



Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in an Alabama without CON laws.



### HEALTHCARE SERVICES THAT REQUIRE A CON IN ALABAMA

Acute Hospital Beds Ambulatory Surgical Centers (ASCs) Burn Care Cardiac Catheterization Gamma Knives Home Health

#### Hospice

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs) Long-Term Acute Care (LTAC)

Neo-Natal Intensive Care

Nursing Home Beds/ Long-Term Care Beds Obstetrics Services Open-Heart Surgery Organ Transplants Psychiatric Services Radiation Therapy Rehabilitation Renal Failure/Dialysis Substance/Drug Abuse Swing Beds

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Alabama without CON



## ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Alabama without CON



TOTAL FACILITIES



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016);

### ALABAMA CERTIFICATE-OF-NEED LAWS

### **QUALITY**

Supporters of CON suggest these regulations positively impact healthcare quality, but research finds the quality of hospital care in CON states is not systematically higher than hospital quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Alabama is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Alabama healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.





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### HEALTHCARE SERVICES THAT REQUIRE A CON IN ALASKA

Acute Hospital Beds

Ambulatory Surgical Centers (ASCs)

Burn Care

Cardiac Catheterization

Computed Tomography (CT) Scanners

#### Gamma Knives

Lithotripsy

Long-Term Acute Care (LTAC)

Magnetic Resonance Imaging (MRI) Scanners Mobile Medical Imaging Neonatal Intensive Care Nursing Home Beds/ Long-Term Care Beds Obstetrics Services Open-Heart Surgery Organ Transplants Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Renal Failure/Dialysis Subacute Services

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Alaska without CON





Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Alaska without CON



TOTAL FACILITIES



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### ALASKA CERTIFICATE-OF-NEED LAWS

# **QUALITY**

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#### Estimated changes in Alaska healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 artific on the survey.

# **MEDICAL IMAGING SERVICES**

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.

Source: 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).



### **CERTIFICATE-OF-NEED (CON) LAWS**



Arizona regulates ground ambulance services with a certificate-of-need (CON) law. However, because its CON only applies to ambulance services, most researchers do not include the state in their regression analyses. For this reason, we do not provide a profile for Arizona.







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### HEALTHCARE SERVICES THAT REQUIRE A CON IN ARKANSAS

Assisted Living/Residential Care Facilities Home Health Hospice Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs) Nursing Home Beds/ Long-Term Care Beds **Psychiatric Services** 

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Arkansas without CON



## ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Arkansas without CON



TOTAL HOSPITALS



RURAL HOSPITALS

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016);

#### ARKANSAS CERTIFICATE-OF-NEED LAWS

# **QUALITY**

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Arkansas is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.







Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 arting on the survey.

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### HEALTHCARE SERVICES THAT REQUIRE A CON IN CONNECTICUT

Acute Hospital Beds Ambulatory Surgical Centers (ASCs) Cardiac Catheterization Computed Tomography (CT) Scanners Linear Accelerator Radiology Long-Term Acute Care (LTAC) Magnetic Resonance Imaging (MRI) Scanners

Mobile Medical Imaging Positron Emission

Tomography (PET) Scanners Psychiatric Services Radiation Therapy Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Connecticut without CON



# ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

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### Estimated changes in access to healthcare facilities in Connecticut without CON



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### CONNECTICUT CERTIFICATE-OF-NEED LAWS

# **QUALITY**

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#### Estimated changes in Connecticut healthcare quality indicators (full sample, at least one CON law)



Connecticut is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Connecticut healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

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# **MEDICAL IMAGING SERVICES**

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON



### MERCATUS CENTER George Mason University

Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.

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### HEALTHCARE SERVICES THAT REQUIRE A CON IN DELAWARE

Acute Hospital Beds Ambulatory Surgical Centers (ASCs) Cardiac Catheterization Lithotripsy Long-Term Acute Care (LTAC) Nursing Home Beds/ Long-Term Care Beds Positron Emission Tomography (PET) Scanners Radiation Therapy

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Delaware without CON





Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Delaware without CON



TOTAL FACILITIES



At the time it was studied, Delaware had no rural hospitals or rural ASCs. We therefore cannot estimate the number of rural facilities that would likely exist in the event that the state had no ASC-specific CON requirement. Research suggests, however, that—in general—states without CON laws have 30% more rural hospitals and states without ASC-specific CON laws have 13% more rural ASCs than CON states.

Sources: 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, 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, 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, 2016).

#### **DELAWARE** CERTIFICATE-OF-NEED LAWS

# **QUALITY**

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Delaware is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Delaware healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

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# **MEDICAL IMAGING SERVICES**

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#### Estimated effect on medical imaging by nonhospital providers without CON



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#### Estimated percentage point reduction in out-of-county scans without CON





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The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

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### FLORIDA STATE PROFILE

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### HEALTHCARE SERVICES THAT REQUIRE A CON IN FLORIDA

Acute Hospital Beds

Assisted Living/Residential Care Facilities Burn Care Cardiac Catheterization

Home Health

#### Hospice

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Long-Term Acute Care (LTAC) Nursing Home Beds/ Long-Term Care Beds Open-Heart Surgery Organ Transplants Psychiatric Services

Neonatal Intensive Care

Rehabilitation Subacute Services Substance/Drug Abuse Swing Beds

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Florida without CON





Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Florida without CON





RURAL HOSPITALS



Sources: 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, 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, 2016).

