

From the Desk of Robert F. Graboyes

February 28, 2019

Chairman Lamar Alexander
United States Senate
455 Dirksen Office Building
Washington, DC 20510

Chairman Alexander,

It is a pleasure to respond to your call for ideas on rising healthcare costs. Twenty-first-century technologies offer an unprecedented opportunity to provide better health for more people at lower cost, year after year. The federal government has important roles to play in this quest, including giving states and entrepreneurs incentives to experiment and discover new ways of providing care.

This letter addresses three questions:

1. *Is America's healthcare system broken?* High costs and less-than-ideal health imply challenges, not a broken system.
2. *Why do Americans spend so much?* America's high healthcare costs stem not so much from the healthcare system itself, but rather from macroeconomic fundamentals—high income, high wealth, and low saving rates.
3. *What are America's biggest opportunities?* Lower costs and better care depend largely on changes in the delivery system, which depend heavily on state laws and regulations. The most promising avenues involve shifting to less expensive modes of care: nonphysician providers, intelligent machines, and patient self-care in place of expensive physician labor; fewer brick-and-mortar facilities; remote providers for greater scale economies.

The federal government can play a crucial role in encouraging states and entrepreneurs to develop more efficient modes of care. There are two parts to this story:

- Stop applying nonsolutions to nonproblems: American healthcare is imperfect, not broken. Gloomy assumptions lead to a panicky search beyond America's borders for easy solutions. America can learn from other countries, but it is not and cannot be Canada or Switzerland.
- Start giving states and entrepreneurs incentives to allow delivery system innovation: States have considerable power to encourage innovation. Promising opportunities include (1) telemedicine, (2) expanded use of nonphysician providers, (3) greater hospital competition, (4) novel organizational structures for primary care, (5) increasing use of artificial-intelligence-based diagnostics and monitoring, and (6) use of unmanned aerial systems to deliver drugs, blood products, and other medical goods.

Consider this real-life parable: In India, Narayana Health System's 20 hospitals provide cardiac bypass operations for just over \$1,000, versus \$100,000 in the United States. Their success rates and quality of care equal or surpass almost any hospitals in the world. Narayana has opened a hospital in the Cayman Islands in partnership with America's Ascension system. Narayana's CEO, Dr. Devi Shetty, has said, "The best location to build a hospital on the planet today is a ship that is parked in the US waters just outside its territory. . . . The site at the Cayman Islands is the closest approximation that fits the bill." America should study how this visionary innovator achieves such economies and ask why he and his American partners feel compelled to serve American patients from beyond the reach of American law and regulation.¹

Is America's Healthcare System Broken?

The raw facts are endlessly repeated: America spends more than any other country on healthcare in the aggregate, per person, and as a percentage of gross domestic product (GDP). In 2017, national health expenditures were \$3.5 trillion—\$10,739 per person, or 17.9 percent of GDP.² Statistics indicate that America falls short of many other developed nations in certain health metrics. For example, official statistics say that 5.9 American infants per 1,000 die in their first year, versus, say, 3.6 per 1,000 in Switzerland.³ The Organisation for Economic Co-operation and Development (OECD) shows average life expectancy in America to be 78.6 years, versus Switzerland's 83.7 years.⁴

Many people use these raw numbers to paint a dire picture that America's healthcare system is in crisis; that its high levels of spending result from shortcomings of its healthcare sector and are unsustainable; that American care is unusually rife with waste, fraud, and abuse; that Americans receive inferior care; and that America should restructure its system to resemble those of Europe or Canada.

The Institute of Medicine (IoM) estimated in 2012 that American healthcare wastes \$750 billion per year—30 percent of total healthcare spending.⁵ Many readers took IoM's estimate (and other similar claims) to mean that huge savings are readily available with no loss of quality of care, if only America manages things just right. Unfortunately, these breathtakingly large estimates are more mirage than reality. As health policy experts Sherry Glied and Adam Sacarny write,

The potential for waste in the health care system is indisputable, and it makes sense to be ever vigilant in addressing it. But it is all too easy to over-state the potential savings from eliminating waste. While situations where things could work better—often labeled as waste—are omnipresent in the health care system, the steps needed to eliminate these instances of waste are often challenging, and in many cases, the cost of the cure is likely to be greater than the cost of the disease. The health care sector does not seem to be worse at eliminating waste than are other sectors, where many of the factors ostensibly generating excess health care waste are not in play. Supposedly pain-free treatments to raise the productivity of the health care sector are few and far between. The most

¹ Soma Das, "Devi Shetty Opens Low-Cost Healthcare Venture in Cayman Islands outside US Regulatory Reach," *Economic Times*, February 24, 2014; Robert F. Graboyes, "High Quality and Low Price Converge at Narayana and Health City Cayman Islands," *Inside Sources*, September 13, 2017.

² Centers for Medicare & Medicaid Services, "NHE Fact Sheet," December 6, 2018, <https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nhe-fact-sheet.html>.

³ Organisation for Economic Co-operation and Development, "Infant Mortality Rates," accessed February 9, 2019, <https://data.oecd.org/healthstat/infant-mortality-rates.htm>.

⁴ Organisation for Economic Co-operation and Development, "Life Expectancy at Birth," accessed February 9, 2019, <https://data.oecd.org/healthstat/life-expectancy-at-birth.htm>.

⁵ Institute of Medicine, *Best Care at Lower Cost: The Path to Continuously Learning Health Care in America* (Washington, DC: National Academies Press, September 6, 2012).

commonly touted examples, like electronic medical records and care coordination, remain backed by scant evidence.⁶

While American healthcare has plenty of problems, all these suppositions can be refuted or moderated by careful examination of data. The problems America has are not so much those of waste, fraud, abuse, profligacy, inefficiency, or incompetence. Rather, they are remediable problems of missed opportunities.

Why Do Americans Spend So Much?

Americans' high level of spending results not so much from factors specific to the healthcare sector, but rather from the fact that Americans have high incomes, high accumulated wealth, and low rates of saving. As a percentage of household consumption (as opposed to GDP), American healthcare spending is relatively in line with that of other countries.⁷ Reforming American healthcare will not alter these macroeconomic fundamentals.

Canada's Fraser Institute noted that 2013 per capita healthcare expenditures were \$9,086 in the United States and \$4,569 in Canada (17 percent of GDP in America versus 11 percent in Canada).⁸ But the Fraser Institute's point was that these numbers do *not* constitute a crisis for America. America's 2013 per capita GDP was \$53,135; Canada's was \$42,701. In income terms, Canadians are 20 percent poorer than Americans. The average American who spends \$9,086 on healthcare still has \$44,049 left over for food, shelter, clothing, roads, military, entertainment, etc. The Canadian spending \$4,569 on healthcare only has \$38,132 remaining for other items. If Canada is not in crisis with \$38,132 per person after healthcare, then it is strange to argue that Americans, with \$44,049 after healthcare, are in crisis. Simply put, Americans spend a lot on health not because their healthcare providers are greedy or inefficient, but rather because Americans are blessed by unparalleled wealth.⁹

America's health status shortcomings are also largely explained by factors outside of healthcare. By one typical estimate, 11 percent of health variation is explained by medical care.¹⁰ By that same estimate, 36 percent of that variation is owing to individual behavior (drug use, motor vehicle behavior, etc.). Twenty-four percent results from social circumstances (incarceration, religious involvement, family status, etc.). Twenty-two percent comes from genetics and biology (heredity, nutrition, etc.). Seven percent is explained by environmental factors (pollution, allergens, etc.). One 2006 study suggested that if one filters out instantaneous deaths by homicide, suicide, or accidents—events largely unrelated to healthcare—America would have the longest lifespan of any OECD country.¹¹ America's infant mortality rate is higher than some other countries' rates, in part, because it fully airs its statistical dirty laundry, whereas other countries underreport infant deaths by falsely categorizing many as stillbirths.¹²

⁶ Sherry A. Glied and Adam Sacarny, "Is the US Health Care System Wasteful and Inefficient? A Review of the Evidence," *Journal of Health Politics, Policy and Law* 43, no. 5 (2018): 739–65.

⁷ Peter Laakmann, "The Price is Right," *National Review*, October 16, 2017; Laakmann, "Unique Features of the US Health Care System Are Unlikely To Be a Major Cause of High US Health Spending (Abbreviated Version)," *Empirical Scrutiny*, September 26, 2017. These are must-reads for this unconventional view of spending.

⁸ John R. Graham, "The Reality of U.S. and Canadian Health-Care Spending," *Fraser Forum*, March 31, 2016.

⁹ A detailed and impressive statistical exploration of this argument is found here: "Disposable Income Also Explains US Health Expenditures Quite Well," *Random Critical Analysis*, April 13, 2017.

¹⁰ Edwin Choi and Juhan Sonin, "Determinants of Health," *GoInvo*, November 15, 2018.

¹¹ Robert L. Ohsfeldt and John E. Schneider, *The Business of Health: The Role of Competition, Markets, and Regulations* (Washington DC: AEI Press, 2006). This estimate is methodologically controversial but at least suggests that a significant portion of America's longevity deficit may result from violent deaths, over which the healthcare system has little influence.

¹² Nicholas Eberstadt, *The Tyranny of Numbers: Mismeasurement and Misrule* (Washington DC: AEI Press, 1995). Eberstadt notes that the sizable difference between Swiss and American infant mortality rates could be almost entirely explained by Swiss underreporting of infant deaths.

If America seeks to adopt other countries' healthcare systems like off-the-rack suits, then Americans are bound to be disappointed. Yes, Canadians spend less on care than Americans do, but mostly for reasons that are not replicable in the United States. Consider an analogy: In 2018, a Big Mac hamburger cost \$5.51 on average in the United States and \$5.07 in Canada.¹³ That 8.7 percent difference does not represent inefficiency or profligacy or failure in the United States. It simply represents different market conditions. Adopting a "Canadian-style hamburger system" in America will not bring those prices any closer together. One factor that makes Canadian healthcare less expensive than America's is the fact that Americans pay doctors more than Canadians do. In 2008, primary care physicians (family doctors, internists, obstetrician/gynecologists, and so forth) earned 50 percent more on average in America than in Canada—\$186,582 versus \$125,000.¹⁴ (The differences were even larger in some specialties.) One possible reason Canadian doctors accept \$125,000 per year is that alternative opportunities for highly intelligent, deeply motivated individuals may be more limited in Canada than in America. Offer physicians \$125,000 in the United States, and would-be medical students will choose careers in law, finance, or information technology instead.

What Are America's Biggest Opportunities?

The more one dives into the numbers, the more obvious it is that the sky is not falling on American healthcare. But America could still do far, far better than it does at present. A traditional assault on waste, fraud, and abuse will almost certainly leave Americans disappointed. Though all three problems exist in American healthcare, their severity and solvability are likely exaggerated in the minds of many medical professionals and laypeople. Unless America allows markets to find new and innovative ways of delivering care, the cost of reducing waste, fraud, and abuse will almost certainly eat away a large percentage of whatever savings America realizes through those efforts.

The real opportunities lie in changing the recipes by which the country delivers care. Americans' enemy is not so much waste, fraud, and abuse as it is stagnation—miring American healthcare in the technologies of yesterday. One way to get more bang for the buck is to substitute less expensive modes of care for more expensive ones:

1. A telemedicine visit by a patient may be less expensive for both doctor and patient than an in-office visit, and the ability to contact a doctor from one's own residence in the dead of night can lead to the early detection of serious problems. Yet some states throw up barriers against the adoption of telemedicine.¹⁵
2. In some states, relatively low-cost nurse practitioners, pharmacists, and others perform tasks that, in other states, require high-cost physician labor.¹⁶
3. In some states, certificate-of-need laws prevent new and innovative hospitals and other providers from competing with older, less efficient institutions or expanding coverage to underserved areas.¹⁷

¹³ Statista.com, "Big Mac Index - Global Prices for a Big Mac in July 2018, by Country (in U.S. Dollars)," accessed February 9, 2019, <https://www.statista.com/statistics/274326/big-mac-index-global-prices-for-a-big-mac/>.

¹⁴ Miriam J. Laugesen and Sherry A. Glied, "Higher Fees Paid to US Physicians Drive Higher Spending for Physician Services Compared to Other Countries," *Health Affairs* 30, no. 9 (2011): 1647–56.

¹⁵ Robert F. Graboyes, "Telemedicine as Lifesaver — Ian Tong and Doctor on Demand," *Inside Sources*, October 15, 2016; Robert F. Graboyes, "Telepsychiatry — Serving the Underserved," *Inside Sources*, October 9, 2018.

¹⁶ Edward J. Timmons, "Healthcare License Turf Wars: The Effects of Expanded Nurse Practitioner and Physician Assistant Scope of Practice on Medicaid Patient Access" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 2016).

¹⁷ Thomas Stratmann et al., "Certificate-of-Need Laws: How CON Laws Affect Spending, Access, and Quality across the States," Mercatus Center at George Mason University, August 29, 2017.

4. Direct primary care and other novel organizational structures can reduce costs and provide better care in some settings, yet some states erect roadblocks deterring the development of these novel delivery mechanisms.¹⁸
5. Artificial intelligence offers new and promising ways of diagnosing illness and monitoring patients, but America's healthcare system has been slow to make full use of these opportunities.¹⁹
6. In Rwanda, Tanzania, and Vanuatu, unmanned aerial systems are transporting blood products, drugs, and other medical goods at low cost—an especially important innovation in vast rural areas. The United States has barely begun to make use of this technology.²⁰

Many of these opportunities depend on state laws and regulations. Federal laws and regulations also have the capacity to expand or contract the states' leeway in these and other areas. One of the truly encouraging aspects of these ideas is that they can appeal to legislators on both sides of the aisle. America has seen surprising and heartwarming displays of bipartisanship on these issues in a number of states. That by itself is a rare gift in this era.

We at the Mercatus Center are pleased to offer research and encouragement in the six aforementioned areas. We wish you, your committee, and Congress much luck in your search for solutions.

Respectfully,

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Senior Research Fellow, Mercatus Center at George Mason University

¹⁸ Robert F. Graboyes, "Direct Primary Care — Rushika Fernandopulle and Iora," *Inside Sources*, November 30, 2016.

¹⁹ Robert F. Graboyes, "Patient as Diagnostician — David Albert and AliveCor," *Inside Sources*, September 28, 2016; Robert F. Graboyes, "The Invention of the Chicken and Innovation in Healthcare," *Inside Sources*, February 22, 2017.

