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Report of Data Analyses to the Georgia Commission on the Efficacy of the CON Program

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Executive Summary

Certificate of Need (CON) laws were intended to slow the rate of growth of health care costs by slowing the "medical arms race." The basic premise was that hospitals competed on the basis of having the latest technology and the broadest range of services and not on price. CON laws were part of a health planning strategy that uses regulation to manage the allocation of health care resources and prevent duplication of services.

CON laws create barriers to entry to a variety of health care services markets. As such, they convey monopoly power to incumbent health care providers. In general, economic theory suggests that unregulated monopolies have higher prices and lower quality than firms in more competitive markets. However, competition may limit the ability of facilities to exploit economics of scale and scope. Economies of scale occur when costs are reduced as volume increases. Economies of scope occur when it is less costly to produce two services together than each service separately. If one or both of these conditions are present, then the increased costs and decreased quality associated with monopoly power may be offset by the decreased costs and increased quality of the economies of scale and scope. CON laws give health care providers the ability to take advantage of economies of scale and scope that can lower costs and increase quality. The basic question is which effect dominates and for which services.

The Georgia State Commission on the Efficacy of the CON Program requested that Georgia State University evaluate Certificate of Need programs in comparison states. For the purpose of this evaluation, eleven states (including Georgia) were selected for review. These states were chosen, in large part, because of the availability of data on each state. A summary review of available information suggested that these states also represented a range of approaches to Certificate of Need regulation.

Two tasks were performed in the preparation of the analyses of the eleven states under study. A qualitative study of the regulatory processes in each of the states under study was completed to assess the rigor with which CON regulation was enforced. Second, hospital discharge data was used to construct geographic markets based on patient flows. Constructing markets in this way allow us to disentangle the effects of CON regulation from the cost and quality of health care.

Qualitative Findings Regarding CON Administration

Of the eleven states selected, nine were known to have CON programs. Florida, Georgia, Iowa, Maine, Massachusetts, Oregon, Washington, West Virginia, and Wisconsin were contacted. Each state was interviewed except for West Virginia, which did not provide the requested information. After a discussion with the agency contact in Wisconsin, it was determined that although the *National Directory, State Certificate of Need Programs Health Planning Agencies 2006*, identifies an active program, Wisconsin's CON program has not been active for 12 to 15 years.

The eight states with active CON programs vary in fees, administrative requirements, reviewability, appeals, and administrative complexity. Each state was contacted for information on processes of determining what was reviewable, the transparency of the criteria for needs assessment, the review process, the decision timeframe, and the appeals process.

Using the interviews and public information, we developed an index of CON scope and rigor. We use this ranking in our analysis in a number of ways. Using the overall score, we group states that have scores above 120 as the most rigorous CON programs (tier 2) and those between five and 120 as a lower level of CON rigor (tier 1). We also test alternative groupings using just the hospital or free standing surgery center scores to observe if our results are robust to that definition. Finally, we use the index itself as a measure to determine the impact of CON on costs, quality, and access.

Scope and Rigor Index			
State	**Over all Scope and Rigor**	**Hospital Scope and Rigor**	**Free Standing Centers Scope and Rigor**
Maine	146	143	146
Georgia	124	122	110
West Virginia	123	117	117
Iowa	122	117	117
Massachusetts	115	118	124
Washington	111	108	108
Florida	108	105	30
Oregon	94	94	19
Wisconsin	2.5	0	0
Colorado	0	0	0
Utah	0	0	0

Defining Hospital Markets

The first step in understanding the impact of regulation on the health care delivery system is to understand the markets affected. The goal in constructing these geographic markets is to allow comparison of health care delivery under similar conditions (such as

urban or rural, highly competitive or monopolistic, high income or low) in different regulatory environments.

Using the HCUP hospital discharge data, we first describe markets by describing the ZIP codes from which each hospital draws its patients. We map each ZIP code to a county. This allows us to match data from other sources that describe market characteristics. Then we define counties that retain more than 50 percent of their own patients as a market. Counties that have an outflow of more than 21 percent of their patients to another market are linked to that market. Counties that send more than 21 percent of their patients to two or more counties are linked to the county to which they sent the largest percent of patients. Counties are thus linked together to form distinct markets. In a few states, some counties have no hospital and are too defuse in their patient flows to be assigned to a specific market

Massachusetts, Maine, and Utah have the smallest number of markets. Massachusetts is a small, highly urbanized state relative to the other states in our study. Utah and Maine are relatively rural states with only a few urban areas. The other states have a mix of large metropolitan, smaller urban centers, and rural areas.

ACUTE CARE

Market Structure

One of the original purposes of CON laws was to restrict the supply of health care services in order to limit competition on the basis of quality attributes that were believed to increase costs. Most studies of the impact of CON laws have found limited impact on general hospital beds or capital expenditures, although they have found some limitations on specific services.

- In the states we reviewed, there were 220 fewer hospitals and over 49,000 fewer hospital beds between 1985 and 2002. There does not seem to be a statistically significant correlation between the number of hospitals or beds lost and the presence or rigor of CON regulation.

- Across all markets, states ranked as having the most rigorous CON regulation (tier 2) have statistically significantly less competition than non-CON states. States ranked as having less rigorous CON regulation (tier 1) have HHI's not significantly higher than the non-CON states. However, there is not a statistically significant relationship between the change in competitiveness and Certificate of Need.

- Of the states under study, Georgia experienced the most rapid growth in the numbers of ASCs. Florida has the greatest number and Washington the most per-capita. There is not a statistically significant relationship between CON rigor and the number or growth of ASCs.