#### FLORIDA CERTIFICATE-OF-NEED LAWS

## **QUALITY**

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#### Estimated changes in Florida healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

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### DISTRICT OF COLUMBIA STATE PROFILE

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### HEALTHCARE SERVICES THAT REQUIRE A CON IN THE DISTRICT OF COLUMBIA

Acute Hospital Beds Ambulatory Surgical Centers (ASCs) Burn Care Cardiac Catheterization Computed Tomography (CT) Scanners Gamma Knives Home Health

#### Hospice

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Lithotripsy

Long-Term Acute Care (LTAC)

Magnetic Resonance Imaging (MRI) Scanners Medical Office Buildings Neonatal Intensive Care Nursing Home Beds/ Long-Term Care Beds Obstetrics Services Open-Heart Surgery

Organ Transplants

Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Rehabilitation Renal Failure/Dialysis Subacute Services Substance/Drug Abuse Swing Beds Ultrasound

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

> Estimated changes in annual per capita healthcare spending patterns in the District of Columbia without CON



## MEDICAL IMAGING SERVICES

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.







At the time it was studied, District of Columbia medical facilities provided no PET scans to Medicare beneficiaries, although the District regulated the use of PET machines. We therefore cannot estimate the number of scans that would likely take place in the event that the District had no CON law. Research suggests, however, that—in general—states without CON laws provide 45% more scans than CON states.

Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Sources: 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, 2016); 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).

# **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.

Estimated changes in District of Columbia healthcare quality indicators (full sample, at least one CON law)



32 states and the District of Columbia have four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in District of Columbia healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicaie and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.



### FLORIDA STATE PROFILE

Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in a Florida without CON laws.



### HEALTHCARE SERVICES THAT REQUIRE A CON IN FLORIDA

Acute Hospital Beds

Assisted Living/Residential Care Facilities Burn Care Cardiac Catheterization

Home Health

#### Hospice

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Long-Term Acute Care (LTAC) Nursing Home Beds/ Long-Term Care Beds Open-Heart Surgery Organ Transplants Psychiatric Services

Neonatal Intensive Care

Rehabilitation Subacute Services Substance/Drug Abuse Swing Beds

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Florida without CON





Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Florida without CON





RURAL HOSPITALS



Sources: 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, 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, 2016).

#### FLORIDA CERTIFICATE-OF-NEED LAWS

## **QUALITY**

Supporters of CON suggest these regulations positively impact healthcare quality, but research finds the quality of hospital care in CON states is not systematically higher than hospital quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Florida is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Florida healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

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### HEALTHCARE SERVICES THAT REQUIRE A CON IN GEORGIA

Acute Hospital Beds Ambulatory Surgical Centers (ASCs)

Cardiac Catheterization

Computed Tomography (CT) Scanners

Gamma Knives

#### Home Health

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Lithotripsy

Long-Term Acute Care (LTAC) Magnetic Resonance Imaging (MRI) Scanners Medical Office Buildings Neonatal Intensive Care Nursing Home Beds/ Long-Term Care Beds Obstetrics Services Open-Heart Surgery Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Rehabilitation Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Georgia without CON



### ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Georgia without CON



TOTAL FACILITIES



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### **GEORGIA** CERTIFICATE-OF-NEED LAWS

# **QUALITY**

Supporters of CON suggest these regulations positively impact healthcare quality, but research finds the quality of hospital care in CON states is not systematically higher than hospital quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Georgia is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Georgia healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 or 10 out of 10 rating on the survey.

# **MEDICAL IMAGING SERVICES**

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.

Source: 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).



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### HEALTHCARE SERVICES THAT REQUIRE A CON IN HAWAII

Acute Hospital Beds

Air Ambulance

Ambulance Services, Ground

Ambulatory Surgical Centers (ASCs)

Burn Care

Cardiac Catheterization

Computed Tomography (CT) Scanners

Gamma Knives

Home Health

Hospice

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Lithotripsy

Long-Term Acute Care (LTAC)

Magnetic Resonance Imaging (MRI) Scanners Mobile Medical Imaging Neonatal Intensive Care Nursing Home Beds/ Long-Term Care Beds

**Obstetrics Services** 

Open-Heart Surgery

Organ Transplants

Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Rehabilitation Renal Failure/Dialysis Subacute Services Substance/Drug Abuse Swing Beds Ultrasound

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Hawaii without CON



## ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Hawaii without CON



TOTAL FACILITIES



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 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, 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, 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, 2016);

#### HAWAII CERTIFICATE-OF-NEED LAWS

## **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Hawaii is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Hawaii healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or to out of 10 or to out of 10 arting on the survey.

