasize the importance of perspective again, and identify several reasons why health care costs may be higher in rural settings: higher fixed costs, demographics and health status, insurance status, and the supply and mix of medical providers. They then go on to present new evidence on the relative spending in metropolitan and non-metropolitan (rural) areas. Finally, they discuss several federal policies and programs that are currently in the midst of major change that may disproportionately affect medical costs for rural North Carolinians.

Another driver of health care costs to consider, particularly with its historical role in North Carolina, is tobacco. Mills and colleagues provide a broad perspective on the tobacco industry in the state, a leading cause of medical expenditures, and incorporate broader economic impacts of tobacco control policy [14]. They make the case that, despite rapid declines in smoking in recent decades, tobacco is still a major cause of morbidity, mortality, and medical costs in North Carolina. They provide compelling evidence that the costs to tobacco control are minimal in terms of lost employment, but the benefits can be large in the form of tax revenue and reduced medical expenditures. Finally, in keep-

ing with our broad, systemic focus, they discuss the need to consider how to transition tobacco farmers and workers to new industries (eg, pharmaceuticals, health care, technology, other crops, and manufacturing).

Health Care Costs from the Patient’s Perspective

Patients often bear the brunt of rising health care costs through higher insurance premiums, out-of-pocket expenditures, medical debt, and bankruptcy. The “Spotlight on the Safety Net” column by Bailey describes the legal counseling offered by the Charlotte Center for Legal Advocacy to help low-income North Carolinians avoid financial ruin due to medical bills [15]. Sloan and Zafar provide evidence that out-of-pocket spending has increased for all of us, and especially for cancer care, in terms of dollars and as a percentage of income [8]. They then go on to discuss several policies to address the patient financial burden created through expensive treatment and increasingly less generous insurance. These policies, discussed in terms of cancer care, but also applicable to other types of care, include low-income subsidies, rebates, patient assistance programs, hospital-based financial assistance, drug price negotiation (from Medicare), outcome-based pricing, alternative payment models, and increasing physician awareness. This last strategy, increasing physician awareness and willingness to include discussions of finances with patients in the clinic, is an extension of shared decision-making. Efforts to increase shared decision-making align with many patients’ goals when seeking care [16]. It also highlights a potential role for providers and patients in reducing medical expenditures through choosing more cost-effective treatments.

More broadly, can patients be part of the solution to rising health care costs by becoming better shoppers? Two papers in this issue appear to come to different answers to this question. Sevier is more optimistic about the ability of patients, as consumers, to exert pressure on health care markets to lower price and/or increase quality [16]. She draws an analogy to the revolution in comparison-shopping seen in such industries as travel (eg, Kayak, Travelocity), restaurants (eg, Yelp), and to some extent even for physician services (eg, RateMDs.com). The idea is that more informed patients with higher expectations for service would force competition for their health care amongst providers.

A major challenge for patient/consumer engagement to work is that health care markets have incomplete information about prices and quality. Riley summarizes the effects of this incomplete information on the likelihood that patient shoppers can put downward pressure on medical prices [17]. For example, while some price transparency tools are available, they are under-utilized. In addition, the lack of information on quality is a main reason policies intended to incentivize patients to be more responsive to price through higher deductibles and copays have led to patients cutting back care across the board. Patients do not seem to be able to tell which types of care are worthwhile. Riley concludes,

“Health care consumerism offers limited potential for system-wide cost containment and presents significant pitfalls for patients.”

Health Care Costs from the Provider’s Perspective

This issue also examines health care costs from the perspective of key players in the provision of health care and health insurance. The article by Ernecoff and Stearns is at the intersection of patient and physician perspectives and focuses on costs at the end of life [18]. End-of-life care costs are significant, although not the primary driver of health care expenditures, and necessitate difficult discussions about the goals of care and the “provision of preference-sensitive care” [18]. Their discussion of the challenges involved in end-of-life care harken back to the focus on systemic causes, including considerations of payment models and the supply of caregivers, formal and informal. They also provide several examples of ongoing studies to include palliative care, aimed at pain and symptom management and advanced planning, in more care settings in North Carolina.

The article by Easter and Thorpe analyzes the role of pharmaceuticals in health care costs [19]. Drug prices have risen dramatically over the last couple of decades and often are at the center of current health policy debates [20]. Although spending on pharmaceuticals is high, Easter and Thorpe propose that we could save on health care costs in total if we used pharmaceuticals better. Reducing under-, over-, and misuse of medications could prevent further downstream health costs (eg, unnecessary ED visits or hospitalization for underuse, complications of polypharmacy, and serious and even fatal complications of treatment). While there are many policies available, all involve significant trade-offs. Policies aimed at drug pricing will require structural changes to the way pharmaceutical markets are regulated, which involves many political stakeholders. Policies aimed at spending share some drawbacks to other efforts to make patients more price sensitive, such as indiscriminate cutting back on medications regardless of effectiveness. However, the involvement of physicians and health policy experts in the development and execution of the protocols could help incentivize the use of more cost-effective therapies over less cost-effective ones.

The Jones and Horner article transitions to health care costs from the perspective of a major insurer in North Carolina, the State Employee Health Plan (SEHP) [21]. The article describes the challenges faced by the SEHP and how they are addressing those challenges. The SEHP must balance ways to cover rising costs (eg, increasing premiums and out-of-pocket costs for beneficiaries) against their fiduciary standard to protect the financial interests of their members. The article highlights several recent changes that have helped reduce the growth in medical costs, including Medicare Advantage and a new pharmacy benefits manager contract with a closed, custom formulary. Future plans focus on technology to improve case management (eg, telehealth)

and coordination of care (eg, primary care engagement).