- Certificate of need regulation is also associated with lower numbers of physicians per capita, and lower rates of growth in physicians per capita over time. Looking across markets there is no difference in the number of surgical or medical specialists, but there is a significant difference in the number of generalists per capita between CON states and non-CON states.

Cost

If CON regulation affects costs, it will be most readily detected in the actual payments made by private payers. Data was purchased from the Thomson MEDSTAT Market scan database for two years (2002 & 2004). These data are composed of health care claims from large employers and insurers.

A fixed effects model of costs was estimated that controlled for characteristics of a state, market, patient, and episode of care to isolate the marginal effects of CON regulation on hospital inpatient costs. The results indicate that:

- CON regulation is associated with higher private inpatient costs. The effect is robust with respect to model specification, measures of CON rigor, and diagnoses.

- For some diagnoses, lower levels of CON rigor are associated with higher costs. However, for the most resource intense diagnoses that account for the greatest amount of resources, increased CON rigor is associated with higher costs.

- Lower levels of competition are associated with higher costs.

- The number of ambulatory surgery centers per capita in a market is positively related to price, consistent with the idea that the presence of ambulatory surgery centers increases the acuity level of hospital patients and, therefore, increases average inpatient costs.

Quality

The debate over the effect of Certificate of Need laws on quality of care centers on the same issues surrounding the impact on competition: does competition impede or enable

efficiencies? The issue is a little more direct for quality because one correlate of good outcomes for common procedures is volume. Competition that reduces patient volume for a given procedure may reduce overall quality of patient care.

In order to examine the impact of Certificate of Need regulations on quality, we employ inpatient quality indicators developed by The Agency for Healthcare Research and Quality (AHRQ).

- There is considerable variation on a number of dimensions of quality across markets. However, there is no apparent pattern with respect to Certificate of Need regulation and no statistical correlation.

- The only two indicators with any correlation with Certificate of Need are PQI 1 (Diabetes Short-term Complication Admission Rate) and PQI 7 (Hypertension Admission Rate). The Diabetes rate is negatively correlated with CON, while Hypertension is positively correlated with CON.

- Of the three Patient Safety indicators, only PSI 25 (Accidental Puncture of Laceration) is correlated with CON. Non-Certificate of Need states have a higher percentage of counties where observed rates are greater than expected.

Access to Care for the Uninsured

There are two issues concerning Certificate of Need legislation and access to care. The first suggests that protecting hospitals from competition allows them to use resources that would otherwise be competed away to treat the uninsured. The second argument is that regulators can facilitate greater access to the uninsured by making provision of such care a criterion for awarding a Certificate of Need. Conover and Sloan characterize the literature as finding a "weak" link between access to care for the uninsured and Certificate of Need regulation.

- We test to understand if Certificate of Need rigor affects either the percentage of admissions that are self-pay or the number of admissions per uninsured person. There is no significant relationship between the percent of admissions at the hospital level that are self-pay and Certificate of Need regulations. However, when we adjust for the number of uninsured in the market and control for family income, we find markets with CON regulation tend to have more self-pay admissions per uninsured than markets in non-CON states. This suggests an association between increased access to hospital care for the uninsured and CON regulation.

- CON regulation rigor is weakly related to a higher percent of all admissions that are for ambulatory care sensitive conditions and to a higher percent of self-pay admissions that are ambulatory care sensitive. The highest tier of Certificate of Need rigor is significantly related to the number of ambulatory care sensitive admissions per 1,000 uninsured even when controlling for the market's median income.

LONG-TERM CARE

In general, Certificate of Need (CON) laws are based on the theoretical presence of economies of scale and scope and are designed to prevent unnecessary duplication of technologically sophisticated services. However, application of the CON process in the long-term care industry has a different rationale. The extent to which public payers, particularly state Medicaid programs, pay for nursing home services and the budgetary impact of such expenditures for public payers causes policy makers to look for ways to constrain the growth of these programs. Therefore, many states have retained CON programs to limit the supply of long-term care beds in order to constrain public expenditures. Furthermore, some states have implemented a moratorium on the licensing of new nursing home beds even in the absence of a CON program.

Nursing Homes

Our review of the Nursing Home regulatory environment indicates that eight of the 11 study states have a CON process that applies to Nursing Homes, while Wisconsin, Colorado, and Utah do not. However, we also consider whether or not a state has a moratorium on new bed construction (either new nursing homes or additional beds), and we find that seven of the 11 study states use either the CON process or the licensing process to place an absolute cap on any additional nursing home beds. Only in Georgia, Iowa, Oregon, or Colorado is it theoretically possible for additional nursing home beds to be built.

- We find that compared to the most restrictive markets, the relative bed supply is higher and the occupancy rate is lower in markets with limitations - but not absolute barriers - to entry for nursing home beds.

- Facilities in CON states are more likely to be for-profit, while facilities in non-moratorium states are more likely to be non-profit. Hospitals in states that have only limited restrictions as opposed to a moratorium have a larger share of long-term beds and have a greater share of hospitals operating swing-beds than do hospitals in states with a moratorium.

- Nursing homes in CON states provide care to a slightly more complex population. This, in turn, implies that the bed constraint, to the extent that it is binding, is rationing beds at least partially based on patient need.

- The long-term care facilities located in markets in the most restrictive states have significantly higher levels of licensed and total care hours per patient per day than facilities located in the less restrictive states. In addition, facilities located in CON states have significantly higher levels of licensed and total care hours per patient per day than facilities located in non-CON states.