# **MEDICAL IMAGING SERVICES**

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.

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Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in an Illinois without CON laws.



#### HEALTHCARE SERVICES THAT REQUIRE A CON IN ILLINOIS

Acute Hospital Beds Ambulatory Surgical Centers (ASCs)

Cardiac Catheterization

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Long-Term Acute Care (LTAC)

Neonatal Intensive Care Nursing Home Beds/ Long-Term Care Beds Obstetrics Services Open-Heart Surgery Organ Transplants Rehabilitation Renal Failure/Dialysis Subacute Services

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Illinois without CON



### ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Illinois without CON



TOTAL FACILITIES



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### ILLINOIS CERTIFICATE-OF-NEED LAWS

# QUALITY

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Illinois is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Illinois healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

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#### HEALTHCARE SERVICES THAT REQUIRE A CON IN KENTUCKY

Acute Hospital Beds

Ambulance Services, Ground Ambulatory Surgical Centers

(ASCs) Assisted Living/Residential

Care Facilities Cardiac Catheterization

earaide earneterization

Home Health

#### Hospice

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Long-Term Acute Care (LTAC)

Magnetic Resonance Imaging (MRI) Scanners Mobile Medical Imaging Neonatal Intensive Care Nursing Home Beds/ Long-Term Care Beds Obstetrics Services Open-Heart Surgery Organ Transplants Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Rehabilitation Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Kentucky without CON





Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

#### Estimated changes in access to healthcare facilities in Kentucky without CON



TOTAL FACILITIES



RURAL FACILITIES

Sources: James Bailey, "Can Health Spending Be Reined In through Supply Constraints? An Evaluation of Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus MERCATUS CENTER George Mason University Center at George Mason University, Arlington, VA, 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, 2016).

#### **KENTUCKY** CERTIFICATE-OF-NEED LAWS

# **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Kentucky is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.



#### Estimated changes in Kentucky healthcare quality indicators (restricted sample, four or more CON laws)



Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

# **MEDICAL IMAGING SERVICES**

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.

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Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in an lowa without CON laws.



#### HEALTHCARE SERVICES THAT REQUIRE A CON IN IOWA

Acute Hospital Beds Ambulatory Surgical Centers (ASCs)

Cardiac Catheterization Computed Tomography (CT) Scanners

#### Gamma Knives

Hospice

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Long-Term Acute Care (LTAC) Magnetic Resonance Imaging (MRI) Scanners Mobile Medical Imaging Nursing Home Beds/ Long-Term Care Beds Open-Heart Surgery

#### Organ Transplants

Positron Emission Tomography (PET) Scanners

Psychiatric Services

Radiation Therapy

Rehabilitation

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Iowa without CON



MERCATUS CENTER George Mason University



Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Iowa without CON



Sources: 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, 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, 2016).

## QUALITY

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





lowa is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.







Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 arting on the survey.

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#### HEALTHCARE SERVICES THAT REQUIRE A CON IN LOUISIANA

Assisted Living/Residential Care Facilities Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs) Nursing Home Beds/ Long-Term Care Beds

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Louisiana without CON



### ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Louisiana without CON



TOTAL HOSPITALS



RURAL HOSPITALS

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016);

#### LOUISIANA CERTIFICATE-OF-NEED LAWS

# QUALITY

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#### Estimated changes in Louisiana healthcare quality indicators



### MERCATUS CENTER George Mason University

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

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#### HEALTHCARE SERVICES THAT REQUIRE A CON IN MAINE

Ambulatory Surgical Centers (ASCs) Cardiac Catheterization Gamma Knives Long-Term Acute Care (LTAC) Nursing Home Beds/ Long-Term Care Beds Psychiatric Services Radiation Therapy Rehabilitation Renal Failure/Dialysis Substance/Drug Abuse Swing Beds Ultrasound

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Maine without CON





Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Maine without CON



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 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, 2016).

#### MAINE CERTIFICATE-OF-NEED LAWS

## QUALITY

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Maine is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Maine healthcare quality indicators (restricted sample, four or more CON laws)



### MERCATUS CENTER George Mason University

Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 arting on the survey.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.





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#### HEALTHCARE SERVICES THAT REQUIRE A CON IN MARYLAND

Acute Hospital Beds Ambulatory Surgical Centers (ASCs)

Assisted Living/Residential **Care Facilities** 

Burn Care

Cardiac Catheterization

Home Health Hospice

**Intermediate Care Facilities** for Individuals with Intellectual Disability (ICF/IDs)

Long-Term Acute Care (LTAC) Neonatal Intensive Care

Nursing Home Beds/ Long-Term Care Beds **Obstetrics Services** 

**Open-Heart Surgery** Organ Transplants **Psychiatric Services** Rehabilitation Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Maryland without CON



### ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Maryland without CON





RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### MARYLAND CERTIFICATE-OF-NEED LAWS

## **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.

#### Estimated changes in Maryland healthcare quality indicators (full sample, at least one CON law)



Maryland is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Maryland healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

Maryland does not have data for deaths among patients with serious complications after surgery. We therefore cannot estimate this death rate in a Maryland without CON. Research suggests, however, that—in general—states without CON laws have around 6 fewer deaths per 1,000 surgical discharges with complications.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.