²⁰ Robert F. Graboyes and Darcy Nikol Bryan, "Drones Delivering Medical Supplies and More Can Help Save American Lives," *StatNews*, January 18, 2019.

From the Desk of Jared Rhoads

February 28, 2019

Chairman Lamar Alexander
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Chairman Alexander,

Thank you for the opportunity to respond to your call for ideas on rising healthcare costs and to discuss telemedicine with you. Telemedicine is the provision of medical care or services at a distance, involving the use of information technologies or electronic communications.¹

There are two main categories of telemedicine: provider-to-provider telemedicine and patient-to-provider telemedicine. Provider-to-provider is the oldest and most prevalent type of telemedicine. It refers to physicians and other practitioners using communications technologies such as videoconferencing, secure email, or even the telephone to share information about patients and come to decisions about diagnoses and treatments. Using a digital camera to capture and share images (as in a nurse sending a photo of a patient's rash or wound to a remotely located physician) is also an example of this type of telemedicine, even though the two clinicians are not communicating in real time.

Patient-to-provider is a relatively newer type of telemedicine. It refers to patients communicating directly with their healthcare provider, whether it be a physician, a nurse, or another type of clinician. The electronic visit (or e-visit), in which a patient has an encounter with a physician by way of live videoconferencing, is the classic example of patient-to-provider telemedicine.

In the past ten years, the term *telehealth* has also emerged. For the most part, the terms telemedicine and telehealth are interchangeable.² Many people do not make a distinction. When a distinction is made, telemedicine tends to be used to refer to remote medical treatment of a specific disease or condition, and telehealth tends to be used to refer to remote health monitoring, tracking, and coaching (and other uses that imply less critical or less acute needs). Another related but narrower term, *mHealth*, has also appeared on the scene and refers specifically to mobile health technologies.

Early telemedicine can be traced back to at least the 1960s. For example, following an incident at Boston's Logan International Airport in 1960 in which crowded highways delayed the arrival of emergency personnel responding to a plane crash, physicians from Massachusetts General

¹ HealthIT.gov, "Telemedicine and Telehealth," accessed February 10, 2019, <https://www.healthit.gov/topic/health-it-initiatives/telemedicine-and-telehealth>.

² American Telemedicine Association, "Telemedicine Glossary," accessed February 9, 2019, <http://thesource.americantelemed.org/resources/telemedicine-glossary>.

Hospital set up an emergency medical station at the airport.³ From that point on, people needing urgent medical evaluation at the airport could be seen by a physician without delay. Across the country, early programs such as this one provided proof of concept for the telemedicine capabilities that we have today.

Today, most hospitals use some form of both the provider-to-provider type and patient-to-provider type of telemedicine. However, the sets of telemedicine services that are offered vary by facility, and overall adoption remains far short of its potential.

Review of Telemedicine's Effects on the Cost of Care

The literature on the effect of telemedicine on the cost of care is notoriously difficult to summarize and evaluate. Most commentators acknowledge the myriad intuitive arguments for telemedicine (e.g., e-visits reduce unnecessary emergency room visits, remote monitoring technologies catch patients' warning signs before their conditions deteriorate, and use of tele-neurologist consults reduces travel costs for rural patients). In addition, most cost-effectiveness studies find that telemedicine can reduce costs.⁴ However, academics are cautious to make broad generalizations about telemedicine's ability to reduce total healthcare costs because not all telemedicine programs are cost effective—some are too expensive in general or too expensive for certain subgroups and patient populations—and because it is difficult to study telemedicine as an industry-wide movement, since it can be deployed in so many different settings for different purposes.

Specific examples of telemedicine programs found to be cost effective include (1) a telemedicine-based intensive care unit program for sick patients across a large health system,⁵ (2) a telepsychiatry program for the delivery of cognitive behavioral therapy for bulimia nervosa,⁶ (3) a program of outpatient pulmonary consultations via telemedicine for rural patients,⁷ and (4) use of telemedicine for remote diagnosis of congenital heart disease for patients with atopic dermatitis.⁸

Specific examples of telemedicine programs not found to be cost effective include (1) a telemedicine-based collaborative care model designed to increase rural veterans' engagement in evidence-based treatments for posttraumatic stress disorder,⁹ and (2) a rural telemedicine-based collaborative-care depression intervention that was found to be effective but expensive.¹⁰

There are reasons to believe that the potential for telemedicine to reduce costs is better than the somewhat mixed literature implies. First, telemedicine programs that are evaluated in studies are typically being pilot tested or have been in place for fewer than two years.¹¹ They tend not to be mature programs in routine use (which is important because programs will become more efficient once they become standard care). Second, the success of a program at reducing costs depends

³ E. Thomas Ewing, "An Introduction to Methods, Tools, and Data from the Digital Humanities," *NIH Catalyst* 24, no. 4 (2016): 14.

⁴ Isabel de la Torre-Díez et al., "Cost-Utility and Cost-Effectiveness Studies of Telemedicine, Electronic, and Mobile Health Systems in the Literature: A Systematic Review," *Telemedicine and e-Health* 21, no. 2 (2015): 81-5.

⁵ Luisa Franzini et al., "Costs and Cost-Effectiveness of a Telemedicine Intensive Care Unit Program in a Large Health Care System," *Journal of Critical Care* 26, no. 3 (2011): 329.e1-329.e6.

⁶ Scott J. Crow et al., "The Cost Effectiveness of Cognitive Behavioral Therapy for Bulimia Nervosa Delivered via Telemedicine versus Face-to-Face," *Behaviour Research and Therapy* 47, no. 6 (2009): 451-3.

⁷ Zia Agha, Ralph M. Schapira, and Azmaira H. Maker, "Cost Effectiveness of Telemedicine for the Delivery of Outpatient Pulmonary Care to a Rural Population," *Telemedicine and e-Health* 8, no. 3 (2002): 281-91.

⁸ Ignatios Ikonomidis et al., "Cost-Effectiveness of Telemedicine for Remote Diagnosis and Management in Congenital Heart Disease during Two Years of Practice," *European Heart Journal* 22, supplement S (2001): 77.

⁹ Jacob T. Painter et al., "Cost-Effectiveness of Telemedicine-Based Collaborative Care for Posttraumatic Stress Disorder," *Psychiatric Services* 68, no. 11 (2017): 1157-63.

¹⁰ Jeffrey M. Pyne et al., "Cost-Effectiveness Analysis of a Rural Telemedicine Collaborative Care Intervention for Depression," *Archives of General Psychiatry* 67, no. 8 (2010): 812-21.

¹¹ De la Torre-Díez et al., "Cost-Utility and Cost-Effectiveness Studies."

greatly on how well it was implemented. Project management is not easy for any business. Thus, some of these negative findings could be attributed to factors other than telemedicine. Third and finally, some of the most successful telemedicine programs are unlikely to be written up in the literature (a form of publication bias), as the details about how they work represent a form of proprietary knowledge. In other words, hospitals in competitive markets might be reluctant to share the details of their cost-enhancing telemedicine programs.

Review of Telemedicine Effects on Quality and Access to Care

The state of the academic literature on the effect of telemedicine on quality and access to care is similar to the literature on cost effectiveness described above. Studies abound that demonstrate how care quality is preserved and access improved with telemedicine in particular programs for specific combinations of patients, diseases or conditions, and interventions. However, no metastudy sums up this issue for all of telemedicine in a way that would be helpful here.

Specific examples of telemedicine programs improving care quality, access to care, or both include (1) a program that offered low-cost and convenient care for patients with irritable bowel syndrome without compromising care quality,¹² and (2) a program that used telemedicine-based group psychotherapy to increase access to care for young adults with cancer.¹³

In the literature, quality and access are sometimes represented by “overall effectiveness.” Perhaps the broadest study of this topic—a review of 80 different reviews of telemedicine effectiveness—found that 21 reviews concluded that telemedicine is overall effective, 18 found that evidence is promising but incomplete, and the remaining 41 reviews found that evidence is limited and inconsistent.¹⁴

Telemedicine Accelerators and Inhibitors

The growth of telemedicine (and telehealth in particular owing to its emphasis on consumer involvement) is accelerated by the development and availability of inexpensive, high-functioning technologies and the unhampered ability of their users (healthcare providers and consumers alike) to experiment and develop new, value-added uses. For many years (from approximately the early 1960s to the late 1990s) telemedicine matured at a glacial pace. Institutional programs existed, but they were rare, and the high cost of the technologies involved rarely provided an opportunity for a sustained return on investment. Then, as personal computers, digital cameras, cell phones, and wearable devices became increasingly powerful and increasingly available, providers and consumers discovered they could connect in new and more efficient ways.

The main inhibitor of telemedicine development has been the sluggishness with which the medical and healthcare establishment has extended reimbursement practices to services delivered via telemedicine. As late as the 2000–2010 period, it was fair to argue that there was insufficient evidence to show that care and services delivered via telemedicine were consistently as clinically effective and cost effective as their traditional counterparts. Even after the rapid improvement in technological capability and precipitous fall in cost of the mid-2000s (to present) and the influx of studies showing success, however, payers and providers were slow to adopt the change. Private payers have been slow to adopt because to minimize risk and maximize predictability, their models of which services to pay for and how much to pay for them are highly tied to Medicare—and

¹² Shawn X. Li et al., “Delivering High Value Inflammatory Bowel Disease Care through Telemedicine Visits,” *Inflammatory Bowel Diseases* 23, no. 10 (2017): 1678–81.

¹³ Laura Melton et al., “Increasing Access to Care for Young Adults with Cancer: Results of a Quality-Improvement Project Using a Novel Telemedicine Approach to Supportive Group Psychotherapy,” *Palliative and Supportive Care* 15, no. 2 (2017): 176–80.

¹⁴ Anne G. Ekeland, Alison Bowes, and Signe Flottorp, “Effectiveness of Telemedicine: A Systematic Review of Reviews,” *International Journal of Medical Informatics* 79, no. 11 (2010): 736–71.

Medicare's acceptance of telemedicine has been gradual and conservative. Providers have been slow to adopt because, unless the payers agree to pay for a service delivered using telemedicine, it is better to see a patient in person (a service for which reimbursement is certain). Many providers who embrace telemedicine, despite not getting reimbursed for it, do so on the reasoning that it is "the right thing to do" for patients. Providers working under capitated arrangements sometimes justify it financially on the basis that they believe it will keep patients healthier, and thus savings will come back to them in the form of lower future costs.

Sincerely,

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From the Desk of Edward J. Timmons

February 28, 2019

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Chairman Alexander,

Thank you for the opportunity to respond to your call for ideas on rising healthcare costs and to discuss scope of occupational licensing regulations with you. Today, occupational licensing is the most important labor market institution in the United States. Over the course of the past 70 years, occupational licensing has gone from affecting 5 percent of the workforce to more than 20 percent today.¹ Occupational licensing is widespread in healthcare occupations—more than 40 percent of workers in the industry are licensed.² In addition to erecting barriers to enter health occupations, occupational licensing laws specify the tasks that nonphysician healthcare professionals are permitted to perform. These occupational licensing laws are known as “scope of practice” regulations. Nurse practitioners (NPs), for example, can provide safe and cost-effective primary care to patients. Unfortunately, differences in scope-of-practice regulations restrict this potential.³ Today, 22 states and the District of Columbia grant NPs full practice authority, permitting nurse practitioners to practice to the full extent of their medical training without the need for approval from a physician.⁴ The remaining states require NPs to enter into written collaborative practice agreements with physicians or require direct supervision of NPs, which greatly limits their potential to fill gaps in primary care. Several organizations including the Federal Trade Commission, National Governors Association, and the National Academy of Medicine have recommended that all states grant NPs full practice authority to allow them to assist with meeting growing demand for primary care.⁵

Research suggests that granting NPs full practice authority will not reduce the quality of healthcare. Granting NPs the authority to prescribe without supervision is found to have no effect

¹ Morris M. Kleiner, “Reforming Occupational Licensing Policies” (Discussion Paper No. 2015-01, Brookings Institution, Washington, DC, January 28, 2015).

² Bureau of Labor Statistics, “Data on Certifications and Licenses,” accessed February 3, 2019, <https://www.bls.gov/cps/certifications-and-licenses.htm>.

³ Ying Xue et al., “Full Scope-of-Practice Regulation Is Associated with Higher Supply of Nurse Practitioners in Rural and Primary Care Health Professional Shortage Counties,” *Journal of Nursing Regulation* 8, no. 4 (2018): 5–13.

⁴ American Association of Nurse Practitioners, “State Practice Environment,” accessed February 2, 2019, <https://www.aanp.org/advocacy/state/state-practice-environment>.

⁵ Federal Trade Commission, *Policy Perspectives: Competition and the Regulation of Advanced Practice Nurses*, March 2014; National Governors Association, “The Role of Nurse Practitioners in Meeting Increasing Demand for Primary Care,” accessed February 3, 2019, <https://classic.nga.org/cms/home/nga-center-for-best-practices/center-publications/page-health-publications/col2-content/main-content-list/the-role-of-nurse-practitioners.html>; Institute of Medicine, *The Future of Nursing: Leading Change, Advancing Health* (Washington, DC: National Academies Press, 2011).

on infant mortality rates.⁶ Several other studies find no evidence of patients receiving lower-quality care as a result of broader NP scope of practice. Research also supports the notion that granting NPs full practice authority will reduce the cost of care. One study finds evidence of a lower cost of well-baby visits in states where NPs have independent prescription privileges.⁷ Another study finds evidence of lower total payments to retail clinics in states that grant NPs full practice authority.⁸

Physician assistants are generally more subordinate to physicians in the healthcare space but can nonetheless play an important role in the delivery of healthcare. In previous research, I have found that the granting of prescription privileges to physician assistants is associated with an 11 percent reduction in the cost of outpatient Medicaid claims.⁹ Existing research also supports the hypothesis that granting more autonomy to certified nurse midwives is associated with better health outcomes for patients.¹⁰

In the area of pain management, physical therapists (PTs) can play a significant role, but many states erect barriers to patients obtaining healthcare from PTs. Patients are permitted to see PTs without physician referral, but there are significant restrictions (for example, caps on the length of time that a patient can see a PT without seeing a physician) that limit the ability of PTs to deliver care. Research has found that if patients see PTs first (without physician referral), they are less likely to be given expensive and invasive treatments (like opioids and advanced imaging). As a result, the treatment for pain is significantly less expensive.¹¹

No single nonphysician provider can serve as a perfect substitute, but NPs, physician assistants, certified nurse midwives, and PTs should be playing a greater role in the delivery of healthcare. Unfortunately, state differences with respect to scope of practice limit this potential. A broadening of scope of practice that permits these health professionals to practice to the full extent of their training will allow more patients to receive care and will also reduce the cost of care without sacrificing quality.