- We find that on three quality outcome measures, facilities in moratorium states are more likely to have better quality than in non-moratorium states. Facilities in CON states are associated with poorer quality on six measures and better quality on two measures.

- The bivariate differences that suggest higher average Medicaid and private costs in moratorium states compared to more limited restriction states are statistically significant. There is also weak evidence of higher private and Medicaid costs in CON states compared to non-CON states.

Home Health

Among states that have a CON program, home health services are not always covered. In fact, nationwide only 17 states include Home Health Care as a reviewable service. Among our eight study states with CON, only Georgia, Iowa, Washington, and West Virginia include home health as a reviewable service.

- We find evidence that CON limits access to home health services based on finding significantly fewer agencies per 1000 residents, lower levels of competition, and fewer Medicare beneficiaries receiving home health services.

- We find no evidence that CON either increases or decreases quality using 10 outcome measures of quality reported by home health agencies.

- We find some evidence that CON is associated with higher Medicaid costs for home health services and higher per-capita costs for home health services.

Introduction

In the early 1970s, Congress enacted legislation to encourage states to develop Certificate of Need (CON) programs by stipulating that Federal funds (for example, from Medicare and Medicaid) could not be used to support "unnecessary capital expenditures" (Cohodes and Kinkead, 1984). The dilemma policy makers faced in the first fifteen years of the Medicaid and Medicare programs and in the concurrent expansion of private health insurance coverage, was how to constrain costs without reducing access to care. Concerned with increasing costs, but unwilling to limit demand, policy makers at both the state and Federal levels tried to limit supply. Certificate of Need (CON) laws were intended to slow the rate of growth of health care costs by slowing the "medical arms race." The basic premise was that hospitals compete on the basis of having the latest technology and the broadest range of services and not on price. CON laws were part of a health planning strategy that would use regulation to manage the allocation of health care resources and prevent duplication of services.

Since CON laws were enacted, the health care delivery system has undergone a number of important changes. These changes include the use of selective contracting by employers and insurers, changes in reimbursement methodologies used by Medicare and Medicaid, and increased use of quality measures by larger purchasers of health care services. These changes have made the market for health care services more efficient. The question is whether the market will do a better job at allocating resources and improving consumer welfare with or without CON laws.

CON laws, by design, create barriers to entry to a variety of health care services markets. As such, they convey monopoly power to incumbent health care providers. In general, unregulated monopolies have higher prices and lower quality than firms in more competitive markets. However, competition may limit the ability of facilities to exploit economics of scale and scope. Economies of scale occur when costs are reduced as volume increases. Economies of scope occur when it less costly to produce two services together then each service separately. If one or both of these conditions are present, then the increased costs and decreased quality associated with monopoly power may be offset by the decreased costs and increased quality associated with economies of scale and scope. CON laws give health care providers the ability to take advantage of economies of scale and scope that can lower costs and increase quality. The basic question remains: which effect dominates and for which services?

The traditional theoretical response to markets with significant economies of scale or scope is to regulate them in such a way as to allow firms to exploit theses economies without allowing them to exploit the market power that is a consequence of limiting

competition. Often this regulation is in the form of price restrictions that reduce the firm's ability to charge monopoly rates when regulation reduces their competition.

This study examines the health care delivery systems in 11 states: Colorado, Florida, Georgia, Iowa, Maine, Massachusetts, Oregon, Utah, Washington, West Virginia, and Wisconsin. These states were chosen because they represent a distribution in the breath of CON laws, and there are data available for each state that allow us to measure costs and quality differences across each state.

Two tasks were performed in the preparation of the analyses of the eleven states under study. A qualitative study of the regulatory processes in each of the states under study was completed to assess the rigor with which CON regulation was enforced. Second, hospital discharge data was used to construct geographic markets based on patient flows. Constructing markets in this way allow us to disentangle the effects of CON regulation from the cost and quality of health care.

Using the information from the qualitative study we compared differences in costs, quality and access across markets with different regulatory environments controlling as much as possible for factors other than Certificate of Need regulation that would affect cost, quality or access.

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Overview of the Qualitative Findings

The Georgia State Commission on the Efficacy of the CON Program requested that Georgia State University evaluate Certificate of Need programs in comparison states. For the purpose of this evaluation, eleven states (including Georgia) were selected for review of CON Programs and Medicaid payment methodologies. This report focuses specifically on Certificate of Need programs. Of the eleven states selected, nine were known to have CON programs. Florida, Georgia, Iowa, Maine, Massachusetts, Oregon, Washington, West Virginia, and Wisconsin were contacted.

Each state was interviewed except for West Virginia, which has not yet provided requested information. After a discussion with the agency contact in Wisconsin, it was determined that although the *National Directory, State Certificate of Need Programs Health Planning Agencies 2006*, identifies an active program, Wisconsin's CON program has not been active for twelve to fifteen years. Its scope is currently limited to capacity limitation, movement, and delicensure of nursing facility beds. For this reason, the Wisconsin CON program is not included in this analysis.

The eight states with active CON programs vary in fees, administrative requirements, reviewability, appeals, and administrative complexity. This report is an analysis of both the scope of services covered and the rigor or complexity of the Certificate of Need process. Both scope and rigor affect market entry of health care services requiring a CON. This analysis will provide information on a range of entry barriers and a ranking of states in regard to their degrees of scope and rigor. Georgia's environment will be analyzed relative to other states against both criteria.