### MASSACHUSETTS STATE PROFILE

Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in a Massachusetts without CON laws.



#### HEALTHCARE SERVICES THAT REQUIRE A CON IN MASSACHUSETTS

Acute Hospital Beds

Air Ambulance

Ambulatory Surgical Centers (ASCs)

Assisted Living/Residential Care Facilities

Cardiac Catheterization

#### Gamma Knives

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Lithotripsy

Long-Term Acute Care (LTAC) Magnetic Resonance Imaging (MRI) Scanners Neonatal Intensive Care Nursing Home Beds/ Long-Term Care Beds Open-Heart Surgery Organ Transplants Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Rehabilitation Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Massachusetts without CON



# ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Massachusetts without CON



RURAL HOSPITALS



At the time it was studied, Massachusetts had no rural ASCs. We therefore cannot estimate the number of rural ASCs that would likely exist in the event that the state had no ASC-specific CON requirement. Research suggests, however, that—in general—states without ASC-specific CON laws have 13% more rural ASCs than CON states.

Sources: 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, 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, 2016).

#### MASSACHUSETTS CERTIFICATE-OF-NEED LAWS

## **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.

#### Estimated changes in Massachusetts healthcare quality indicators (full sample, at least one CON law)



Massachusetts is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Massachusetts healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

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# **MEDICAL IMAGING SERVICES**

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.

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#### HEALTHCARE SERVICES THAT REQUIRE A CON IN MICHIGAN

Acute Hospital Beds

Air Ambulance

Ambulatory Surgical Centers (ASCs)

Cardiac Catheterization Computed Tomography

(CT) Scanners

Gamma Knives

Lithotripsy

Long-Term Acute Care (LTAC)

Magnetic Resonance Imaging (MRI) Scanners Mobile Medical Imaging

Neonatal Intensive Care Nursing Home Beds/ Long-Term Care Beds Open-Heart Surgery Organ Transplants Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Swing Beds

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Michigan without CON





Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

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### Estimated changes in access to healthcare facilities in Michigan without CON



TOTAL FACILITIES



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Me

#### MICHIGAN CERTIFICATE-OF-NEED LAWS

## **QUALITY**

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#### Estimated changes in Michigan healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

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# **MEDICAL IMAGING SERVICES**

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#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

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#### **HEALTHCARE SERVICES THAT REQUIRE A CON IN MISSISSIPPI**

Acute Hospital Beds Ambulatory Surgical Centers (ASCs) Cardiac Catheterization Gamma Knives Home Health Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Long-Term Acute Care (LTAC)

Magnetic Resonance Imaging (MRI) Scanners Mobile Medical Imaging Nursing Home Beds/ Long-Term Care Beds

Open-Heart Surgery

Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Rehabilitation Renal Failure/Dialysis Substance/Drug Abuse Swing Beds

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Mississippi without CON



## ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Mississippi without CON



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### MISSISSIPPI CERTIFICATE-OF-NEED LAWS

## **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.

#### Estimated changes in Mississippi healthcare quality indicators (full sample, at least one CON law)



Mississippi is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Mississippi healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

# **MEDICAL IMAGING SERVICES**

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.

Source: 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).





Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in a Missouri without CON laws.



#### HEALTHCARE SERVICES THAT REQUIRE A CON IN MISSOURI

Acute Hospital Beds Assisted Living/Residential Care Facilities

Cardiac Catheterization Computed Tomography (CT) Scanners

Gamma Knives

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Linear Accelerator Radiology

Lithotripsy

Long-Term Acute Care (LTAC) Magnetic Resonance

Imaging (MRI) Scanners Mobile Medical Imaging

Nursing Home Beds/ Long-Term Care Beds **Obstetrics Services** 

Positron Emission Tomography (PET) Scanners

**Psychiatric Services** 

Radiation Therapy

Rehabilitation

Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Missouri without CON



## ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Missouri without CON



TOTAL HOSPITALS



RURAL HOSPITALS

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### **MISSOURI** CERTIFICATE-OF-NEED LAWS

# **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Missouri is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Missouri healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

# **MEDICAL IMAGING SERVICES**

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.

Source: 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).





Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in a Montana without CON laws.



#### HEALTHCARE SERVICES THAT REQUIRE A CON IN MONTANA

Ambulatory Surgical Centers (ASCs) Home Health Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Long-Term Acute Care (LTAC) Nursing Home Beds/ Long-Term Care Beds Rehabilitation Substance/Drug Abuse Swing Beds
Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Montana without CON



# ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Montana without CON



TOTAL FACILITIES



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Me

#### MONTANA CERTIFICATE-OF-NEED LAWS

## **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Montana is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.







Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 arting on the survey.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.





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### HEALTHCARE SERVICES THAT REQUIRE A CON IN NEBRASKA

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs) Long-Term Acute Care (LTAC) Nursing Home Beds/ Long-Term Care Beds Rehabilitation

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Nebraska without CON



## ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Nebraska without CON



TOTAL HOSPITALS



RURAL HOSPITALS

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus use, Ambulatory Surgical Centers, and Community Hospitals" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 2016).

#### **NEBRASKA** CERTIFICATE-OF-NEED LAWS

## QUALITY

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.

#### Estimated changes in Nebraska healthcare quality indicators



### MERCATUS CENTER George Mason University

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.





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### HEALTHCARE SERVICES THAT REQUIRE A CON IN NEVADA

Acute Hospital Beds Air Ambulance Ambulatory Surgical Centers (ASCs) Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Nursing Home Beds/ Long-Term Care Beds Psychiatric Services Rehabilitation Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Nevada without CON



### ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Nevada without CON





RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 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, 2016).

#### **NEVADA** CERTIFICATE-OF-NEED LAWS

### **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.

#### Estimated changes in Nevada healthcare quality indicators (full sample, at least one CON law)



Nevada is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Nevada healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.



### NEW JERSEY STATE PROFILE

Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in a New Jersey without CON laws.

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### HEALTHCARE SERVICES THAT REQUIRE A CON IN NEW JERSEY

Acute Hospital Beds Ambulatory Surgical

Centers (ASCs) Assisted Living/Residential

Care Facilities

Burn Care

Cardiac Catheterization

Computed Tomography (CT) Scanners Gamma Knives Home Health Hospice

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Linear Accelerator Radiology

Lithotripsy

Long-Term Acute Care (LTAC)

Magnetic Resonance Imaging (MRI) Scanners Mobile Medical Imaging Neonatal Intensive Care Nursing Home Beds/

Long-Term Care Beds Obstetrics Services Open-Heart Surgery Organ Transplants Positron Emission Tomography (PET) Scanners Psychiatric Services Rehabilitation Renal Failure/Dialysis Subacute Services Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in New Jersey without CON



## ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in New Jersey without CON



TOTAL HOSPITALS



At the time it was studied, New Jersey had no rural hospitals. We therefore cannot estimate the number of rural hospitals that would likely exist in the event that the state had no CON requirements. Research suggests, however, that—in general—states without CON laws have 30% more rural hospitals than CON states.

Sources: 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, 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, 2016).

#### **NEW JERSEY** CERTIFICATE-OF-NEED LAWS

## **QUALITY**

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New Jersey is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in New Jersey healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 arting on the survey.

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### HEALTHCARE SERVICES THAT REQUIRE A CON IN NEW YORK

Acute Hospital Beds Ambulance Services, Ground

Ambulatory Surgical Centers (ASCs)

Burn Care

Cardiac Catheterization

Computed Tomography (CT) Scanners Home Health Hospice Hypodermic Syringes

and Needles

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Lithotripsy

Long-Term Acute Care (LTAC)

Magnetic Resonance Imaging (MRI) Scanners

Mobile Medical Imaging Neonatal Intensive Care

Nursing Home Beds/ Long-Term Care Beds Obstetrics Services Open-Heart Surgery Organ Transplants Radiation Therapy Rehabilitation Renal Failure/Dialysis Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in New York without CON





Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in New York without CON



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### **NEW YORK CERTIFICATE-OF-NEED LAWS**

# **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





New York is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in New York healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

# **MEDICAL IMAGING SERVICES**

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.

Source: 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).



### NORTH CAROLINA STATE PROFILE

Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in a North Carolina without CON laws.



### HEALTHCARE SERVICES THAT REQUIRE A CON IN NORTH CAROLINA

Acute Hospital Beds Ambulatory Surgical Centers (ASCs) Assisted Living/Residential Care Facilities Burn Care Cardiac Catheterization Gamma Knives Home Health

#### Hospice

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Linear Accelerator Radiology

Lithotripsy

Long-Term Acute Care (LTAC) Magnetic Resonance Imaging (MRI) Scanners Mobile Medical Imaging Neonatal Intensive Care Nursing Home Beds/ Long-Term Care Beds Open-Heart Surgery Organ Transplants Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Rehabilitation Renal Failure/Dialysis Subacute Services Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in North Carolina without CON



# ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in North Carolina without CON



TOTAL FACILITIES



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### NORTH CAROLINA CERTIFICATE-OF-NEED LAWS

## QUALITY

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.

#### Estimated changes in North Carolina healthcare quality indicators (full sample, at least one CON law)



North Carolina is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in North Carolina healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

# **MEDICAL IMAGING SERVICES**

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.

Source: 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).





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Nursing Home Beds/ Long-Term Care Beds

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Ohio without CON





Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.