Sincerely,

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⁶ Morris M. Kleiner et al., "Relaxing Occupational Licensing Requirements: Analyzing Wages and Prices for a Medical Service" (NBER Working Paper No. 19906, National Bureau of Economic Research, Cambridge, MA, February 2014).

⁷ Ellen T. Kurtzman et al., "Does the Regulatory Environment Affect Nurse Practitioners' Patterns of Practice or Quality of Care in Health Centers?," *Health Services Research* 52, no. S1 (2017): 437–58; Jennifer Perloff et al., "Association of State-Level Restrictions in Nurse Practitioner Scope of Practice with the Quality of Primary Care Provided to Medicare Beneficiaries," *Medical Care Research and Review* (September 1, 2017): 1–30; Jeffrey Traczynski and Victoria Udalova, "Nurse Practitioner Independence, Health Care Utilization, and Health Outcomes," *Journal of Health Economics* 58 (2018): 90–109.

⁸ Joanne Spetz et al., "Scope-of-Practice Laws for Nurse Practitioners Limit Cost Savings That Can Be Achieved in Retail Clinics," *Health Affairs* 32, no. 11 (2013): 1977–84.

⁹ Edward J. Timmons, "The Effects of Expanded Nurse Practitioner and Physician Assistant Scope of Practice on the Cost of Medicaid Patient Care," *Health Policy* 121, no. 2 (2017): 189–96.

¹⁰ Sara Markowitz et al., "Competitive Effects of Scope of Practice Restrictions: Public Health or Public Harm?" (NBER Working Paper No. 22780, National Bureau of Economic Research, Cambridge, MA, October 2016); Tony Y. Yang et al., "State Scope of Practice Laws, Nurse-Midwifery Workforce, and Childbirth Procedures and Outcomes," *Women's Health Issues* 26, no. 3 (2016): 262–67.

¹¹ Bianca K. Frogner et al., "Physical Therapy as the First Point of Care to Treat Low Back Pain: An Instrumental Variables Approach to Estimate Impact on Opioid Prescription, Health Care Utilization, and Costs," *Health Services Review* 53, no. 6 (2018): 4629–46.

From the Desks of Matthew D. Mitchell and Anne Philpot

February 28, 2019

Chairman Lamar Alexander
United States Senate
455 Dirksen Office Building
Washington, DC 20510

Chairman Alexander,

In response to your request for healthcare cost solutions, we encourage the Senate HELP Committee to consider the adverse effects of state certificate-of-need (CON) laws. Decades of research suggest that these laws not only restrict access to care and worsen health outcomes but also make healthcare more expensive.

In 35 states and the District of Columbia, healthcare providers planning to offer or expand certain services must first prove to a state regulator that their community “needs” the particular service in question. CON laws are controversial. Many experts question their effectiveness and worry that they undermine competition to the detriment of patients.

The History of CON Laws

In 1974, Congress passed the National Health Planning and Resources Development Act. It required states to implement CON programs in order to receive funding through certain federal programs. One rationale for CON was that it would curb excessive growth of healthcare costs stemming from the government’s “cost-plus” reimbursement structure for hospitals. Under cost-plus reimbursement, the government paid hospitals for whatever they spent with no incentive to control costs.

Following the abandonment of cost-plus reimbursement in the mid-1980s, Congress repealed its CON mandate. Today, CON survives in all but 15 states. These non-CON states—rich, poor, rural, and urban—are home to 38 percent of the US population and the experience of this population demonstrates the benefits of less restrictive access to care. Using rigorous econometric techniques, economists have been able to compare outcomes in CON and non-CON states in order to assess the effect of CON on access, quality, and cost. These estimates draw from real-world experiences, incorporate years’ worth of data, and control for other factors that might affect these outcomes, such as economic conditions and local demographics.

While Dr. Stratmann’s letter will focus on the effects of CON on access and quality, we’d like to focus in this letter on the effects of CON on cost. While an initial goal of CON was to reduce healthcare spending, the weight of evidence suggests that it has had the opposite effect.

In the attached study, Matthew D. Mitchell provides a comprehensive review of the theoretical and empirical research on the relationship between CON laws and spending. In it, he reviews 20 academic studies spanning 40 years. We briefly summarize that literature here.

CON Laws Are Associated with Higher Healthcare Costs

Cost per unit refers to the amount of money that must be paid to producers to compensate them for producing one unit of a product or service. Economic theory predicts that a supply restriction such as CON regulation will increase per-unit costs by reducing supply.

The empirical evidence on how CON regulation affects cost has been consistent with this economic theory. It shows that CON regulation tends to increase the cost of healthcare services by limiting supply. Conversely, “redundant” facilities and services tend to decrease costs by increasing competition. The empirical evidence also shows the following specific effects:

- *Per-unit costs.* As predicted by economic theory, the bulk of empirical evidence suggests that CON laws are associated with higher per-unit healthcare costs. No studies to date find that CON is associated with lower per-unit costs.
- *Total patient expenditures.* None of the published studies find that CON is directly associated with lower total patient expenditures, and seven of these studies find evidence that CON increases expenditures.
- *Hospital efficiency.* The literature is mixed on the question of hospital efficiency, with two studies finding that CON laws increase some measures of hospital efficiency, one study finding no effect, and one study finding that CON laws reduce efficiency.
- *Hospital investment.* Studies suggest that CON has failed to reduce unnecessary investments. One study found that CON failed to reduce investment, while another found that CON actually backfired, causing hospitals to increase investment before CON implementation in anticipation that future investments would be more difficult.

If the goal of CON regulation is to discourage excessive spending caused by the third-party-payer problem and other distortions in the healthcare market that divorce consumers from cost considerations, then CON regulations are a poorly targeted method of achieving this end. As many healthcare experts have suggested, the best way to deal with this problem is to reform the policies that divorce consumers from cost. In contrast, CON regulations restrict the ability of everybody—including customers who pay out of pocket—to access healthcare services.

As the experience of the 15 non-CON states has shown, repealing CON tends to be associated with lower barriers to care and reduced costs. States must carefully weigh the past four decades of research and consider CON’s detrimental effects on healthcare costs. The federal government can play an important role in encouraging states to do this. The evidence suggests that repealing CON would increase access to high-quality care while lowering costs.

Sincerely,

Matthew D. Mitchell, PhD
Senior Research Fellow, Mercatus Center at
George Mason University

Anne Philpot
Research Assistant, Mercatus Center at George
Mason University

Attachment

Matthew D. Mitchell, “Do Certificate-of-Need Laws Limit Spending?” (Mercatus Working Paper)

From the Desk of Thomas Stratmann

February 28, 2019

Chairman Lamar Alexander
United States Senate
455 Dirksen Office Building
Washington, DC 20510

Chairman Alexander,

Thank you for the opportunity to respond to your call for ideas on rising healthcare costs and to discuss certificate-of-need (CON) laws with you. States have many policy tools at their disposal to rein in the cost of healthcare. However, cost-cutting should not come at the expense of the health of patients who are in dire need of medical aid. In this context, I wish to bring to your attention the damage caused by CON laws to healthcare quality and access. In addition to the adverse effects on healthcare costs detailed in Matt Mitchell and Anne Philpot's letter, further negative consequences are caused by CON laws in 35 states and the District of Columbia in terms of healthcare quality and access. The original intention for CON laws was to avoid a hike in healthcare prices owing to overcapacity and, instead, to ensure that the services needed by the community were provided at an affordable price. However, not only have the prices risen as a result of CON regulation, but healthcare quality and access has suffered as well.

CON Laws Are Associated with Restricted Access to Healthcare Services

By design, CON laws aim to control the supply of healthcare services. Researchers find that rather than providing the community with the services it needs, CON laws effectively restrict access to healthcare services that residents of non-CON states residents enjoy:

- *Restricted access to imaging services.* Data suggest that CON laws have a strong negative impact on new hospital and nonhospital providers' ability to provide MRI, CT, and PET scans, with patients having to drive longer distances to get access to imaging services.¹
- *Fewer hospitals, including rural hospitals, and ambulatory surgery centers.* There are 30 percent fewer hospitals and 14 percent fewer ambulatory surgery centers in CON states as a proportion of the number of residents in CON states.²

¹ Thomas Stratmann and Matthew C. Baker, "Barriers to Entry in the Healthcare Markets: Winners and Losers from Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 2017).

² Janelle Sagness, *Certificate of Need Laws: Analysis and Recommendations for the Commission on Rationalizing New Jersey's Health Care Resources* (Trenton, NJ: New Jersey Department of Health, 2007); Thomas Stratmann and Christopher Koopman, "The Impact of Certificate-of-Need Laws on Community Hospitals and Ambulatory Surgery Centers," Mercatus Center at George Mason University, March 15, 2016.

CON Laws Are Associated with Lower Quality of Medical Services

Not only are healthcare facilities scarcer in CON states, but the overall quality of the services they provide is lower, thereby undermining the argument put forward by advocates of CON laws about the anticipated enhancements in quality arising from the implementation of such regulations:

- *No evidence on improvements in the quality of care.* Data offer no support for the claim that CON laws result in higher healthcare quality in CON states than in non-CON states.³
- *Lower quality of medical services among incumbents.* Researchers find that incumbent hospitals provide lower-quality care in CON states than in non-CON states.⁴
- *Higher death rates.* Mortality rates resulting from pneumonia, heart failure, heart attacks, and postsurgery complications are significantly higher in CON than in non-CON states.⁵

Not only have CON laws failed to achieve their goals, but they have actually backfired, leaving CON states with inflated costs, restrictions on healthcare access, and substandard quality. In light of these outcomes, legislators should no longer see them as useful tools of healthcare policy. Therefore, I recommend that states take steps to cut back on those laws, or for maximal improvements, repeal them entirely.

Please contact me if you would like further information on the effects of CON laws on healthcare access and quality.

Sincerely,

Thomas Stratmann,
Senior Research Fellow, Mercatus Center at George Mason University
University Professor of Economics and Law, George Mason University

³ Martin Gaynor, Farzad Mostashari, and Paul B. Ginsburg, *Making Health Care Markets Work: Competition Policy for Health Care* (Washington, DC: Brookings Institute, April 2017); Thomas Stratmann and David Wille, "Certificate-of-Need Laws and Hospital Quality" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, September 2016).

⁴ Stratmann and Wille, "Certificate-of-Need Laws and Hospital Quality."

⁵ Stratmann and Wille.

From the Desk of Darcy Nikol Bryan

February 28, 2019

Chairman Lamar Alexander
United States Senate
455 Dirksen Office Building
Washington, DC 20510

Chairman Alexander,

Thank you for the opportunity to respond to your call for ideas on rising healthcare costs and to discuss direct primary care (DPC) with you. DPC is a practice and payment model where patients pay their physician or practice directly in the form of periodic payments, usually monthly or annually, for a defined set of primary care services that aim to address 90 percent of the reasons for which patients see a doctor.¹ A free-market solution, DPC lowers the costs of and access to primary care. It does so by eliminating fee-for-service payments and by encouraging more physicians to become primary care providers through a humane and flexible practice model rather than the crushing workload of volume-driven care and compliance with insurance administration demands. Given the variety of retainer practice models and the resulting legislative confusion, it is important to define DPC accurately. A DPC practice (1) charges a periodic fee for services (generally \$25 to \$85 per month),² (2) does not bill any third parties on a fee-for-service basis, and (3) assesses any per-visit charges at less than the monthly equivalent of the periodic fee.³ Through this mechanism, DPC practices claim to reduce administrative overhead by approximately 40 percent.⁴ Patients can join a DPC practice without regard to their insurance or socioeconomic status. Doctors may see a smaller volume of patients in clinic through use of telemedicine and secured email exchange, while targeting longer in-person appointments for patients with complex needs. As a supplement, patients are encouraged to enroll in a catastrophic health plan that meets federal medical insurance requirements.

DPC clinics boast extended facetime with doctors, resulting in more comprehensive doctor-patient relationships highlighting preventative care as a major aspect.⁵ Evidence of this can be seen in the average length of a patient's visit: DPC physicians' visit times with patients average 30 to 60 minutes versus 12 to 15 minutes at a traditional primary care provider.⁶ This is likely owing to a 40 percent reduction in administrative overhead, as surveys show that almost half of traditional primary care

¹ Qliance, "New Primary Care Model Delivers 20 Percent Lower Overall Healthcare Costs, Increases Patient Satisfaction and Delivers Better Care," news release, January 15, 2015, <https://www.prnewswire.com/news-releases/new-primary-care-mode-l-delivers-20-percent-lower-overall-healthcare-costs-increases-patient-satisfaction-and-delivers-better-care-300021116.html>.

² Charlotte Huff, "Direct Primary Care: Concierge Care for the Masses," *Health Affairs* 34, no. 12 (2015): 2016-19.

³ Phillip Eskew and Kathleen Klink, "Direct Primary Care: Practice Distribution and Cost across the Nation," *Journal of the American Board of Family Medicine* 28, no. 6 (2015): 793-801.

⁴ Eskew and Klink, "Direct Primary Care."

⁵ Ian Pelto, *Direct Primary Care: A New Way to Deliver Health Care* (Denver, CO: Colorado Health Institute, 2018).

⁶ Pelto, *Direct Primary Care*.

doctors spend one-third of their day on data entry and one-half of a patient's visit inputting data into a computer.⁷ Lengthening average visit times and strengthening doctor-patient relationships in DPC could also be explained by the smaller average patient panel size, or the number of patients a physician serves. DPC physicians typically have an average panel size of 600–800 patients, compared to an average panel size of 2,300 patients at traditional primary care providers.⁸

In 2015, Colorado-based DigitalGlobe partnered with Colorado's first DPC provider, Nextera Healthcare, to facilitate a case study focused on reducing insurance costs for the company. DigitalGlobe enrolled 205 of its 971 Colorado-based employees into Nextera's DPC pilot program.⁹ Over a seven-month period, DigitalGlobe employees saw a 25.4 percent drop in per-member per-month costs, compared to only a 4.1 percent reduction in costs among the employees not participating in the DPC program.¹⁰ In 2017, the Colorado Academy of Family Physicians wrote a letter to the Colorado Commission of Affordable Healthcare to "initiate a Health First Colorado (Medicaid) DPC pilot program similar to the Qliance DPC program in the State of Washington."¹¹ The state of Michigan has applied to the Centers for Medicare & Medicaid Services for a waiver allowing a DPC pilot program for Medicaid enrollees.¹² Similar calls have been made for allowing Missouri Medicaid patients to have access to the DPC model.¹³

However, there is a real concern among physicians about adopting the DPC model. Pioneers of the model have faced aggressive state insurance commissioners who threaten criminal prosecution for the unlawful sale of insurance, deeming DPC an insurance product.¹⁴ Per state commissioners' analysis, too much risk was being transferred from patient to physician for a fixed monthly fee, with the following concerns: What might happen should too many ill patients need to be seen at once by a DPC physician? What guarantees could be made that care would be delivered as promised?