LIMITATIONS

Researchers contacted nine states, including Georgia, for information related to their Certificate of Need programs during August 2006. Research was limited to information contained in legal statutes and documents online, contacts and interviews with state officials, and data analysis.

Finally, document reviews and interviews reveal that states do not readily make available every criterion sought for this analysis. For example, Massachusetts does not provide information regarding Letters of Non-Reviewability online.

PREAPPLICATION PROCEDURES

Pre-application procedures for the Certificate of Need program may include:

- Submission of a request to determine if a project is reviewable
- Submission of a request for a Letter of Non-reviewability or Exemption
- Submission of a Letter of Intent

Determination of Reviewability

Five states readily provide information on submissions of requests to determine if projects are reviewable, and all states provide the service. A determination of reviewability is incorporated as part of the Letter of Intent (LOI) process in both Maine and Oregon. The LOI in Maine requires that the applicant request a ruling on whether a CON is needed. In Oregon, the LOI serves as the request for determining the need for review. Florida, Iowa, and Massachusetts do not specifically address this in information found online. Georgia is the only state that charges for the determination: $250 per request with each proposal requiring a separate determination.

Another factor associated with the determination of whether a project requires a CON is the applicant's ability to self-determine, based on information available online, whether a project is reviewable. All states provide information online; however, the ease with which it is accessed varies across states. A review of states' CON statutes or rules is generally required to determine reviewability except for Georgia, Massachusetts, and Washington. These states provide a listing of reviewable services either on a separate web page or in brief, more reader-friendly documents. It is most difficult to determine reviewability in Iowa and Oregon. Although some states provide information on reviewability online, most states have exceptions and specific considerations which require detailed review of statutes or rules.

Letters of Non-Reviewability or Exemption

Florida and Georgia are the only states requiring a Letter of Non-reviewability or Exemption for certain proposals. Florida requires that applicants request an exemption for each proposal and charges a fee of $250 for each request. Georgia requires a Letter of Non-reviewability but limits this to diagnostic and therapeutic equipment that falls below the threshold. The charge for this letter is $500 per request, with each proposal requiring a separate letter.

Letters of Intent

A Letter of Intent for the state's regular review process is required by six of the eight active CON programs. Georgia requires an LOI for batch reviews but not for normal reviews, and Massachusetts does not require an LOI. Letters of Intent are due between 15 days (West Virginia) and 90 days (Maine) before submitting an application. Maine

requires that competitive applicants submit an LOI within ten days after the first LOI. Most programs require an LOI be submitted at least 30 days prior to the application.

Costs of Applying for Certificate of Need

Fees for applying for a Certificate of Need may create entry barriers. While the fees associated with the application are not the only costs, they are measurable. Data on true costs, including application preparation and legal fees cannot be calculated, as the data have not been collected or reported in a consistent manner.

States generally assess sliding application fees that adjust for the varying costs of each project. Every state sets a minimum fee for application, with the lowest fee being $250 in Massachusetts. Other states with minimum fees of $1,000 or less are Georgia ($1,000) and Iowa ($600). Washington and West Virginia, which both assess fees by proposal, assess fees for designated services at $1,000 or less. Oregon and Florida assess the highest minimum fees at $10,000. Maximum application fees range from $15,000 (Oregon) to $250,000 (Maine). West Virginia has no stated maximum fee.

Availability of Certificate of Need Rules and Application Criteria or Standards

The ability of an applicant to review the rules and standards for Certificate of Need is assessed as a measure of the complexity of the CON process. Six of the eight states with active programs provide information related to rules and/or standards on their web pages. Maine does not make their rules or standards available online, but their CON application process requires that applicants receive technical assistance from CON staff to determine what is required for their application. Massachusetts statutes are not available online but must be sent to applicants or picked up by applicants in person. Washington and West Virginia's statutes are online but are contained within many different pages, which make it somewhat cumbersome to navigate and locate needed information.

Availability of Criteria for Needs Assessment

Every state except Maine makes available at least some criteria online for completing a needs assessment. As previously stated, Maine requires that applicants receive technical assistance from CON staff. Iowa notes that while the information is available in their statutes, the statutes require updating, and some information needs to be removed. Massachusetts has limited information available within the application packet; therefore, specific criteria must be obtained from CON staff.

Six of the eight states have posted links to web pages containing Certificate of Need applications. Oregon and Maine do not have application forms available online. There

is no direct link from Oregon's primary CON web page to the web page that contains application format instructions.

APPLICATION REVIEW

CON Staff Assistance

The level of assistance provided by CON staff can impact the approval or denial of an application as well as whether or not a potential applicant will proceed through the application process.

Levels of technical assistance vary across the eight states. Maine provides the highest level of technical assistance to applicants and requires that applicants meet with CON staff to determine requirements for applying for a CON within 30 days of filing a Letter of Intent. In Georgia, if staff think the application might be denied, staff will meet with applicants within the first two months of the application process in order to go over any problems in the application and give the applicant an opportunity to amend the application. Massachusetts's staff will assist applicants in completing their application and considers this assistance to be a part of their duties. Iowa will conduct a preliminary review of the application at the applicant's request, and, if there are factors that may lead to the denial of the application, staff will inform the applicant.

Application Submission Process

Every state except Maine screens applications for completeness prior to beginning the formal review process. This screening period occurs within 15 days for all but Florida, (seven days), Georgia (ten days) and Massachusetts (30 days). States notify applicants of any additional information that must be submitted for an application to be complete. Washington will review an incomplete application at the written request of the applicant.