TOTAL HOSPITALS



RURAL HOSPITALS

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Me

## QUALITY

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#### Estimated changes in Ohio healthcare quality indicators



### MERCATUS CENTER George Mason University

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#### HEALTHCARE SERVICES THAT REQUIRE A CON IN OKLAHOMA

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs) Nursing Home Beds/ Long-Term Care Beds Psychiatric Services Subacute Services Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Oklahoma without CON



### ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Oklahoma without CON



TOTAL HOSPITALS



RURAL HOSPITALS

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### **OKLAHOMA** CERTIFICATE-OF-NEED LAWS

## **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Oklahoma is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Oklahoma healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 artific on the survey.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.





Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in an Oregon without CON laws.



#### **HEALTHCARE SERVICES THAT REQUIRE A CON IN OREGON**

Acute Hospital Beds

Ambulatory Surgical Centers (ASCs)

### Burn Care

Computed Tomography (CT) Scanners Hospice Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Lithotripsy

Long-Term Acute Care (LTAC) Magnetic Resonance Imaging (MRI) Scanners

Neonatal Intensive Care Nursing Home Beds/

Long-Term Care Beds Positron Emission

Tomography (PET) Scanners

Psychiatric Services Radiation Therapy Rehabilitation Substance/Drug Abuse Swing Beds

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Oregon without CON



## ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Oregon without CON



TOTAL HOSPITALS



RURAL HOSPITALS

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### **OREGON** CERTIFICATE-OF-NEED LAWS

## **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Oregon is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Oregon healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 artific on the survey.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.





### RHODE ISLAND STATE PROFILE

Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in a Rhode Island without CON laws.



### HEALTHCARE SERVICES THAT REQUIRE A CON IN RHODE ISLAND

Acute Hospital Beds Ambulatory Surgical Centers (ASCs) Cardiac Catheterization Computed Tomography (CT) Scanners Gamma Knives Home Health

Hospice Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Linear Accelerator Radiology Long-Term Acute Care (LTAC) Magnetic Resonance Imaging (MRI) Scanners Mobile Medical Imaging Neonatal Intensive Care Nursing Home Beds/ Long-Term Care Beds Obstetrics Services Open-Heart Surgery Organ Transplants Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Rehabilitation Subacute Services Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in Rhode Island without CON





Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Rhode Island without CON



TOTAL FACILITIES



At the time it was studied, Rhode Island had no rural hospitals or rural ASCs. We therefore cannot estimate the number of rural facilities that would likely exist in the event that the state had no CON requirements. Research suggests, however, that—in general—states without CON laws have 30% more rural hospitals and states without ASC-specific CON laws have 13% more rural ASCs than CON states.

Sources: 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, 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, 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, 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, 2016).

#### RHODE ISLAND CERTIFICATE-OF-NEED LAWS

# QUALITY

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#### Estimated changes in Rhode Island healthcare quality indicators (full sample, at least one CON law)



Rhode Island is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Rhode Island healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

# **MEDICAL IMAGING SERVICES**

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

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### SOUTH CAROLINA STATE PROFILE

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### HEALTHCARE SERVICES THAT REQUIRE A CON IN SOUTH CAROLINA

Acute Hospital Beds Ambulatory Surgical Centers (ASCs)

Cardiac Catheterization

Computed Tomography (CT) Scanners

Gamma Knives

Home Health

#### Hospice

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Lithotripsy

Long-Term Acute Care (LTAC) Magnetic Resonance Imaging (MRI) Scanners Mobile Medical Imaging Neonatal Intensive Care Nursing Home Beds/Long-Term Care Beds Obstetrics Services

Open-Heart Surgery

Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Rehabilitation Subacute Services Substance/Drug Abuse

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

### Estimated changes in annual per capita healthcare spending patterns in South Carolina without CON



## ACCESS

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### Estimated changes in access to healthcare facilities in South Carolina without CON



TOTAL FACILITIES



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#### SOUTH CAROLINA CERTIFICATE-OF-NEED LAWS

# QUALITY

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#### Estimated changes in South Carolina healthcare quality indicators (full sample, at least one CON law)



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### **TENNESSEE** STATE PROFILE

Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in a Tennessee without CON laws.



#### HEALTHCARE SERVICES THAT REQUIRE A CON IN TENNESSEE

Acute Hospital Beds Ambulatory Surgical Centers (ASCs) Burn Care

Cardiac Catheterization

Computed Tomography (CT) Scanners

Home Health

Hospice Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Linear Accelerator Radiology

Long-Term Acute Care (LTAC)

Magnetic Resonance Imaging (MRI) Scanners

Neonatal Intensive Care Nursing Home Beds/

Long-Term Care Beds Open-Heart Surgery

Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Rehabilitation Subacute Services Substance/Drug Abuse Swing Beds Ultrasound

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Tennessee without CON



## ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Tennessee without CON



TOTAL FACILITIES



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### TENNESSEE CERTIFICATE-OF-NEED LAWS

## **QUALITY**

Supporters of CON suggest these regulations positively impact healthcare quality, but research finds the quality of hospital care in CON states is not systematically higher than hospital quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Tennessee is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Tennessee healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.





Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in a Vermont without CON laws.



### HEALTHCARE SERVICES THAT REQUIRE A CON IN VERMONT

Acute Hospital Beds Air Ambulance Ambulatory Surgical Centers (ASCs) Assisted Living/ Residential Care Facilities Burn Care Cardiac Catheterization Computed Tomography (CT) Scanners

#### Hospice Intermediate Care Facilities for Individuals with Intellectual Disabilities (ICF/IDs) Lithotripsy

Long-Term Acute Care (LTAC)

Home Health

Magnetic Resonance Imaging (MRI) Scanners Medical Office Buildings Mobile Medical Imaging Neonatal Intensive Care Nursing Home Beds/ Long-Term Care Beds Obstetrics Services Open-Heart Surgery Organ Transplants Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Rehabilitation Renal Failure/Dialysis Subacute Services Substance/Drug Abuse Swing Beds Ultrasound

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Vermont without CON





Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Vermont without CON



TOTAL FACILITIES



RURAL HOSPITALS



At the time it was studied, Vermont had no rural ASCs. We therefore cannot estimate the number of rural ASCs that would likely exist in the event that the state had no ASC-specific CON requirement. Research suggests, however, that—in general—states without ASC-specific CON laws have 13% more rural ASCs than CON states.

Sources: 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, 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, 2016).

#### VERMONT CERTIFICATE-OF-NEED LAWS

# **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Vermont is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.



#### Estimated changes in Vermont healthcare quality indicators (restricted sample, four or more CON laws)



Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





At the time it was studied, Vermont medical facilities provided no PET scans to Medicare beneficiaries, although the state regulated the use of PET machines. We therefore cannot estimate the number of scans that would likely take place in the event that the state had no CON law. Research suggests, however, that—in general—states without CON laws provide 45% more scans than CON states.

Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.





Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in a Virginia without CON laws.



#### HEALTHCARE SERVICES THAT REQUIRE A CON IN VIRGINIA

Acute Hospital Beds Ambulatory Surgical Centers (ASCs)

Cardiac Catheterization

Computed Tomography (CT) Scanners

Gamma Knives

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Lithotripsy

Long-Term Acute Care (LTAC)

Magnetic Resonance Imaging (MRI) Scanners Magnetic Source Imaging (MSI) Scanners Mobile Medical Imaging Neonatal Intensive Care

Nursing Home Beds/ Long-Term Care Beds

Obstetrics Services

Open-Heart Surgery Organ Transplants Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy

Rehabilitation

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Virginia without CON



## ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Virginia without CON



TOTAL FACILITIES



RURAL FACILITIES

MERCATUS CENTER George Mason University Arlington, VA, 2016); Thomas Stratmann and Christopher Koopman, "Entry Regulation and Rural Health Care: Certificate-of-Need Laws" (Mercatus Working Paper, Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, 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, 2016).

#### VIRGINIA CERTIFICATE-OF-NEED LAWS

# **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.





Virginia is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Virginia healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of

#### imaging services

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.



### WASHINGTON STATE PROFILE

Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in a Washington without CON laws.



#### HEALTHCARE SERVICES THAT REQUIRE A CON IN WASHINGTON

Acute Hospital Beds Ambulatory Surgical Centers (ASCs) Burn Care Cardiac Catheterization Home Health Hospice Long-Term Acute Care (LTAC) Neonatal Intensive Care Nursing Home Beds/ Long-Term Care Beds Obstetrics Services Open-Heart Surgery Organ Transplants

Psychiatric Services Rehabilitation Renal Failure/Dialysis Subacute Services Swing Beds

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### Estimated changes in annual per capita healthcare spending patterns in Washington without CON



MERCATUS CENTER George Mason University

### ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

### Estimated changes in access to healthcare facilities in Washington without CON





Sources: 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, 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, 2016).

#### WASHINGTON CERTIFICATE-OF-NEED LAWS

## QUALITY

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.

#### Estimated changes in Washington healthcare quality indicators (full sample, at least one CON law)



Washington is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in Washington healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 artific on the survey.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.



### WEST VIRGINIA STATE PROFILE

Certificate-of-need (CON) laws require healthcare providers to obtain permission before they open or expand their practices or purchase certain devices or new technologies. Applicants must prove that the community "needs" the new or expanded service, and existing providers are invited to challenge would-be competitors' applications. CON laws have persisted in spite of mounting evidence from health economists, regulatory economists, and antitrust lawyers showing that these laws fail to achieve their intended goals. The following charts are based on studies comparing outcomes in states that have CON laws with outcomes in those that do not. These comparisons account for socioeconomic differences and differences in the underlying health of the populations across states. The studies give some insight into what is likely to happen in a West Virginia without CON laws.