The DPC movement has responded by advocating for state-level protective legislation clarifying that DPC is not an insurance product, along with other measures protecting the ability of physicians and patients to access this model. Currently a small number of states have laws protecting DPC practices against complex insurance regulations.¹⁵ The Affordable Care Act (ACA) contains a provision stating that the US Department of Health and Human Services "shall permit a qualified health plan to provide coverage through a qualified direct primary care medical home plan that meets criteria established by the Secretary."¹⁶ Additionally, the ACA allows for DPC

⁷ Charlie Katebi, "Research & Commentary: Missouri Should Expand Direct Primary Access to Medicaid Patients," The Heartland Institute, November 20, 2017.

⁸ Ian Pelto, *Direct Primary Care*.

⁹ Nextera Healthcare, "Nextera Healthcare, DigitalGlobe Case Study Highlights Health Benefits, Cost Savings of Direct Primary Care. Double-Digit Reduction in Costs Leads to Company-Wide DPC Implementation for 2017," news release, February 5, 2019, <https://nexterahealthcare.com/nextera-healthcare-digitalglobe-case-study-highlights-health-benefits-cost-savings-direct-primary-care-double-digit-reduction-costs-leads-company-wide-dpc-implementation-2017/>.

¹⁰ Tamaan K. Osbourne-Roberts, Letter to Bill Lindsay, Colorado Commission on Affordable Healthcare, February 24, 2017, https://www.colorado.gov/pacific/sites/default/files/CAFP_DPC%20Recommendations%20to%20Cost%20Commission%20February%202017.pdf.

¹¹ Osbourne-Roberts, Letter to Bill Lindsay.

¹² Michigan Department of Health & Human Services, *Implementation of the Direct Primary Care Pilot Program Quarterly Report 1*, January 19, 2018, https://www.michigan.gov/documents/mdhhs/Section_14078_PA_158_of_2017_Quarterly_Rpt_1_614860_7.pdf.

¹³ Katebi, "Research & Commentary."

¹⁴ Philip Eskew, "Direct Primary Care: A Legal and Regulatory Review of an Emerging Practice Model," The Heartland Institute, January 1, 2015.

¹⁵ Bill Kramer, "Direct Primary Care: The Future of Health Care?," *MultiState Insider*, April 1, 2015.

¹⁶ Eskew, "Direct Primary Care."

practices to be marketed in state exchanges as long as they are combined with a “wrap around” insurance policy that will cover other medical costs such as catastrophic care.¹⁷

Sincerely,

Darcy Nikol Bryan, MD
Associate Clinical Professor, UC Riverside School of Medicine

¹⁷ Huff, “Direct Primary Care: Concierge Care for the Masses.”

Do Certificate-of-Need Laws Limit Spending?

Matthew D. Mitchell

September 2016

MERCATUS WORKING PAPER



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Matthew D. Mitchell. "Do Certificate-of-Need Laws Limit Spending?" Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, September 2016.

Abstract

In 35 states, certificate-of-need (CON) laws in health care restrict the supply of medical services. These regulations require providers hoping to open a new healthcare facility, expand an existing facility, or purchase certain medical equipment such as an MRI machine or a hospital bed to first prove to a regulatory body that their community needs the service in question. The approval process can be time consuming and expensive, and it offers incumbent providers an opportunity to oppose the entrance of new competitors. However, it was originally hoped that these laws would, among other things, reduce healthcare price inflation. In this brief, I review the basic economic theory of a supply restriction like CON, then summarize four decades of empirical research on the effect of CON on healthcare spending. There is no evidence that CON regulations limit healthcare price inflation and little evidence that they reduce healthcare spending. In fact, the balance of evidence suggests that CON laws are associated with higher per unit costs and higher total healthcare spending.

JEL codes: D72, D78, H75, I1, L51

Keywords: economics of regulation, certificate of need, supply constraints, regulatory capture, special interests, rent-seeking

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Do Certificate-of-Need Laws Limit Spending?

Matthew D. Mitchell

Economic Theory and the Original Rationale for Certificate of Need

Thirty-five states and the District of Columbia currently impose certificate-of-need (CON) restrictions on the provision of health care.¹ These rules require those hoping to open or expand specific types of healthcare facilities to first prove to a state regulator that their community “needs” the particular service. For example, Virginia providers wishing to open a neonatal intensive care unit, start a rehabilitation center, or even purchase a new CT scanner for an existing practice must first prove to the state health commissioner that their community needs the service in question.² Providers wait years and spend tens or even hundreds of thousands of dollars convincing CON authorities to approve their projects.³ In the process, incumbent providers are often invited to testify against their would-be competitors. It was originally hoped that the CON process would reduce healthcare price inflation, though over the years, the rationale in favor of CON has shifted a number of times.

In 1964, New York implemented the first CON program.⁴ A decade later, Congress enacted the National Health Planning and Resources Development Act, thereby withholding

¹ In some states, such as Virginia, these restrictions are known as a Certificate of Public Convenience and Necessity. In July 2016, New Hampshire eliminated its CON program. For more details about the history of CON programs in the states, see Matthew Mitchell and Christopher Koopman, “40 Years of Certificate-of-Need Laws across America,” Mercatus Center at George Mason University, Arlington, VA, October 14, 2014.

² “CON—Certificate of Need State Laws” (Washington, DC: National Conference of State Legislatures, August 2016), <http://www.ncsl.org/research/health/con-certificate-of-need-state-laws.aspx>.

³ Virginia’s Dr. Mark Monteferrante spent five years and \$175,000 seeking permission to add a second MRI machine to his practice. Kent Hoover, “Doctors Challenge Virginia’s Certificate-of-Need Requirement,” *Washington Bureau, Business Journals*, June 5, 2012.

⁴ Mitchell and Koopman, “40 Years of Certificate-of-Need Laws across America.”

federal healthcare dollars from any state that failed to implement its own CON program.⁵ By 1979, every state except Louisiana had responded to this incentive and implemented a CON program.⁶ The federal incentive was repealed in 1987 following a change in Medicare reimbursement practices, and more than a dozen states have since repealed their CON programs. But in 35 states and the District of Columbia, CON laws still restrict the supply of some healthcare services.

The rationale behind the 1974 federal legislation was clear. Under a section titled “Findings and Purpose,” Congress declared,

The massive infusion of Federal funds into the existing health care system has contributed to inflationary increases in the *cost* of health care and failed to produce an adequate supply or distribution of health resources, and consequently has not made possible equal access for everyone to such resources.⁷

Note the emphasis on cost. From the beginning, a primary goal of CON programs was to rein in the excessive growth of healthcare costs.⁸ Then, as now, healthcare price inflation was a perennial concern. Note also that the authors of this legislation believed healthcare price inflation to be a result of other federal policies. In what way might a law restricting supply reduce cost? I begin with a simple economic model of supply and demand and then consider three slightly more elaborate models.

⁵ National Health Planning and Resources Development Act of 1974, Pub. L. No. 93-641 (1975).

⁶ Mitchell and Koopman, “40 Years of Certificate-of-Need Laws across America.”

⁷ Pub. L. No. 93-641, emphasis added.

⁸ For research testing CON’s ability to meet the other goals of the National Health Planning and Resources Development Act, see Thomas Stratmann and Jacob Russ, “Do Certificate-of-Need Laws Increase Indigent Care?,” Mercatus Working Paper No. 14-20, Mercatus Center at George Mason University, Arlington, VA, July 2014; Thomas Stratmann and Matthew C. Baker, “Are Certificate-of-Need Laws Barriers to Entry? How They Affect Access to MRI, CT, and PET Scans,” Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, January 2016; Thomas Stratmann and Christopher Koopman, “Entry Regulation and Rural Health Care: Certificate-of-Need Laws, Ambulatory Surgical Centers, and Community Hospitals,” Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, February 2016.

The Simple Model of Supply and Demand

In everyday language, we speak of cost in *per unit* terms: How much does one slice of pizza cost? What is the going rate for a gallon of unleaded gasoline? Simple economic theory offers a straightforward answer to the question of how a supply restriction might reduce this sort of cost: it can't. In a supply-and-demand model, there is no way that a supply restriction can reduce per unit cost. It *might* reduce overall healthcare expenditures—the total amount that people spend on health care in a given time period. But although reducing per unit cost is a worthy goal, it is far from obvious that reducing overall expenditures is desirable. Figure 1 explains why.

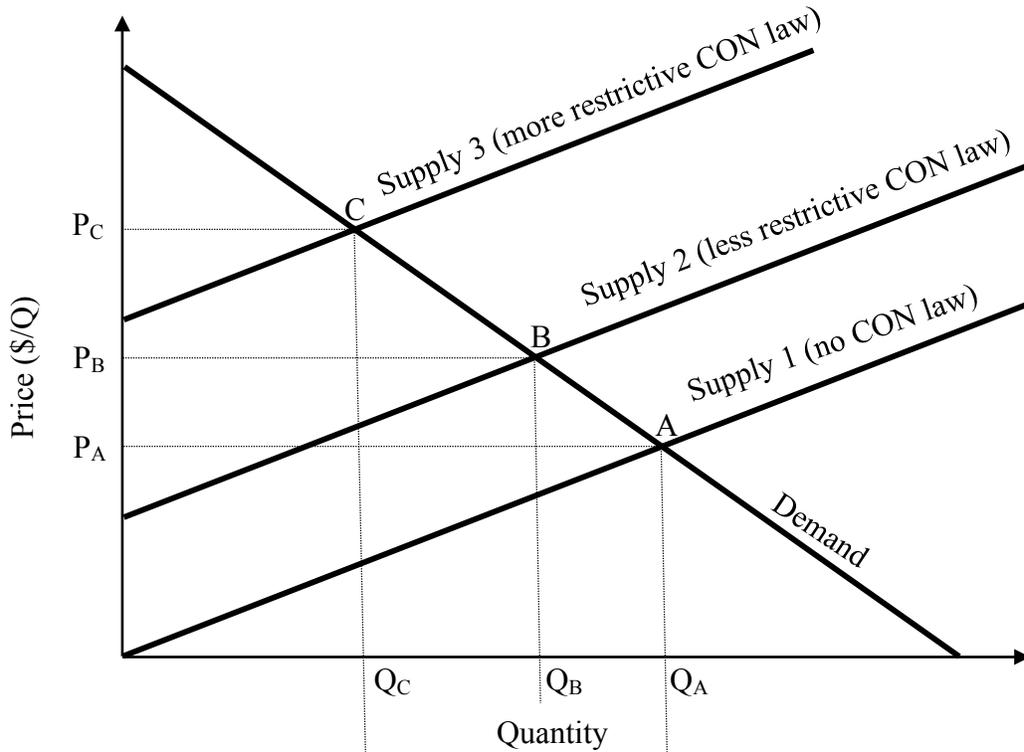
Panel A of figure 1 shows a demand curve intersected by three different supply curves. The market supply of health care without a CON law is indicated by Supply 1. The restricted supply of health care with a CON law is indicated by *either* Supply 2 or Supply 3, with the difference depending on how restrictive the CON process is. Consistent with standard practice, the supply restriction is modeled as a leftward shift in the supply curve; by limiting entry, CON laws ensure that a smaller quantity of services is available at any given price.

Note that as supply is restricted, the per unit price unambiguously rises, and the quantity consumed unambiguously falls. Because the supply restriction causes consumers to pay more and consume less, it unambiguously reduces what economists call “consumer surplus,” which is the value that consumers derive from a product in excess of its price.⁹

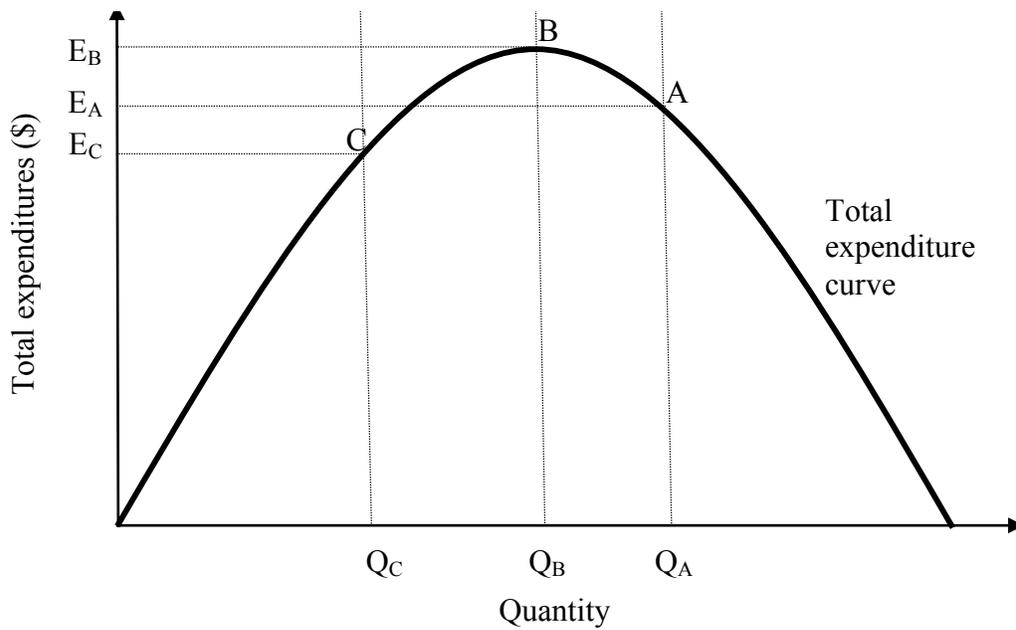
⁹ Consumer surplus is measured by the area above the price line and below the demand curve. It gets smaller as supply decreases (shifts leftward). Total producer surplus, measured by the area below the price line and above the supply curve, is also reduced. However, a supply restriction may make a few firms better off by allowing them to capture a larger *portion* of the producer surplus at the expense of other producers. This artificially large portion of producer surplus is known as rent.