States allow applicants differing amounts of time to submit missing information. Florida allows the least amount of time to submit missing information following notification that information is missing: 21 days. Washington allows 45 days but will hold an application open for 120 days, Georgia allows two calendar months, West Virginia allows 180 days, and Oregon allows one year for applicants to submit additional information. Maine allows for revision of an application at any time prior to the date CON staff submit their final analysis to the Commissioner. Maine may also change the application cycle and treat the application as new. Washington will allow the submission of additional materials but treats this as an amendment to the application and assesses an additional fee. Timeframes for submitting additional materials were not found for Iowa and Massachusetts.

Types of Reviews

A more competitive application process creates an entry barrier and additional costs, and only one state (Iowa) does not do competitive, joined, or batched reviews for any proposal. Florida and Maine both do batched reviews and consider their process very competitive. Maine does not batch nursing facilities. However, Georgia and Washington batch reviews for nursing facilities, and Washington batches reviews for nursing homes, open-heart surgery, and a few other projects. Joining of applications that seek to provide a similar service in a similar market occurs for competitive or simultaneous review, even if batch reviews is standard in most states. Expedited and emergency reviews are also provided by all states.

Hearings and Involvement of Others

Application Hearings add to the rigor of CON programs by allowing external parties into the decision-making process. Every state allows for a hearing prior to an application decision. The most rigorous states hold a hearing on every application. Only two states build hearings into the standard process. Iowa conducts hearings at least ten days before the Council meets to make a decision. Oregon conducts public hearings at least 21 days before a decision is due. Washington has a standard public comment period during the first 35 days after an application is accepted. The remaining five states and Washington conduct public hearings upon request.

The opportunity for others to request a hearing impacts the rigor of the application process. The six states that require that public hearings be requested only allow them within certain constraints. The least amount of time for a hearing request is in Florida - 14 days after publication of notice of application, and Georgia - 20 days after the beginning date of the review cycle. More time is allowed to submit a request for hearing in Maine (30 days), West Virginia (30 days), and Washington (35 days). Georgia also allows for the challenging of determinations for review and Letters of Non-Reviewability within 30 days of the issuance of either the determination or the letter.

Most states (five) include only CON staff and a Council or Secretary for their Department of Health in the review decision. Maine, Massachusetts, and Washington involve parties outside of those related to Certificate of Need. Maine seeks input from Maine's Centers for Disease Control and Prevention Director to evaluate the application as well as the Bureau of Insurance for an impact on health insurance premiums. Massachusetts and Washington consult other state agencies for information on licensure status and, if the applicant operates facilities in other states, Massachusetts contacts them to determine if there are complaints and sends the state a checklist so

they can inform Massachusetts of any issues. Washington checks the same things as Massachusetts and reviews applicants' history of quality, Medicare certification, any fines or sanctions, and does a Department of Justice investigation. A credential check on key personnel who are individual license holders is also conducted.

Decision Timeframe

The time it takes from submission of a Letter of Intent to application approval or denial (except in cases of expedited or emergency determinations), ranges from three to six months for most states (except for Massachusetts). Washington's statutes indicate that the review period is 90 days for regular reviews and 150 days for concurrent reviews. Information gained from the interview with Washington suggests that the actual timeframe for decisions is between six and nine months, and Massachusetts indicates that it takes approximately one year for a decision to be reached.

Appeals and Reconsideration of Decision

Initial decisions are one step of the CON review process. Most states indicate that applicants, competitors, and taxpayers appeal decisions. An appellant must hold some standing in regard to the application being appealed. Standing varies across states, with the most lenient state (according to documentation available online) being West Virginia. Their statutes indicate that any person may request a reconsideration of a decision. Florida, Georgia, and Washington apply tighter restriction on who may appeal by requiring that appellants be applicants, competing applicants, or health care facilities. Washington requires that the appellant have participated in a public hearing and requested to be informed of the decision.

In addition, Georgia, and Oregon allow municipal, county, or civic governments to appeal decisions. Iowa, Maine, and Oregon have fairly lenient standards but do require either a group of taxpayers (Maine, Massachusetts) to appeal or that there be evidence that the appellant is an affected party and has, at minimum, attempted to participate in the review process (Iowa). Information on Oregon is based on the prior appeals process. Oregon has recently suspended the prior appeal process, and the current process is not yet clear. Massachusetts currently has no appeals process. Dissatisfied parties in Massachusetts must go through the court system to have their case heard.

Information on the appeals process is available for six states (FL, GA, IA, ME, OR, and WA). A request for appeal is required within 30 days for Georgia and Maine, within 28 days for Washington, within 21 days for Florida, and within ten days for Oregon.

Appeal Cost

No state assesses the appellant a fee for appealing a decision. Each party bears its own costs associated with preparing for an appeal. In Georgia, the costs of reproducing the transcript and creating the hearing record are split equally between all parties, including the CON program. In Iowa, the CON program may be responsible for court costs if the state loses the appeal and the court decides to charge Iowa. In Washington, the CON program bears the cost (through chargeback to the program) for adjudicative proceedings. Washington recently performed a five-year audit and discovered that 24 percent of their department expenditures went to adjudicative proceedings or appeals.

Hospitals

Most states, except Wisconsin, review hospitals. Figure 1 provides information on thresholds for review, scope of services covered, licensure and regulation (if available), and whether there are any moratoria or capacity limitations. Oregon only reviews hospitals that are in the Medicare swing bed program.