Insurance markets generally have seen massive changes due to the ACA. North Carolina chose not to expand Medicaid to cover all households between 100%-138% of the federal poverty level. Nor did North Carolina choose to operate their own marketplace exchange for the individual health insurance market. However, eligible North Carolinians can still use the federal marketplace, and Oberlander [5] highlights the important problem of underinsurance. He also asks whether the ACA has made health care more affordable. Short answer: no. The article is worth reading for the longer answer.

Value in Health Care

In a closing commentary, Wheeler and colleagues circle back to the question of value in health care [11]. We want to be confident that we are happy with what we are getting in return for our money. However, value is in the eye of the beholder. The article discusses what value means to different stakeholders, and the authors ultimately make 4 recommendations: 1) more consideration of the patient perspective with respect to value, 2) frank discussions of trade-offs, 3) emphasis on reducing low-value treatment, and 4) use of objective evidence on value [11].

Conclusion

High and rising health care costs continue to be a challenge for North Carolina with no easy solutions. This journal issue attempts to examine the problem of rising health care costs from a variety of perspectives within the state. Each article discusses some policy approaches to control costs while maintaining (or improving) quality. While none of these policies is likely to solve the problem in isolation, we can hope that the aggregation of marginal gains [22] from several strategies will add up to substantial improvements. North Carolina has an important role to play in addressing the issue of health care costs. We have a diverse population, a large health care sector, including drug and device manufacturers, and the research base to innovate. **NCMJ**

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References

1. Centers for Medicare & Medicaid Services. National health expenditure data. CMS website. <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html>. Accessed December 4, 2017.
2. Lassman D, Sisko AM, Catlin A, et al. Health spending by state 1991-2014: measuring per capita spending by payers and programs. *Health Aff (Millwood)*. 2017;36(7):1318-1327.
3. Arrow KJ. Uncertainty and the welfare economics of medical-care. *Am Econ Rev*. 1963;53(5):941-973.
4. The Henry J. Kaiser Family Foundation. Health insurance coverage

- of the total population. Kaiser Family Foundation website. <https://www.kff.org/other/state-indicator/total-population/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>. Accessed December 4, 2017.
5. Oberlander J. Hard promises: has the ACA made health care more affordable? *N C Med J.* 2018;79(1):58-59 (in this issue).
 6. Kirkham E. 10 best and worst states for health insurance costs. *GOBankingRates* website. <https://www.gobankingrates.com/taxes/10-best-worst-states-health-insurance-costs/>. Published January 20, 2016. Accessed December 4, 2017.
 7. Ramsey SD, Bansal A, Fedorenko CR, et al. Financial insolvency as a risk factor for early mortality among patients with cancer. *J Clin Oncol.* 2016;34(9):980-986.
 8. Sloan C, Zafar SY. Ask early and ask often: how discussing costs could save your patient's life. *N C Med J.* 2018;79(1):39-42 (in this issue).
 9. United Health Foundation. 2016 annual report. America's Health Rankings website. <https://www.americashealthrankings.org/explore/2016-annual-report/state/NC>. Accessed on December 4, 2017.
 10. Williams D Jr, Holmes M. Rural health care costs--are they higher and why might they differ from urban health care costs? *N C Med J.* 2018;79(1):51-55 (in this issue).
 11. Wheeler SB, Spencer J, Rotter J. Toward value in health care: perspectives, priorities and policy. *N C Med J.* 2018;79(1):62-65 (in this issue).
 12. Bush M. Addressing the root cause: rising health care costs and social determinants of health. *N C Med J.* 2018;79(1): 26-29 (in this issue).
 13. Marmot M, Friel S, Bell R, Houweling TA, Taylor S; Commission on Social Determinants of Health. Closing the gap in a generation: health equity through action on the social determinants of health. *Lancet.* 2008;372(9650):1661-1669.
 14. Mills SD, Kurtzman R, Golden SD, Kong AY, Ribisl KM. Cultivating new directions: the changing role of tobacco in North Carolina's economy. *N C Med J.* 2018;79(1):30-33 (in this issue).
 15. Bailey M. Charlotte Center for Legal Advocacy. *N C Med J.* 2018;79(1):70-71 (in this issue).
 16. Sevier CH. How relevant do we want to be? *N C Med J.* 2018;79(1):35-36 (in this issue).
 17. Riley B. Can consumers be smarter health care shoppers in the quest for cost containment? *N C Med J.* 2018;79(1):34-38 (in this issue).
 18. Ernecoff NC, Stearns SC. Costs at the end of life: perspectives for North Carolina. *N C Med J.* 2018;79(1):43-45 (in this issue).
 19. Easter JC, Thorpe K. The multi-billion dollar drug-sensitive spending opportunity. *N C Med J.* 2018;79(1):46-50 (in this issue).
 20. Frakt A. Even talking about reducing drug prices can reduce drug prices. *NYTimes.com.* <https://www.nytimes.com/2016/01/19/upshot/even-talking-about-reducing-drug-prices-can-reduce-drug-prices.html>. Published January 18, 2016. Accessed December 4, 2017.
 21. Jones D, Horner B, Collins M. The North Carolina State Health Plan for teachers and state employees: strategies in creating financial stability while improving member health. *N C Med J.* 2018;79(1):56-61 (in this issue).
 22. Harrell E. How 1% performance improvements led to Olympic gold. *Harvard Business Review* website. <https://hbr.org/2015/10/how-1-performance-improvements-led-to-olympic-gold>. Accessed December 4, 2017.