Figure 1. A Supply Restriction

Panel A. The Effect of a Supply Restriction on Price



Panel B. The Effect of a Supply Restriction on Total Expenditures



However, because of the third-party-payer problem in health care, patients may not directly pay the higher prices. They and others will indirectly pay higher prices through higher insurance premiums, higher taxes, or both. Patients will, of course, be directly affected by the diminished quantity of healthcare services available to them. That is, they will experience a reduction in welfare resulting from the leftward shift in the quantity of services.

Note, however, that the supply restriction has an *ambiguous* effect on total expenditures. This is because total expenditures—depicted in panel B of figure 1—are equal to the price per unit multiplied by the number of units sold. Because the supply restriction raises the price per unit but lowers the number of units sold, it has an ambiguous effect on total expenditure.

As shown in panel B, total expenditures might rise to E_B or fall to E_C , depending on whether the price increase or the quantity decrease dominates.¹⁰ Note also that if consumers are less price sensitive and the demand curve is steeper (less elastic), the price-increasing effect is likely to dominate, and the supply restriction is likely to increase total expenditures.

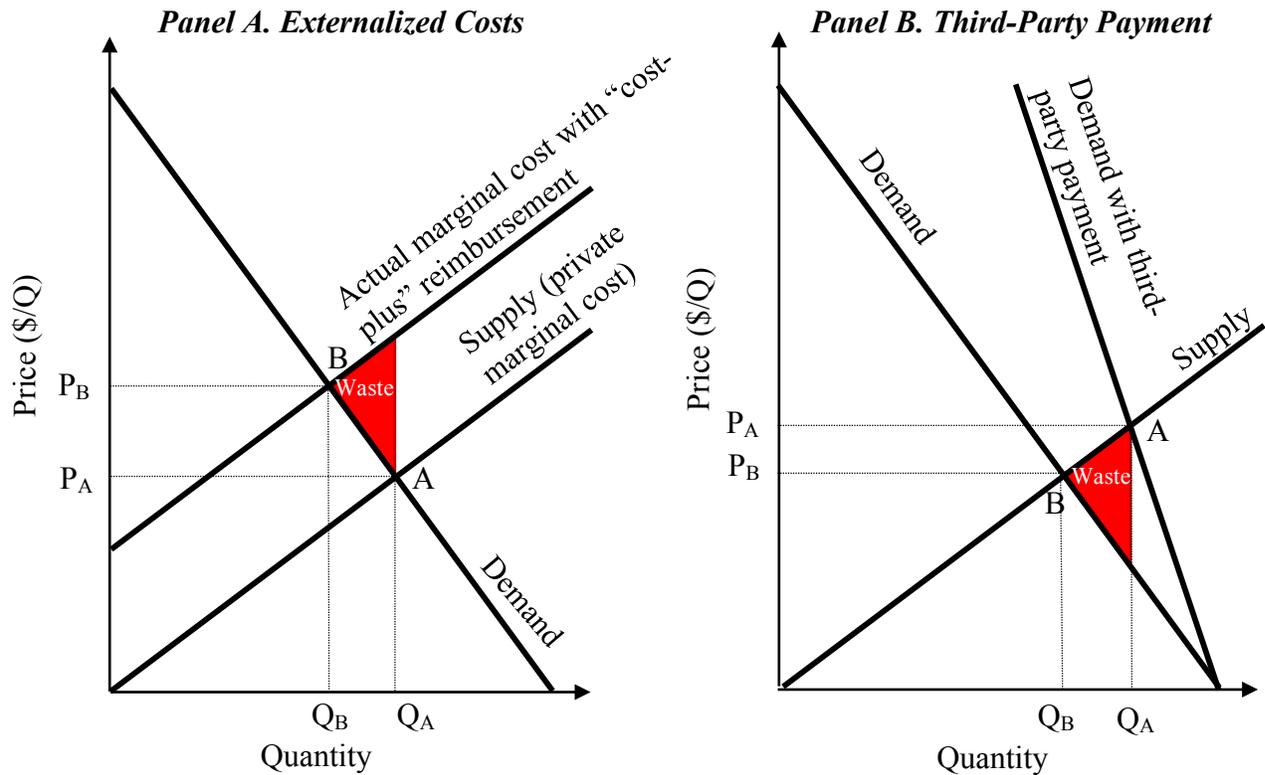
Despite the stated objective of the federal legislation promoting CON, this simple model suggests that CON laws cannot reduce cost in the per unit sense in which most people think of it. Instead, CON laws are expected to increase the per unit cost of healthcare services, although they *might* reduce total expenditures if they restrict consumption enough to outweigh the higher per unit cost. It is important to note, however, that if CON laws do succeed in reducing overall expenditures, they do so only by restricting the availability of services, limiting consumer choice, and reducing consumer welfare.

¹⁰ The answer depends on whether the original, nonrestricted supply curve intersects the demand curve in the elastic portion, above and to the left of B, or in the inelastic portion, below and to the right of B.

Externalities

A more complex model might account for the fact that other public policies have distorted the healthcare market so that market participants are divorced from the true marginal costs of their decisions. In this case, a CON regulation might counteract the harm of such policies, but as we will see, it is hardly the most efficient means of doing so. Figure 2 depicts two ways that public policies might distort the healthcare market by creating an externality. I will consider each in turn.

Figure 2. Externalities



Cost-plus reimbursement. In panel A of figure 2, the equilibrium is at point A, where supply and demand intersect. If providers internalized all their costs, this equilibrium would be efficient because marginal cost would equal marginal benefit. But at the time that many states adopted

CON, Medicare reimbursed hospitals for their costs on a “retrospective” basis. Healthcare researchers Stuart Guterman and Allen Dobson described this reimbursement practice in 1986: “Under this system, hospitals were paid whatever they spent; there was little incentive to control costs, because higher costs brought about higher levels of reimbursement.”¹¹

This reimbursement method was often referred to as a “cost-plus” system because it encouraged hospitals to overinvest in certain inputs. In other words, hospitals were able to externalize some of their costs of care and to pass them on to taxpayers. As a result, *actual* marginal costs were higher than the private marginal costs of hospitals.

These actual marginal costs are indicated by the marginal cost curve that sits above the supply curve in the left panel of figure 2. With this sort of reimbursement system, the efficient production point would be at point B, where true marginal cost equals marginal benefit. But because firms fail to internalize all costs, the actual equilibrium is at point A, resulting in what economists call a “deadweight loss.” This deadweight loss is depicted by the red triangle and is labeled “Waste.” It indicates that for the quantity of units of health care between Q_B and Q_A , marginal cost exceeds marginal benefit.

Under this type of reimbursement system, CON laws—by restricting supply—might be one way to move the market toward the more efficient outcome (Q_B). A more straightforward solution, however, would be to change the way Medicare reimburses hospitals. Indeed, Congress pursued this straightforward solution more than 30 years ago with the adoption of Public Law 98-21.¹²

¹¹ Stuart Guterman and Allen Dobson, “Impact of the Medicare Prospective Payment System for Hospitals,” *Health Care Financing Review* 7, no. 3 (Spring 1986): 97–114.

¹² Social Security Amendments of 1983, Pub. L. No. 98-21, 97 Stat. 65 (1983).

That legislation phased in Medicare’s Prospective Payment System, thus ending retrospective, cost-plus reimbursement. Therefore, the externalized-costs rationale for CON has not been relevant for decades. As Mark Botti, an official in the Antitrust Division of the Department of Justice, noted in 2007 testimony before the Georgia State Assembly,

We [antitrust officials at the Department of Justice and the Federal Trade Commission] made that recommendation [that states rethink their CON laws] in part because the original reason for the adoption of CON laws is no longer valid. Many CON programs trace their origins to a repealed federal mandate, the National Health Planning and Resources Development Act of 1974, which offered incentives for states to implement CON programs. At the time, the federal government and private insurance reimbursed healthcare expenses predominantly on a “cost-plus basis.” This is a very important point. The original reason for CON laws was not, as some have argued, that competition inherently does not work in healthcare or that market forces promote over-investment. Instead, CON laws were desired because the reimbursement mechanism, i.e., cost-plus reimbursement, incentivized over-investment. The hope was that CON laws would compensate for that skewed incentive. . . . CON laws appear not to have served well even their intended purpose of containing costs. Several studies examined the effectiveness of CONs in controlling costs. The empirical evidence on the economic effects of CON programs demonstrated near-universal agreement among health economists that CON laws were unsuccessful in containing healthcare costs.

In addition to the fact that CON laws have been ineffective in serving their original purpose, CON laws should be reexamined because the reimbursement methodologies that may in theory have justified them initially have changed significantly since the 1970s. The federal government no longer reimburses on a cost-plus basis.¹³

Indeed, it is instructive to note that Congress eliminated the incentive for states to implement CON regulations in 1987, one year after Medicare’s new reimbursement practice was fully phased in.

¹³ Mark J. Botti, “Competition in Healthcare and Certificates of Need” (Testimony before a Joint Session of the Health and Human Services Committee of the State Senate and the CON Special Committee of the State House of Representatives of the General Assembly of the State of Georgia, US Department of Justice Antitrust Division, Washington, DC, February 23, 2007). In support of his claim that economists were in “near-universal agreement” that CON laws failed to contain healthcare costs, Botti cites David S. Salkever, “Regulation of Prices and Investment in Hospitals in the United States,” in *Handbook of Health Economics*, ed. A. J. Culyer and J. P. Newhouse, vol. 1B (New York: Elsevier, 2000), 1489–1535.

The third-party-payer problem. Although policymakers long ago addressed the problem of externalized costs by abandoning cost-plus reimbursement, market participants might be divorced from true marginal cost in another way. Third parties such as governments and insurance companies cover some or all of the costs of decisions made by patients and their providers, and because patients fail to pay the full costs of their decisions, their demand for healthcare services is greater and less price sensitive than it otherwise would be.

Governments currently pay about 64 cents out of every healthcare dollar spent in the United States.¹⁴ But even when taxpayers don't pick up the bill, public policy encourages third-party payment through private insurance. During World War II, wage and price controls prevented employers from paying their employees the prevailing market wage. To attract talented workers, some employers offered fringe benefits such as health insurance because those benefits were not limited by the wage controls. After the controls were lifted, Congress found it difficult to remove the favorable tax treatment of health insurance, and it has remained untaxed ever since.¹⁵

This favorable tax treatment of health insurance encourages employers to compensate their employees with more (untaxed) benefits and less (taxed) cash. And this arrangement has long been blamed for introducing various distortions to the healthcare market.¹⁶ Among other things, this policy has exacerbated the third-party-payer problem by changing the nature of health insurance. Traditionally, insurance covers low-probability, high-cost events such as death,

¹⁴ David U. Himmelstein and Steffie Woolhandler, "The Current and Projected Taxpayer Shares of US Health Costs," *American Journal of Public Health* 106, no. 3 (March 1, 2016): 449–52.

¹⁵ Rexford E. Santerre and Stephen P. Neun, *Health Economics: Theory, Insights, and Industry Studies*, 5th ed. (Mason, OH: South-Western Publishing, 2010), 316; Milton Friedman, "Pricing Health Care: The Folly of Buying Health Care at the Company Store," *Wall Street Journal*, February 3, 1993.

¹⁶ Martin Feldstein and Bernard Friedman, "Tax Subsidies, the Rational Demand for Insurance and the Health Care Crisis," *Journal of Public Economics* 7, no. 2 (April 1, 1977): 155–78; Jonathan Gruber, "The Tax Exclusion for Employer-Sponsored Health Insurance," *National Tax Journal* 64, no. 2 (2011): 511–30; Jeremy Horpedahl and Harrison Searles, "The Tax Exemption of Employer-Provided Health Insurance," Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, September 2013.

accidents, or disease. But in the case of health insurance, favorable tax treatment and various regulatory mandates have caused health insurers to cover entirely predictable expenses such as checkups, screenings, immunizations, diet counseling, breastfeeding consultation, nutritional supplements, and much more.¹⁷

As a result, patients are able to purchase routine and entirely foreseeable health services while pushing some portion of the cost off onto others who pay insurance premiums. This arrangement has caused the effective demand for healthcare services to be greater and less price sensitive than it otherwise would be, thereby pivoting the demand curve out to the right.¹⁸ This situation is depicted in panel B of figure 2. Here, the equilibrium is at point A, where the “Supply” curve intersects the “Demand with Third-Party Payment” curve. As in the case of externalized costs, the equilibrium is inefficient because marginal cost exceeds the marginal benefit, as indicated by the demand curve.

As in the case of externalized costs, policymakers *might* be able to correct this problem by restricting supply through CON programs, thus raising the price and getting consumers to internalize more of the cost. Note, however, that if this is the goal of CON regulation, it contradicts the *named* goal of reducing cost. Moreover, to do this properly, policymakers would need to estimate how much of the cost is externalized, as well as the degree to which private arrangements such as cost-sharing already correct for this problem.¹⁹ Then they would need to shift the supply curve up by the exact amount of the externalized cost; if the shift were too little or too great, wasteful inefficiencies would remain.

¹⁷ Maureen Buff and Timothy Terrell, “The Role of Third-Party Payers in Medical Cost Increases,” *Journal of American Physicians and Surgeons* 19, no. 2 (Summer 2014): 75–79.

¹⁸ Santerre and Neun, *Health Economics: Theory, Insights, and Industry Studies*, 115–35.

¹⁹ John V. C. Nye, “The Pigou Problem: It Is Difficult to Calculate the Right Tax in a World of Imperfect Coasian Bargains,” *Regulation* 31, no. 2 (Summer 2008).

It is not clear that policymakers have the knowledge or the expertise to make this assessment—especially because their decisions are unguided by market signals.²⁰ Nor is it clear that CON is a precise enough tool to allow them to shift the supply curve the proper amount.

Those considerations aside, CON is hardly the most efficient or equitable way to address the third-party-payer problem. A far more direct approach would be to address the policies that encourage third-party payment in the first place, just as Congress once addressed the externalized cost problem by changing Medicare reimbursement practices.