Figure 1: Hospital Thresholds, Services, and Regulation

State	FL	GA	IA	ME	MA	OR	WA	WV	WI
Threshold	Any amount	Capital: $1,483,083; Equip: $823,934, any bed increase	Any amount	Capital: $2,666,198; Equip: $1,333,098, New Svc: $121,880	Capital: $12,516,300; Equip: $1,335,272	Any amount (do not look at capital expenditures at all)	Any amount	Capital: $2,000,000; Equip: $2,000,000; New Svc or Facility: None	N/A
New Hospitals	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Existing Hospitals, New Service or Equipment	Yes	Yes	Yes	Yes-over threshold	Yes-if it is considered innovative[1]	Yes	Tertiary health services only	Yes	No
Sale, Transfer, Lease	No	If from a subdivision of GA or equipment moved from one facility to another creates a new service	No	Yes	No	No	Yes	Yes –if not currently operating as a health care facility	No
Renovation	No	Yes	No	Yes	No	No	No	Yes-if exceeds threshold	No
Relocation, Replacement	If more than 1 mile from current site	Yes- If more than 3 miles from current site	No-unless initiated by or for an HMO	Yes	No	Yes-if substantial increase or change in services	No	Yes-if exceeds threshold	No
Beds	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Licensure, Regulation	Does not issue licenses to facilities lacking CON or CON exemption	Reviews applicants' past licensure history. Must be nationally accredited	Not available	Must be licensed	Yes-Original Licensure must obtain CON.	Dept. of Human Svcs licenses. No information available on requirements	State licenses	Not available	No
Moratoria, Caps	No	No	None	New hospitals	Open Heart Surgery	No	No	Not available	N/A

[1] Massachusetts considers the following services as innovative or new technology and therefore reviews them: Air Ambulance, Extracorporeal Membrane Oxygenation (ECMO), Extracorporeal Shock Wave Lithotripter for gallstones, Invasive Cardiac Services, Magnetic Resonance Imager (MRI), Megavoltage Radiation Therapy, Neonatal Intensive Care Units (NICU), Organ Transplantation, Positron Emission Tomography (PET).

LTC/Nursing Facilities

Nursing homes are technically reviewable in all of the states in this study, including Wisconsin. However, eight of the nine states have either a moratoria, capacity limitation, or are unofficially not reviewing or approving applications for nursing homes or certain aspects of long-term care services. Florida is the only state with an official moratorium on long-term care (for assisted living only) according to the *2006 National Director, State Certificate of Need Programs Health Planning Agencies*. Georgia is the only state that currently has no moratorium on long-term care or nursing homes. Figure 2 provides information on threshold levels, services covered, and regulations for nursing homes.

Figure 2: Nursing Home Thresholds, Services, and Regulation

	FL	GA	IA	ME	MA	OR	WA	WV	WI
Threshold	Any amount	Capital: 1,483,083; Equip: 823,934, Any new service, any beds	Any amount	Capital: $510,000; Equip: $1,333,098, New Svc: $121,880	Capital: $12,516,300; Equip: $1,335,272	Any amount (do not look at capital expenditures at all)	Capital: 1,200,000	Capital: $2,000,000; Equip: $2,000,000; New Svc or Facility: any amount	Not applicable
New Nursing Homes	Yes-community nursing homes	Yes	Yes	Not reviewing-no need	Yes-but not reviewing-no need	Yes	Yes	Yes	No
Addition of Beds, Capacity	Yes if beds are in retirement communities or community nursing homes	Yes	Yes	Yes	Yes	Yes	Yes - bed banking also	Yes	No
Sale or Transfer	Yes	Yes-if new owner is not a CON holder	No-unless initiated by or for an HMO	Yes (homes can convert to residential care w/o CON)	Yes-required for converting from acute care to non-acute care	No	No	Yes	No
Renovation	Not currently reviewable	Yes	No	Yes	Yes	No	Yes	Yes	No
Relocation of Building	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No

Figure 2: Nursing Home Thresholds, Services, and Regulation Continued

State	FL	GA	IA	ME	MA	OR	WA	WV	WI
Other	Delicensure						Bed banking for beds in excess of needed capacity		Yes, de-licensure, bed capacity limitations
Licensure, Regulation	Issues licenses. Does not issue licenses to facilities lacking CON or CON exemption	Reviews history of applicant in meeting past licensure requirements. Existing hospitals must show evidence of national accreditation	Not available	Must be licensed	Yes- Original licensure must obtain CON.	Dept. of Human Services licenses. No information available on requirements	State licenses	Not available	No
Moratoria, Caps	Assisted living facilities	None	Bed caps on ICF/MR, Psychiatric Medical Institutes for children	Long-term Care; Can't approve any projects increasing costs to Medicaid	Long-term Care	Beds for seniors and people with disabilities, residential care & assisted living	Based on need- recently approved 4 nursing home projects	ICF/MR, new, IC, or skilled nursing beds	

Ambulatory Surgery Centers and Freestanding Imaging Centers

Ambulatory surgery centers and freestanding imaging centers are reviewable in six states. Of states with active CON programs, Florida and Oregon do not include ASCs and freestanding imaging centers under CON review. While the Massachusetts CON program covers ASCs, they currently have no need for multi-specialty ambulatory surgery centers. In addition, they have no need for MRI scanners. Massachusetts and Maine both indicate that ASCs are not an issue in their states - Massachusetts because of lack of need and Maine because of the lack of applicants for single-specialty ASCs and hospitals acquiring independent ASCs. Discussion of other freestanding imaging centers did not arise as much. Most states review them. Iowa reviews PET Scanners

(which may or may not be in a freestanding imaging center) only at a certain threshold. Other equipment in Iowa is reviewable at any level.