#### HEALTHCARE SERVICES THAT REQUIRE A CON IN WEST VIRGINIA

Acute Hospital Beds Ambulatory Surgical Centers (ASCs)

Burn Care

Cardiac Catheterization

Computed Tomography (CT) Scanners

Home Health

#### Hospice

Intermediate Care Facilities for Individuals with Intellectual Disability (ICF/IDs)

Long-Term Acute Care (LTAC) Magnetic Resonance Imaging

(MRI) Scanners

Mobile Medical Imaging

Neonatal Intensive Care Nursing Home Beds/

Long-Term Care Beds Obstetrics Services

Open-Heart Surgery

Organ Transplants

Positron Emission Tomography (PET) Scanners Psychiatric Services Radiation Therapy Rehabilitation Renal Failure/Dialysis Substance/Drug Abuse Ultrasound

Research finds that CON laws are associated with higher healthcare spending per capita and higher physician spending per capita.

#### **Estimated changes in annual** per capita healthcare spending patterns in West Virginia without CON



## ACCESS

Comparing rural areas in CON states with rural areas in non-CON states, research finds that the presence of a CON program is associated with fewer rural hospitals. A subset of CON states specifically regulate the entry of ambulatory surgical centers (ASCs), which provide healthcare services and compete with traditional hospitals. These states have fewer rural ASCs.

Research also finds that states with CON programs have fewer hospitals in general (in rural and nonrural areas alike), and states with ASC-specific CON regulations have fewer ASCs in general.

#### Estimated changes in access to healthcare facilities in West Virginia without CON





MERCATUS CENTER George Mason University Sources: 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, 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, 2016).

#### WEST VIRGINIA CERTIFICATE-OF-NEED LAWS

# **QUALITY**

Supporters of CON suggest that these regulations positively impact healthcare quality, but research finds that the quality of hospital care in CON states is not systematically higher than the quality in non-CON states. In fact, mortality rates for pneumonia, heart failure, and heart attacks, as well as patient deaths from serious complications after surgery, are statistically significantly higher in hospitals in states with at least one CON regulation.

#### Estimated changes in West Virginia healthcare quality indicators (full sample, at least one CON law)



West Virginia is one of 32 states with four or more CON restrictions. The effects of CON regulations may be cumulative, meaning states with more entry restrictions may experience larger quality differences than states with fewer restrictions. Research finds that states with four or more CON laws have systematically lower-quality hospitals than non-CON states. The effect is evident across other quality indicators, including the share of patients surveyed giving their hospital the highest overall quality rating, heart failure readmission rate, and heart attack readmission rate.

#### Estimated changes in West Virginia healthcare quality indicators (restricted sample, four or more CON laws)





Findings on heart failure readmission rates, heart attack readmission rates, and the percentage of patients giving their hospital a 9 out of 10 or 10 out of 10 overall rating were statistically significant only in the restricted sample of states that regulate four or more services with certificate of need.

This study uses an identification strategy that exploits the fact that, on occasion, a local healthcare market is divided between two states, one with a CON law and the other without. Four is the median number of CON laws for CON states in this subsample.

The survey referred to is the Hospital Consumer Assessment of Healthcare Providers and Systems survey. It was developed by the Centers for Medicare and Medicaid Services in partnership with the Agency for Healthcare Research and Quality, and it is based on a standardized instrument and data collection methodology that allows for cross-hospital comparisons of patients' experiences related to different aspects of care. "Highest overall quality rating" is defined as a 9 out of 10 or 10 out of 10 rating on the survey.

CON programs are associated with lower utilization rates for medical imaging technologies through nonhospital providers.

#### Estimated effect on medical imaging by nonhospital providers without CON



CON laws are also associated with more out-of-county travel for imaging services. Research finds that the presence of a CON program is associated with 5.5 percent more MRI scans, 3.6 percent more CT scans, and 3.7 percent more PET scans occurring out of county.

#### Estimated percentage point reduction in out-of-county scans without CON





Thomas Stratmann and Matthew C. Baker look at the relationship between CON and the imaging claims of Medicare beneficiaries, which constitute only a portion of the total market for medical imaging services. However, CON laws limit the supply of imaging technologies to all consumers, meaning the results here underestimate the total effect of CON regulation on the utilization of medical imaging services.

While CON programs are associated with reduced use of imaging services by nonhospital providers, they were found to have no statistically significant effect on the use of imaging services provided by hospitals. This suggests that CON laws protect hospitals from nonhospital competition. The net effect is to lower the overall use of imaging services.

The effect of CON on MRI and CT scans per 1,000 Medicare beneficiaries was statistically significant at the 15% level. The effect of CON on a patient's probability of traveling outside the patient's county of residence for PET services was also statistically significant at the 15% level. All other variables were statistically significant at levels ranging from 1% to 5%.

Some states have added CON requirements for particular services since these analyses were conducted; the states with such new requirements are not visualized. For the latest information on which states regulate which procedures through CON, see Christopher Koopman and Anne Philpot, "The State of Certificate-of-Need Laws in 2016," Mercatus Center at George Mason University, September 27, 2016.