If, for example, policymakers are concerned that patients are spending too much on health care, a straightforward approach would be to eliminate the tax privilege for employer-provided health insurance and to repeal the insurance mandates that require insurers to cover routine and foreseeable procedures. Doing so would cause the effective demand for health care to more closely resemble patients' actual marginal benefits.

In contrast, CON regulations restrict the ability of everybody to access medical services such as psychiatric care (regulated by CON procedures in 26 states), neonatal intensive care (regulated by 23 states), and MRI scans (regulated by 16 states).²¹ This restriction means that all patients—even those who pay out of pocket and don't push costs onto third parties—have less access to valuable medical services.

Before I move on to the third theoretical model, one more point is worth emphasizing. Recall that in the previous section, I noted that a supply restriction would be more likely to increase total expenditures when demand was less elastic. Because the third-party-payer problem

²⁰ F. A. Hayek, "The Use of Knowledge in Society," *American Economic Review* 35, no. 4 (September 1, 1945): 519–30; F. A. Hayek, "Competition as a Discovery Procedure," trans. Marcellus Snow, *Quarterly Journal of Austrian Economics* 5, no. 3 (Fall 2002): 9–23.

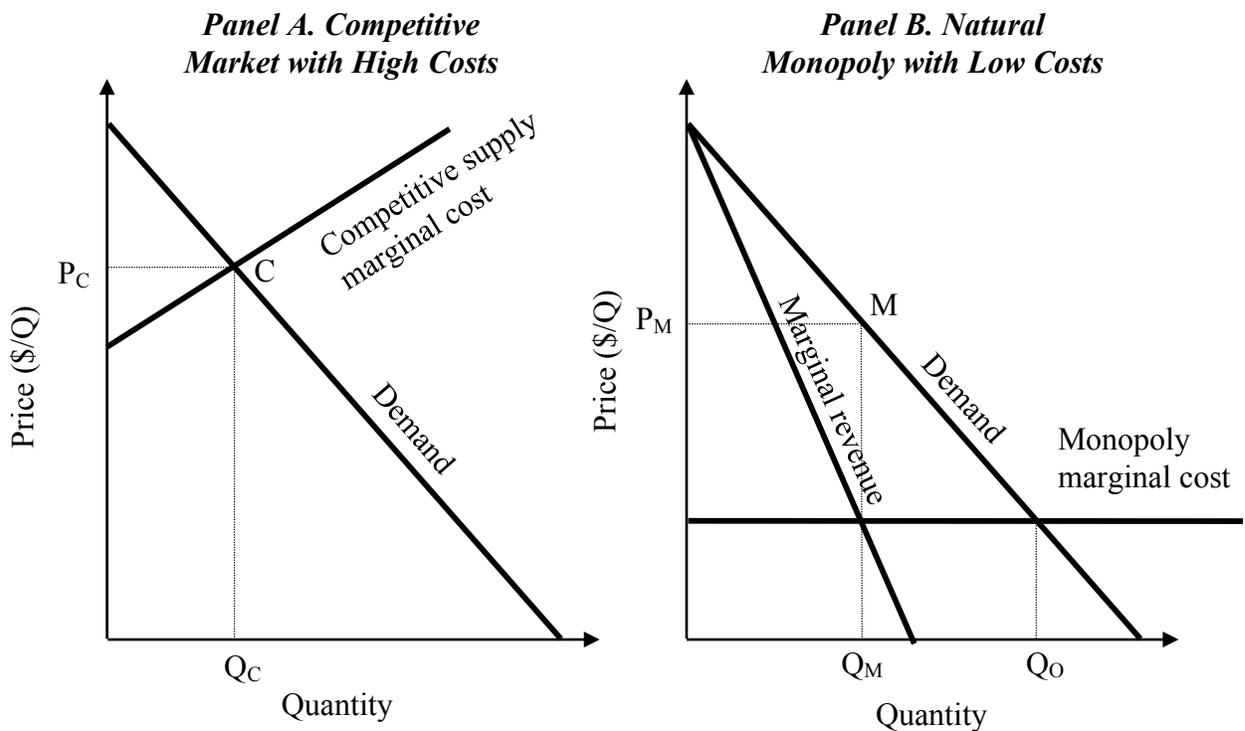
²¹ For state CON regulations, see "CON—Certificate of Need State Laws."

tends to cause the effective demand curve to be less elastic than it otherwise would be, this model suggests that CON is likely to increase rather than decrease total expenditures.

Economies of Scale

Another slightly more complex model might posit that there are economies of scale in the provision of medical services and that a few hospitals or even one large hospital might be able to deliver care with a lower cost than can many smaller ones. This situation is depicted in figure 3.

Figure 3. Competition vs. Natural Monopoly



Panel A shows a competitive industry with comparatively high production costs. Because the industry is competitive, firms are unable to mark up the price. Therefore, they set the price at marginal cost P_C .

Panel B shows a monopolist with comparatively low production costs. The monopolist uses its pricing power to set price above marginal cost, at P_M , but even this marked-up price is lower than that charged by the competitive firms, because the monopolist enjoys economies of scale in production.

It is possible that policymakers have this sort of model in mind. Perhaps by channeling more patients to a few hospitals, regulators may allow these individual hospitals to achieve some economies of scale. Relatedly, some policymakers have recently begun to argue that CON might allow these hospitals to increase the quality of their care by becoming more proficient in certain procedures.²²

As health economists Robert Ohsfeldt and John Schneider observe, however, CON “is an unacceptably blunt instrument for quality enhancement in a sector as innovative and dynamic as health care,” especially when there are more direct and effective ways to achieve the same end.²³ In any case, the most recent evidence suggests that, if anything, CON is associated with lower, not higher, quality.²⁴

This natural monopoly theory has problems. For one thing, the model is most appropriate in industries such as power production that require large fixed-cost investments in plant but have low marginal costs of operation. This model is only somewhat descriptive of the healthcare

²² Mary S. Vaughan-Sarrazin et al., “Mortality in Medicare Beneficiaries Following Coronary Artery Bypass Graft Surgery in States with and without Certificate of Need Regulation,” *Journal of the American Medical Association* 288, no. 15 (October 16, 2002): 1859–66.

²³ Robert L. Ohsfeldt and John E. Schneider, *The Business of Health: The Role of Competition, Markets, and Regulation* (Washington, DC: AEI Press, 2006), 39.

²⁴ More recent work, using better data and methods, fails to find a link between CON and quality. See Iona Popescu, Mary S. Vaughan-Sarrazin, and Gary E. Rosenthal, “Certificate of Need Regulations and Use of Coronary Revascularization after Acute Myocardial Infarction,” *Journal of the American Medical Association* 295, no. 18 (May 10, 2006): 2141–47. For an overview, see Vivian Ho, Meei-Hsiang Ku-Goto, and James G. Jollis, “Certificate of Need (CON) for Cardiac Care: Controversy over the Contributions of CON,” *Health Services Research* 44, no. 2, pt. 1 (April 2009): 483–500. Finally, for one of the best attempts to get at causation, see Thomas Stratmann and David Wille, “Certificate-of-Need Laws and Hospital Quality,” Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, September 2016. They find that CON is associated with lower-quality care.

industry, where the marginal cost of healthcare providers' salaries is significant. Additionally, there is reason to believe that when firms are protected from competition, they will have higher, not lower, production costs because administrators will tend to be less disciplined about cost minimization.²⁵ These factors explain why hospital prices in monopoly markets are more than 15 percent higher than those in markets with four or more competitors.²⁶

Most important, however, even if the natural monopoly model did describe the healthcare market, artificial restrictions on entry would be unlikely to improve conditions. The economist David Henderson explains why:

Economists tend to oppose regulating entry. The reason is as follows: If the industry really is a natural monopoly, then preventing new competitors from entering is unnecessary because no competitor would want to enter anyway. If, on the other hand, the industry is not a natural monopoly, then preventing competition is undesirable. Either way, preventing entry does not make sense.²⁷

In other words, as the name implies, a natural monopoly occurs naturally. If the market will bear only one firm, then policymakers need not artificially restrict entry.

The Interest-Group Model for CON

The preceding models have all been normative: they've focused on whether or not CON laws are desirable in the sense that they increase consumer welfare and efficiency. But perhaps the most informative models of CON are positive in the sense that they explain why CON programs exist irrespective of their desirability.

²⁵ This finding is known as x-inefficiency. For more details, see Harvey Leibenstein, "Allocative Efficiency vs. 'X-Efficiency,'" *American Economic Review* 56, no. 3 (June 1, 1966): 392–415.

²⁶ Zack Cooper, Stuart V. Craig, Martin Gaynor, and John Van Reenen, "The Price Ain't Right? Hospital Prices and Health Spending on the Privately Insured," NBER working paper, National Bureau of Economic Research, Cambridge, MA, December 2015.

²⁷ David R. Henderson, "Natural Monopoly," ed. David R. Henderson, *The Concise Encyclopedia of Economics* (Indianapolis, IN: Liberty Fund Inc., 2008).

Positive models stress that a CON law is a special privilege afforded to a particular interest group, namely the incumbent provider who benefits from a lack of competition. A large body of literature suggests that interest groups seeking special privileges through the political process have an advantage over the consumers and taxpayers who bear the costs of those privileges.

First, it takes time, money, and effort to get politically engaged. But, being few in number, the members of a special interest group typically find it easier than large, diffuse interests to organize for political action.²⁸

Second, such groups tend to be well informed about their industry. Often, they are able to capitalize on voter ignorance and irrationality²⁹ or to use their superior knowledge of the industry to dominate the regulatory process, or both.³⁰

Third, concentrated interest groups are often able to control the agenda, thus allowing them to steer committee outcomes to their benefit.³¹

²⁸ Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups*, Second Printing with New Preface and Appendix, Revised (Cambridge, MA: Harvard University Press, 1965); Jonathan Rauch, *Government's End: Why Washington Stopped Working* (New York: PublicAffairs, 1999).

²⁹ On voter ignorance, see Anthony Downs, *An Economic Theory of Democracy* (New York: Harper & Row, 1957); Geoffrey Brennan and Loren E. Lomasky, *Democracy and Decision: The Pure Theory of Electoral Preference* (Cambridge, UK: Cambridge University Press, 1997). On voter irrationality, see Bryan Caplan, *The Myth of the Rational Voter: Why Democracies Choose Bad Policies* (Princeton, NJ: Princeton University Press, 2008).

³⁰ George J. Stigler, "The Theory of Economic Regulation," *Bell Journal of Economics and Management Science* 2, no. 1 (April 1, 1971): 3–21; Richard A. Posner, "Theories of Economic Regulation," *Bell Journal of Economics and Management Science* 5, no. 2 (October 1, 1974): 335–58; Sam Peltzman, "Toward a More General Theory of Regulation," *Journal of Law and Economics* 19, no. 2 (August 1, 1976): 211–40; Ernesto Dal Bó, "Regulatory Capture: A Review," *Oxford Review of Economic Policy* 22, no. 2 (June 20, 2006): 203–25; Patrick A. McLaughlin, Matthew Mitchell, and Ethan Roberts, "When Regulation Becomes Privilege," Mercatus Center at George Mason University, Arlington, VA, forthcoming.

³¹ On using control of the agenda to determine the outcome, see Duncan Black, "On the Rationale of Group Decision-Making," *Journal of Political Economy* 56, no. 1 (February 1, 1948): 23–34; Kenneth Joseph Arrow, *Social Choice and Individual Values* (New Haven: Yale University Press, 1951); Richard D McKelvey, "Intransitivities in Multidimensional Voting Models and Some Implications for Agenda Control," *Journal of Economic Theory* 12, no. 3 (June 1976): 472–82. On keeping certain items off the agenda, see Peter Bachrach and Morton S. Baratz, "Two Faces of Power," *American Political Science Review* 56, no. 4 (December 1, 1962): 947–52.

Fourth and finally, firms tend to get better at political activity the more they engage in it, giving incumbents a marked advantage over new entrants.³²

All these factors explain why the CON process seems to favor incumbent firms through features such as steep application fees, long wait periods, and a notice-and-comment process that allows incumbents to argue against competition. They also explain why hospital lobbies typically support CON laws while federal antitrust authorities at the Justice Department and the Federal Trade Commission have long opposed them.³³

If, as the interest group models imply, CON laws exist to serve special interests rather than the general interest, then those laws are especially costly. Figure 4 demonstrates why. The model assumes, for simplicity, that marginal costs are identical under competitive and monopolistic conditions. (This assumption is made for ease of explanation; it does not drive the analysis.)

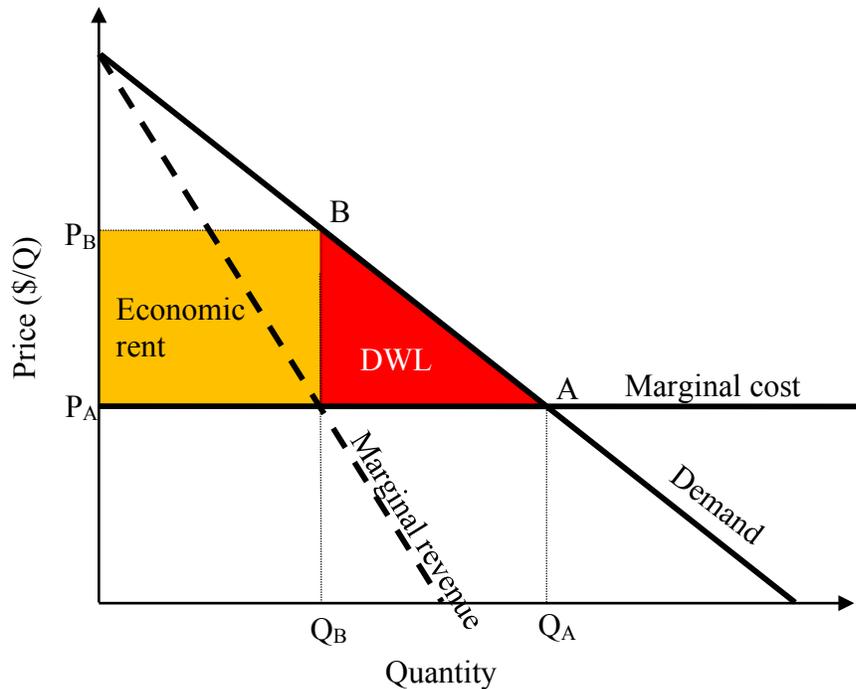
Without CON, the market equilibrium would be at A, where marginal cost equals marginal benefit. If an incumbent provider is able to obtain a monopoly privilege through CON, however, then the provider will limit the quantity supplied and will charge a higher price. Standard economic theory predicts that the monopolist will charge price P_B because at that price, marginal revenue is equal to marginal cost, thus maximizing profit. This pricing results in a traditional monopoly deadweight loss, indicated by the red triangle.³⁴

³² Lee Drutman, *The Business of America Is Lobbying: How Corporations Became Politicized and Politics Became More Corporate* (New York: Oxford University Press, 2015).