Figure 3: Ambulatory Surgery Centers and Freestanding Imaging Centers

State	FL	GA	IA	ME	MA	OR	WA	WV	WI
Threshold	Not review-able	Capital: 1,483,083; Equip: 823,934, Physician Owned ASC: 1,610,823	Any amount except PET Scanners: $1,500,000	Capital: $510,000; Equip: $1,333,098, New Svc: $121,880	Capital: $12,516,300; Equip: $1,335,272	Not revie w-able	Capital: 1,200,00 0; Any new service	Capital: $2,000,000; Equip: $2,000,000; New Svc or Facility: None	Not review-able
New Free-standing Imaging Centers (FSIC)		Yes-for equipment over threshold	Yes	Yes	Yes – except MRI, also must be considered innovative		Yes	Yes	
New Ambulatory Surgery Centers (ASC)		Yes-Physician-owned ASC and equipment for	Yes	Yes	Yes - except MS-ASC, no need for SS-ASC		Yes	Yes	
Existing FSIC, ASC		Yes-including hospitals exceeding threshold	Yes	Yes	Yes		Yes	Yes	
Sale or Transfer		Yes-if new owner is not a CON holder	Yes-if it would be a new service	Yes	No		No	Yes	
Renovation		Yes	No	Yes	Yes		Yes	Yes	
Relocation		Yes	No	Yes	Not available		Yes	Yes	
Licensure, Regulation		Must meet appropriate accreditation requirements of the JCAHO, AAAHC, (ASF) and/or other accrediting agency		Must be licensed	Must be licensed		State licenses	Not available	
Moratoria, Caps					No need for MRI and MS-ASC				

Determination of Health Service Areas

States determine health service areas as described below. There is no consistent methodology across states. Rather, counties, regions, service usage rates, and applicants' self-definitions are used.

Figure 4: Health Service Area Definitions by State

	Health Service Area Definition
FL	Seven markets by service, maps provided online
GA	About half of services use State Service Delivery Regions (13 areas subdivide the state), the remaining use markets based on need by Technical Advisory Committee (consists of members w/ knowledge of service). They review maps of all current facilities, identify areas of need, then divide the state
IA	Hospitals: Service area is defined as hospitals located in same county or in contiguous Iowa counties where the proposed hospital project will be located. Nursing facilities: Service area defined as nursing facilities located in same county or in contiguous Iowa counties where the proposed nursing facility project will be located. Other Services: Applicant defines the svc area. 99 counties
ME	Technically have Hospital Service Area but they don't rely on those now. They are reviewing how this is defined again. Applicants indicate methodology for determining their service area (zip codes, quantity) so it is competitive. Any maps that exist are either outdated (not in use) or perhaps are had by the group who defined the market.
MA	Medical surgical bed need procedures and relies on point of origin studies-from hospitals and from cities and towns. Use a hospital dependency factor-communities when ranked account for 90% of hospital's service-specific/age-specific discharges; community dependency factor-communities listed among the 90% of the hospital's annual discharges that account for 5% of the communities service-specific/age-specific annual discharges
OR	Nursing facilities are generally defined by the county they are located in, East of Cascade mountain is combined service area; Hospitals are by zip code and market share
WA	Planning areas are generally by county. ASCs have smaller ones which are generally zip codes, but some older geographical descriptions still exist. They are updating kidney dialysis rules. Maps may exist in future when counties have more than one single planning area. Have primary and secondary
WV	General-applicants determine the service area and provide a proposed map; ASC-applicant delineates service area by documenting expected areas around the facility from which they expect to draw patients; Home-health-service areas can be no smaller than one county, multiple counties must be contiguous; Acute Care Bed Addition-area is the county of origin for the proposal and any adjacent counties significantly impacted
WI	There are seven geographic areas and providers can move within those areas but cannot have any new beds.

State Certificate of Need Ranking

We use the information above to create an index of scope and rigor of each state's Certificate of Need program. Rigor is the level of complexity on the part of the potential applicant to apply for and receive a Certificate of Need. There were 18 criteria used to assess rigor, and each criterion had an impact level of one (low) to three (high) based on overall complexity of the process. The rankings were based on the range of responses provided across the study states in order to better classify responses. Most criteria had three or four rankings, while two criteria have two rankings.

Figure 5
Elements Used to Construct Rigor Ranking

Criteria	Impact	Definition	Ranking	Georgia
Are LOIs required?	1	Whether state requires submission of a Letter of Intent in order to apply for a Certificate of Need.	31 days before application- 3; 16 days to 30 days before application-2; 0-15 days before application-1; not required-0	1 (LOIs not required for normal but are required for batch)
Determination of Review Available	3	Whether state will determine if review is necessary prior to application	Determination required with cost associated-3; determination required at no cost or available with cost-2; determination available at no cost-1; determination not required-0	2- DOR can be requested with a cost associated
If suspected non-reviewable, is notification or Letter of non-reviewability or exemption required?	3	If an applicant must notify CON staff or request a Letter of Non-Reviewability or a Letter of Exemption before beginning project	Required with cost-4, Available at a cost-3, Required at no cost-2, Available at no cost-1, not required or unknown-0	4- Diagnostic and therapeutic equipment below threshold require letter of non-reviewability with $500 cost
Can applicants easily determine their reviewability status from website?	2	If an applicant can determine whether or not their project requires a Certificate of Need based on information found online	No-3, 2-Yes, but not easily, 1-Yes, easily or fairly easily	1-Information is easily or fairly easily available on the website
Minimum cost of applying	3	The minimum cost associated with submitting an application for CON review	$5k-$10k-3; $1k-$4,999-2; up to $1k-1	1-$1000 minimum
Maximum cost of applying?	3	The maximum cost associated with submitting an application for CON review	>$150k-3; $50k-150k-2; <$50k-1	2-$50,000 maximum