³³ For one recent example, see Federal Trade Commission and US Department of Justice, “Joint Statement of the Federal Trade Commission and the Antitrust Division of the U.S. Department of Justice on Certificate-of-Need Laws and South Carolina House Bill 3250,” January 2016, <https://www.ftc.gov/policy/policy-actions/advocacy-filings/2016/01/joint-statement-federal-trade-commission-antitrust>.

³⁴ Economists consider this an economic loss because consumers and would-be competitors lose more than the monopolist gains. For more details, see James R. Hines, “Three Sides of Harberger Triangles,” NBER Working Paper 6852, National Bureau of Economic Research, Cambridge, MA, December 1998.

Figure 4. CON as a Special Interest



But there is a potential for further social losses. The monopolist’s profit—which comes at the expense of consumers and would-be competitors—is indicated by the yellow rectangle and is known as “economic rent.” Because this rent can represent a substantial economic profit, firms will be willing to invest scarce resources seeking it.³⁵ They will lobby, donate to political action committees, and alter their business models to satisfy political preferences. Not all those activities are legal. For example, according to federal prosecutors, former HealthSouth CEO Richard Scrushy paid former Alabama Governor Don Siegelman more than \$500,000 for a seat

³⁵ Gordon Tullock, “The Welfare Costs of Tariffs, Monopolies, and Theft,” *Western Economic Journal [Economic Inquiry]* 5, no. 3 (June 1, 1967): 224–32; Anne O. Krueger, “The Political Economy of the Rent-Seeking Society,” *American Economic Review* 64, no. 3 (1974): 291–303.

on the state's certificate-of-need board. Both men were convicted of bribery (among other crimes) in June 2006.³⁶

Illegal or not, this activity has an opportunity cost. This cost is known as “rent-seeking,” and it can be enormously wasteful. Indeed, under the right circumstances, firms might be willing to invest more resources in rent-seeking than the rent is even worth.³⁷

But this is only one of several costs of special-interest privilege.³⁸ For example, when firms can obtain anticompetitive privileges, entrepreneurial talents will be directed at seeking those privileges rather than developing new ways to please customers, resulting in what economists call “unproductive entrepreneurship.”³⁹ This practice is especially costly over the long run because it robs an industry of the sort of entrepreneurial dynamism that characterizes healthy growth and because it locks in outdated business models.⁴⁰

For these reasons, the special-interest theory of CON regulation suggests that CON laws will result in higher costs, lower quality, and less innovation.

³⁶ Kyle Whitmire, “Ex-Governor and Executive Convicted of Bribery,” *New York Times*, June 30, 2006.

³⁷ Known as “overdissipation,” this outcome is possible when there are many rent-seekers and when there are increasing returns to political activity. Gordon Tullock, “Efficient Rent Seeking,” in *Toward a Theory of the Rent-Seeking Society*, ed. James M. Buchanan, Robert D. Tollison, and Gordon Tullock (College Station: Texas A&M University Press, 1980), 97–112; Dennis C. Mueller, *Public Choice III*, 3rd ed. (Cambridge, UK: Cambridge University Press, 2003), 331–37. For evidence that there are increasing returns to political activity, see Drutman, *The Business of America Is Lobbying*; Matthew Mitchell, “Of Rent-Seekers and Rent-Givers,” review of *The Business of America Is Lobbying*, by Lee Drutman, Library of Law and Liberty, December 14, 2015.

³⁸ Matthew Mitchell, *The Pathology of Privilege: The Economic Consequences of Government Favoritism* (Arlington, VA: Mercatus Center at George Mason University, 2012).

³⁹ William J. Baumol, “Entrepreneurship: Productive, Unproductive, and Destructive,” *Journal of Political Economy* 98, no. 5 (October 1, 1990): 893–921.

⁴⁰ Kevin M. Murphy, Andrei Shleifer, and Robert W. Vishny, “The Allocation of Talent: Implications for Growth,” *Quarterly Journal of Economics* 106, no. 2 (May 1, 1991): 503–30; Kevin Murphy, Andrei Shleifer, and Robert Vishny, “Why Is Rent-Seeking So Costly to Growth?,” *American Economic Review Papers and Proceedings* 83, no. 2 (1993): 409–14; Stephen L. Parente and Edward C. Prescott, *Barriers to Riches*, repr. ed. (Cambridge, MA: MIT Press, 2002); Adam Thierer, *Permissionless Innovation: The Continuing Case for Comprehensive Technological Freedom* (Arlington, VA: Mercatus Center at George Mason University, 2014).

Summary of the Economic Theory

In this section, I have reviewed several economic models of a supply restriction such as CON. None of those theories suggest that a CON regulation will decrease healthcare prices. Instead, theory predicts that a CON regulation will raise per unit cost, limit the supply of healthcare services, reduce consumer welfare, and lead to the misallocation of resources in rent-seeking activity.

Theory suggests that CON laws might reduce healthcare expenditures if the effects of the quantity reduction outweigh the effects of the price increases. But this theory would only hold if the demand for health care were relatively elastic, which is unlikely given the third-party-payer problem. CON regulations might mitigate a policy-induced externality, but they are hardly the most efficient or equitable means of doing so.

In the next section, I turn to the data and examine 40 years of empirical studies on the effects of CON on spending.

What Do the Data Show?

Table 1 reports the empirical literature assessing the effect of CON on various spending outcomes. For ease of reference, the studies are divided into four categories: (1) the effect of CON on cost per procedure, price, or charge; (2) the effect of CON on total expenditures; (3) the effect of CON on efficiency; and (4) the effect of CON on investment. Studies that assess CON along multiple spending outcomes appear more than once in the table. The scope of the analysis is limited to only published, peer-reviewed papers, and it encompasses 20 studies spanning the course of 40 years.⁴¹

⁴¹ Being focused on published, peer-reviewed papers, the table omits some high-quality government reports that were prepared by academics. Those reports are consistent with the findings reported in the table. See, for example, Daniel Sherman, “The Effect of State Certificate-of-Need Laws on Hospital Costs: An Economic Policy Analysis,” Staff Report of the Bureau of Economics, Federal Trade Commission, Washington, DC, January 1988; Christopher J. Conover and Frank A. Sloan, “Evaluation of Certificate of Need in Michigan,” Report to the Michigan Department of Community Health (Durham, NC: Duke University Center for Health Policy, Law, and Management, May 2003), <http://ushealthpolicygateway.com/wp-content/uploads/2009/07/mi-con-intro-iii.pdf>.

Table 1. Empirical Studies of CON and Spending

Author(s)	Year	Title	Publication	Effect of CON on cost/price/investment/efficiency	Quotes
Effect of CON on per unit costs, prices, or charges					
Noether	1988	“Competition among Hospitals”	<i>Journal of Health Economics</i>	CON increases the average price for specific disease categories such as congestive heart failure and pneumonia.	“CON’s strongest effect is that it creates cost-raising inefficiencies which are passed on in higher prices.”
Grabowski, Ohsfeldt, and Morrisey	2003	“The Effects of CON Repeal on Medicaid Nursing Home and Long-Term Care Expenditures”	<i>Inquiry: The Journal of Medical Care Organization, Provision, and Financing</i>	CON repeal has no statistically significant effect on per diem Medicaid nursing home charges or per diem Medicaid long-term-care charges.	“The results . . . show that regulatory change did not have a statistically significant effect on either Medicaid payment rates or overall days.”
Ho and Ku-Goto	2013	“State Deregulation and Medicare Costs for Acute Cardiac Care”	<i>Medical Care Research and Review</i>	Removing CON decreases the cost of some procedures.	“We found that states that dropped CON experienced lower costs per patient for coronary artery bypass grafts (CABG) but not for percutaneous coronary intervention (PCI).”
Bailey	2016	“Can Health Spending Be Reined In through Supply Constraints? An Evaluation of Certificate of Need Laws”	Mercatus Working Paper, Mercatus Center at George Mason University	Removing CON reduces hospital charges by 5.5% five years after repeal.	“CON repeal . . . is associated with . . . a statistically significant 1.1% reduction in average hospital charges per year (a 5.5% reduction for a mature CON repeal).”
Effect of CON on expenditures					
Sloan and Steinwald	1980	“Effects of Regulation on Hospital Costs and Input Use”	<i>Journal of Law and Economics</i>	Comprehensive CON programs have no effect on hospital expenditures per patient day, while noncomprehensive programs increase hospital expenditures per patient day.	“The short-run effect of a mature, noncomprehensive program is to raise total expense per adjusted patient day by nearly 5 percent; the long-run effect is over twice this.”
Sloan	1981	“Regulation and the Rising Cost of Hospital Care”	<i>Review of Economics and Statistics</i>	CON has no effect on hospital expenditures per admission, per patient day, or per adjusted patient day.	“The certificate-of-need coefficients imply CON has had no impact on costs.”
Lanning, Morrisey, and Ohsfeldt	1991	“Endogenous Hospital Regulation and Its Effects on Hospital and Non-Hospital Expenditures”	<i>Journal of Regulatory Economics</i>	CON increases per capita hospital, nonhospital, and total health expenditures.	“. . . the coefficient of CON is positive and statistically significant in all three expenditure equations. The most pronounced effect is on hospital expenditures, where CON appears to add 20.6 percent to per capita hospital expenditures in the long run. This is consistent with the view that CON programs act to protect inefficient hospitals from competition.”

Antel, Ohsfeldt, and Becker	1995	"State Regulation and Hospital Costs"	<i>Review of Economics and Statistics</i>	CON increases per-day and per-admission hospital expenditures but has no relationship to per capita hospital expenditures.	"CON investment controls imply higher per day and per admission costs, but have no statistically significant effect on per capita cost."
Conover and Sloan	1998	"Does Removing Certificate-of-Need Regulations Lead to a Surge in Health Care Spending?"	<i>Journal of Health Politics, Policy, and Law</i>	CON has no effect on total per capita health expenditures; there is no evidence of a surge in spending after repeal.	"Mature CON programs are associated with a modest (5 percent) long-term reduction in acute care spending per capita, but not with a significant reduction in total per capita spending. There is no evidence of a surge in acquisition of facilities or in costs following removal of CON regulations."
Miller, Harrington, and Goldstein	2002	"Access to Community-Based Long-Term Care: Medicaid's Role"	<i>Journal of Aging and Health</i>	CON increases per capita Medicaid community-based care expenditures.	"Use of a nursing home CON or combined CON/moratorium was associated with increased community-based care expenditures."
Grabowski, Ohsfeldt, and Morrisey	2003	"The Effects of CON Repeal on Medicaid Nursing Home and Long-Term Care Expenditures"	<i>Inquiry: The Journal of Medical Care Organization, Provision, and Financing</i>	CON repeal has no statistically significant effect on either aggregate Medicaid nursing-home or aggregate Medicaid long-term-care expenditures.	"Using aggregate state-level data from 1981 through 1998, this study found that states that repealed their CON and moratorium laws had no significant growth in either nursing home or long-term care Medicaid expenditures"
Rivers, Fottler, and Younis	2007	"Does Certificate of Need Really Contain Hospital Costs in the United States?"	<i>Health Education Journal</i>	CON laws increase hospital expenditures per adjusted admission.	"The results indicate that CON laws had a positive, statistically significant relationship to hospital costs per adjusted admission. . . .These findings suggest not only that CON do not really contain hospital costs, but may actually increase them by reducing competition."
Hellinger	2009	"The Effect of Certificate-of-Need Laws on Hospital Beds and Healthcare Expenditures: An Empirical Analysis"	<i>American Journal of Managed Care</i>	CON is associated with fewer hospital beds, which in turn are associated with slower growth in aggregate health expenditures per capita. But there is no direct relationship between CON and health expenditures per capita.	"Certificate-of-need programs did not have a direct effect on healthcare expenditures. . . . Certificate-of-need programs have limited the growth in the supply of hospital beds, and this has led to a slight reduction in the growth of healthcare expenditures."
Rivers, Fottler, and Frimpong	2010	"The Effects of Certificate of Need Regulation on Hospital Costs"	<i>Journal of Health Care Finance</i>	Stringent CON programs increase hospital expenditures per admission.	"Implications from these results include the inability of CNR [CON] to contain HC [hospital costs] as assumed or expected, and the possibility that CNR [CON] may actually increase HC [hospital costs], while reducing competition."
Rahman et al.	2016	"The Impact of Certificate-of-Need Laws on Nursing Home and Home Health Care Expenditures"	<i>Medical Care Research and Review: MCRR</i>	CON increases the growth in Medicare and Medicaid expenditures on nursing home care but decreases growth in home healthcare expenditures.	"Compared with states without CON laws, Medicare and Medicaid spending in states with CON laws grew faster for nursing home care and more slowly for home health care."

Bailey	2016	“Can Health Spending Be Reined In through Supply Constraints? An Evaluation of Certificate of Need Laws”	Mercatus Working Paper, Mercatus Center at George Mason University	CON is associated with higher overall per capita healthcare expenditures and with higher per capita Medicare expenditures.	“CON increases total health spending [per capita] by a statistically significant 3.1%. Increases are especially high for spending on physician care—a statistically significant 5.0%. . . . CON is estimated to increase overall Medicare spending [per capita] by a statistically significant 6.9%.”
Effect of CON on Hospital Efficiency					
Eakin	1991	“Allocative Inefficiency in the Production of Hospital Services”	<i>Southern Economic Journal</i>	CON hospitals are less efficient than non-CON hospitals.	“. . . hospitals subject to CON regulations have a greater measure of allocative inefficiency by .88 to 1.03 percentage points.”
Bates, Mukherjee, and Santerre	2006	“Market Structure and Technical Efficiency in the Hospital Services Industry: A DEA Approach”	<i>Medical Care Research and Review</i>	CON hospitals are not any less efficient than non-CON hospitals.	“Evidence also implies that the presence of a state certificate-of-need law was not associated with a greater degree of inefficiency in the typical metropolitan hospital services industry.”
Ferrier, Leleu, and Valdmanis	2010	“The Impact of CON Regulation on Hospital Efficiency”	<i>Health Care Management Science</i>	CON hospitals are more efficient than non-CON hospitals.	“In general, we found that the hospital sector in states with active CON regulations performed better in terms of aggregate technical and mix efficiency, irrespective of the stringency or laxness of this oversight.”
Rosko and Mutter	2014	“The Association of Hospital Cost-Inefficiency with Certificate-of-Need Regulation”	<i>Medical Care Research and Review</i>	CON hospitals are more efficient than non-CON hospitals.	“Average estimated cost-inefficiency was less in CON states (8.10%) than in non-CON states (12.46%).”
Effect of CON on Investment					
Salkever and Bice	1976	“The Impact of Certificate of Need Controls on Hospital Investment”	<i>Milbank Memorial Fund Quarterly: Health and Society</i>	CON does not decrease investment but does change its composition.	“CON did not reduce the total dollar volume of investment but altered its composition, retarding expansion in bed supplies but increasing investment in new services and equipment.”
Hellinger	1976	“The Effect of Certificate-of-Need Legislation on Hospital Investment”	<i>Inquiry: The Journal of Medical Care Organization, Provision, and Financing</i>	CON legislation induced hospitals to increase investments.	“The empirical results support the hypotheses that [CON] legislation has not significantly lowered hospital investment and that hospitals anticipated the effect of [CON] legislation by increasing investment in the period preceding the enactment of the legislation.”

Per Unit Costs, Prices, and Charges

The first four studies summarized in table 1 address the idea of cost as it is commonly used in everyday language.⁴² Those studies assess the effect of CON on *per unit* costs, prices, or charges (a charge is the initial amount that the payer is billed, whereas a price is the amount that the payer actually pays after negotiation).⁴³

As noted in the previous section, economic theory suggests that a supply restriction is likely to increase per unit costs and prices. And, indeed, the empirical evidence is consistent with this prediction. Three of these four studies found CON to be associated with higher per unit prices, costs, or charges, while the fourth—which focused only on per diem Medicaid charges for nursing-home and long-term care—found that repeal of CON had no statistically significant effect on those charges.⁴⁴

One study found that “CON’s strongest effect is that it creates cost-raising inefficiencies which are passed on in higher prices.”⁴⁵ Another found that removing CON decreased the per unit cost of coronary artery bypass grafts, though not the cost of percutaneous coronary intervention.⁴⁶ The most recent study found that average hospital charges fell 1.1 percent per

⁴² Monica Noether, “Competition among Hospitals,” *Journal of Health Economics* 7, no. 3 (September 1988): 259–84; David C. Grabowski, Robert L. Ohsfeldt, and Michael A. Morrisey, “The Effects of CON Repeal on Medicaid Nursing Home and Long-Term Care Expenditures,” *Inquiry: The Journal of Medical Care Organization, Provision, and Financing* 40, no. 2 (2003): 146–57; Vivian Ho and Meei-Hsiang Ku-Goto, “State Deregulation and Medicare Costs for Acute Cardiac Care,” *Medical Care Research and Review* 70, no. 2 (April 2013): 185–205; James Bailey, “Can Health Spending Be Reined In through Supply Constraints? An Evaluation of Certificate-of-Need Laws,” Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, July 2016.

⁴³ Although prices are more important, economically, charges are easier to observe. For more details, see Bailey, “Can Health Spending Be Reined In through Supply Constraints?”

⁴⁴ The three studies that found CON increases prices, charges, or per unit costs were Noether, “Competition among Hospitals”; Ho and Ku-Goto, “State Deregulation and Medicare Costs for Acute Cardiac Care”; and Bailey, “Can Health Spending Be Reined In through Supply Constraints?” The study that failed to find any statistically significant effect was Grabowski, Ohsfeldt, and Morrisey, “The Effects of CON Repeal on Medicaid Nursing Home and Long-Term Care Expenditures.”

⁴⁵ Noether, “Competition among Hospitals.”

⁴⁶ Ho and Ku-Goto, “State Deregulation and Medicare Costs for Acute Cardiac Care.”

year for each of the five years following repeal of CON; in other words, five years following repeal, the charges were 5.5 percent lower than they would otherwise have been.⁴⁷

Expenditures

The next 12 studies in table 1 assess the effect of CON on healthcare expenditures or on the growth of those expenditures, usually measured on a per capita basis.⁴⁸ In other words, the studies assess the effect of CON on the total amount that is spent on a patient or state resident, rather than on the price per unit of service. In this sense, those studies are comparable to the effect described in panel B of figure 1.⁴⁹ As noted previously, that theoretical framework shows that a supply restriction such as CON might lead to either more spending or less spending, depending on whether the price-raising effect or quantity-reducing effect of the supply restriction dominates.

⁴⁷ Bailey, “Can Health Spending Be Reined In through Supply Constraints?”

⁴⁸ Frank A. Sloan and Bruce Steinwald, “Effects of Regulation on Hospital Costs and Input Use,” *Journal of Law and Economics* 23, no. 1 (1980): 81–109; Frank A. Sloan, “Regulation and the Rising Cost of Hospital Care,” *Review of Economics and Statistics* 63, no. 4 (1981): 479–87; Joyce A. Lanning, Michael A. Morrissey, and Robert L. Ohsfeldt, “Endogenous Hospital Regulation and Its Effects on Hospital and Non-Hospital Expenditures,” *Journal of Regulatory Economics* 3, no. 2 (June 1991): 137–54; John J. Antel, Robert L. Ohsfeldt, and Edmund R. Becker, “State Regulation and Hospital Costs,” *Review of Economics and Statistics* 77, no. 3 (1995): 416–22; Christopher J. Conover and Frank A. Sloan, “Does Removing Certificate-of-Need Regulations Lead to a Surge in Health Care Spending?,” *Journal of Health Politics, Policy, and Law* 23, no. 3 (June 1, 1998): 455–81; Nancy A. Miller, Charlene Harrington, and Elizabeth Goldstein, “Access to Community-Based Long-Term Care: Medicaid’s Role,” *Journal of Aging and Health* 14, no. 1 (February 2002): 138–59; Grabowski, Ohsfeldt, and Morrissey, “The Effects of CON Repeal on Medicaid Nursing Home and Long-Term Care Expenditures”; Patrick A. Rivers, Myron D. Fottler, and Mustafa Zeedan Younis, “Does Certificate of Need Really Contain Hospital Costs in the United States?,” *Health Education Journal* 66, no. 3 (September 1, 2007): 229–44; Fred J. Hellinger, “The Effect of Certificate-of-Need Laws on Hospital Beds and Healthcare Expenditures: An Empirical Analysis,” *American Journal of Managed Care* 15, no. 10 (October 2009): 737–44; Patrick A. Rivers, Myron D. Fottler, and Jemima A. Frimpong, “The Effects of Certificate of Need Regulation on Hospital Costs,” *Journal of Health Care Finance* 36, no. 4 (2010): 1–16; Momotazur Rahman et al., “The Impact of Certificate-of-Need Laws on Nursing Home and Home Health Care Expenditures,” *Medical Care Research and Review: MCRR* 73, no. 1 (February 2016): 85–105; Bailey, “Can Health Spending Be Reined In through Supply Constraints?”

⁴⁹ It is not uncommon for such papers to use the term *cost*, but their focus is on expenditure in the sense that they are looking at total spending and not at the cost per service.

Of those 12 studies, only one suggests that CON is associated with reduced expenditures.⁵⁰ And even in that case, the connection was tenuous. The author found CON to be associated with fewer hospital beds, and he found that fewer hospital beds were associated with slightly slower growth in aggregate healthcare expenditures per capita. Importantly, however, he found that “certificate-of-need programs did not have a direct effect on healthcare expenditures.”⁵¹

Of the remaining 11 studies that assess the effect of CON on expenditures, 7 found evidence that CON increases expenditures,⁵² 2 found no statistically significant effect,⁵³ and 2 found that CON increased some expenditures while reducing others.⁵⁴

Hospital Efficiency

The next four studies in table 1 assess the effect of CON on hospital efficiency.⁵⁵ Essentially, those studies examine how cost-effectively hospitals transform inputs into outputs.⁵⁶ Economic theory offers no clear prediction for how CON might affect an individual hospital’s efficiency.

⁵⁰ Hellinger, “The Effect of Certificate-of-Need Laws on Hospital Beds and Healthcare Expenditures.”

⁵¹ *Ibid.*, 737.

⁵² Sloan and Steinwald, “Effects of Regulation on Hospital Costs and Input Use”; Lanning, Morrisey, and Ohsfeldt, “Endogenous Hospital Regulation and Its Effects on Hospital and Non-Hospital Expenditures”; Antel, Ohsfeldt, and Becker, “State Regulation and Hospital Costs”; Miller, Harrington, and Goldstein, “Access to Community-Based Long-Term Care”; Rivers, Fottler, and Younis, “Does Certificate of Need Really Contain Hospital Costs in the United States?”; Rivers, Fottler, and Frimpong, “The Effects of Certificate of Need Regulation on Hospital Costs”; Bailey, “Can Health Spending Be Reined In through Supply Constraints?”

⁵³ Sloan, “Regulation and the Rising Cost of Hospital Care”; Grabowski, Ohsfeldt, and Morrisey, “The Effects of CON Repeal on Medicaid Nursing Home and Long-Term Care Expenditures.”

⁵⁴ Conover and Sloan, “Does Removing Certificate-of-Need Regulations Lead to a Surge in Health Care Spending?”; Rahman et al., “The Impact of Certificate-of-Need Laws on Nursing Home and Home Health Care Expenditures.”

⁵⁵ B. Kelly Eakin, “Allocative Inefficiency in the Production of Hospital Services,” *Southern Economic Journal* 58, no. 1 (1991): 240–48; Laurie J. Bates, Kankana Mukherjee, and Rexford E. Santerre, “Market Structure and Technical Efficiency in the Hospital Services Industry: A DEA Approach,” *Medical Care Research and Review* 63, no. 4 (August 2006): 499–524; Gary D. Ferrier, Hervé Leleu, and Vivian Valdmanis, “The Impact of CON Regulation on Hospital Efficiency,” *Health Care Management Science* 13, no. 1 (March 2010): 84–100; Michael D. Rosko and Ryan L. Mutter, “The Association of Hospital Cost-Inefficiency with Certificate-of-Need Regulation,” *Medical Care Research and Review* 71, no. 3 (January 22, 2014): 280–298.

⁵⁶ For more details see Bates, Mukherjee, and Santerre, “Market Structure and Technical Efficiency in the Hospital Services Industry.”

Although most of the theoretical models reviewed in the previous section suggest that CON will increase per unit prices and reduce the quantity of healthcare services, it is possible that by forcing more services to take place in a few large hospitals, CON might allow those hospitals to achieve economies of scale, even if this reduction comes at the price of reduced services elsewhere. Indeed, the empirical literature is mixed on CON and particular hospital efficiency. Two studies find that CON increases some measures of hospital efficiency,⁵⁷ one study finds no effect,⁵⁸ and one study finds that CON reduces hospital efficiency.⁵⁹

Hospital Investment

Two early studies assessed the effect of CON on investment. Those studies reflect the goal of reducing unnecessary capital expenditures. One of the studies found that CON failed to reduce investment, though it did change the composition of the investment.⁶⁰ The other study found that CON backfired, causing hospitals to increase investment immediately before CON was implemented in anticipation that it would make future investments more difficult.⁶¹

Conclusion

In most industries, the economic viability of a new product or service is determined by the market signals of prices, profit, and loss. These signals are governed by the values of consumers and producers. If market participants do not deem a product or service to be worth

⁵⁷ Ferrier, Leleu, and Valdmanis, “The Impact of CON Regulation on Hospital Efficiency”; Rosko and Mutter, “The Association of Hospital Cost-Inefficiency with Certificate-of-Need Regulation.”

⁵⁸ Bates, Mukherjee, and Santerre, “Market Structure and Technical Efficiency in the Hospital Services Industry.”

⁵⁹ Eakin, “Allocative Inefficiency in the Production of Hospital Services.”

⁶⁰ David S. Salkever and Thomas W. Bice, “The Impact of Certificate-of-Need Controls on Hospital Investment,” *Milbank Memorial Fund Quarterly: Health and Society* 54, no. 2 (1976): 185–214.

⁶¹ Fred J. Hellinger, “The Effect of Certificate-of-Need Legislation on Hospital Investment,” *Inquiry: The Journal of Medical Care Organization, Provision, and Financing* 13, no. 2 (1976): 187–93.

the opportunity cost of producing it, the product or service will not be economically viable and will soon disappear.

In the healthcare markets of 35 states and the District of Columbia, however, many of the decisions are not left to market participants. Instead, they are governed by regulators empowered to permit—or refuse to permit—new and expanded services. Those laws are called certificate-of-need laws because regulators are supposed to determine whether or not consumers need the services in question.

Providers seeking permission to operate can spend years and tens or even thousands of dollars attempting to obtain permission. During this process, incumbent providers are often invited to offer their own opinion about the desirability of competition.

Although CON regulations were once promoted by the federal government as a way to limit healthcare costs, economic theory offers little reason to suppose they work as intended. Instead, economic theory predicts that a supply restriction such as CON will increase per unit costs and decrease the quantity of services. Furthermore, it predicts that CON laws may lead to either increases or decreases in total healthcare spending, depending on whether the price-increasing or the quantity-reducing effects of CON dominate.

Although CON laws may help internalize externalities created by other public policies such as insurance mandates and public funding, a more efficient and equitable way to address these externalities would be to reform the policies that cause them. Even though CON laws might allow individual hospitals to increase efficiency by channeling more patients to one location, thus achieving economies of scale, these laws might alternatively decrease hospital efficiency by making administrators less cost conscious. Finally, economic theory predicts that

CON laws will allow small but concentrated special interests to profit at the expense of consumers and other providers.

A review of 20 peer-reviewed academic studies finds that CON laws have worked largely as economic theory predicts and that they have failed to achieve their stated goal of cost reduction. The overwhelming weight of evidence suggests that CON laws are associated with both higher per unit costs and higher total expenditures. The evidence is mixed on whether CON laws have increased the efficiency of particular hospitals by channeling more patients through fewer facilities, and there is no evidence that CON decreased overall investment as its proponents had hoped. The weight of evidence suggests that CON regulations persist because they protect politically potent special interests from competition.