Can applicants determine all standards/rules easily?	3	If an applicant can determine the standards for applying, the rules for review and appeal, and any other relevant standards or statutes associated with the CON process	No-3, 2-Yes, but not easily, 1-Yes, easily or fairly easily	1-Information is easily or fairly easily available on the website
Are applications available for download online	3	If applications are available for download online	No-2, Yes-1	1-Yes
Are criteria for needs assessment available on the state's website (easily on CON site)	2	Online availability of criteria for determining whether there is a need for a service (in statutes, rules, or other document or posted on the website)	No-3, 2-Yes, but not easily, 1-Yes, easily or fairly easily	1-Information is easily or fairly easily available on the website
What does CON office do to assist applicants?	2	Assistance in submitting and completing an application provided by CON staff	Review and resubmit <45 days-3, Review and resubmit >45 days-2, Technical Assistance provided for submission (may be in combination with resubmission)-1	1-CON staff provides technical assistance for submitting applications and allows submission of additional materials
What is the expected time for application to decision for CON review?	2	Excluding the LOI period, the expected number of days for an initial (unappealed) decision to be made on an application	>270 days-4, 181-270 days-3, 120-180 days-2, <120 days-1	1-decisions typically made in less than 120 days
Type of Review-Batch or Joined reviews. Individual, Expedited or Emergency	3	If applications are processed individually, on an emergency or expedited basis, or through either batched review process or joined review process as these two processes increase competition	Primarily batched, joined, or simultaneous review-3, Individual or sometimes batch/joined/simultaneous review-2, No batching/joining/simultaneous review-1	2-Georgia primarily does individual reviews with some batching of certain nursing home, home health projects
Who is involved in the review of applications (beyond CON staff)?	1	Involvement of state agencies or other agencies in the CON decision process	Involvement of Other state agencies or agencies outside of CON-3, CON staff and a council or Secretary of Health-2, CON staff only-1	1-CON Staff only or primarily
Are hearings held prior to decisions?	3	Hearings or pre-decision comment periods	Hearing or Comment Period is standard-3, Hearings/Comment period are available in requested >21 days-2, Hearings/Comment period are available if requested within or unknown <21 days-1	1-Hearings during pre-decision period must be requested within 20 days

Who can appeal? What standing is needed?	3	Entities or persons allowed to appeal a CON decision	Anyone may appeal-3, Competitors, government entities, taxpayer groups-2, Competitors or government entities only-1	2-applicants, competitors, government may appeal
Appeals Request	1	Time appellants have to submit a request for an appeal on a CON decision	>21 days-2, <21 days-1	2-Appeal may be requested greater than 21 days after the decision made
Appeals Duration	3	Length of time from beginning of appeal to final decision (if no further appeal is made)	>1 year-4, 6months-1 year-3, 3 months to six months-2, <3 months-1	1-Appeals period generally lasts under 3 months
Regulations and Moratoria	3	Level of Regulation associated with moratoria or capacity limits in place	Full moratoria/at capacity limit, not reviewing or approving anything in category-3, partial moratoria/capacity limits-2, no moratoria/capacity limits-1	1-There are no moratoria or set capacity limits in place

The appropriate ranking was assigned and multiplied by the weight of the criteria. While the numbers assigned to each category are somewhat subjective, the overall ranking reflects what was learned from interviews, printed material, and web sites for each state. It should be noted that this ranking is ordinal rather than cardinal. That is, it describes the relative ranking of each state, but a state with a score 20 percent higher than another should not be thought of as 20 percent more restrictive in terms of its CON regulations.

Figure 6

State	Over all Scope and Rigor	Hospital Scope and Rigor	Free Standing Centers Scope and Rigor
Maine	146	143	146
Georgia	124	122	110
West Virginia	123	117	117
Iowa	122	117	117
Massachusetts	115	118	124
Washington	111	108	108
Florida	108	105	30
Oregon	94	94	19
Wisconsin	2.5	0	0
Colorado	0	0	0
Utah	0	0	0

The ranking of states for long-term care services is complicated by the fact that many states have moratoria on the construction of new long-term care facilities. The rigor ranking for long-term care services is described in the analysis section on long-term care services.

We use this ranking in our analysis in a number of ways. Using the over all score, we group states that have scores about 120 as the most rigorous CON programs (tier 2) and those between five and 120 as a lower level of CON rigor (tier 1). We also test alternative groupings using just the hospital or free standing center scores to see if our results are robust to that definition. Finally, we use the score its self as a measure to determine the impact of CON on costs, quality, and access.

SOURCES OF INFORMATION

All States

National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006, American Health Planning Association, 17th edition.

Florida

Program Contact: Jeff Gregg, Bureau Chief, Florida AHCA, Health Facility Regulation
2727 Mahan Drive, Building 3, Tallahassee, FL 32038-5407; Phone: 850-922-8672; Fax: 850-488-6964; Email: greggj@ahca.myflorida.com
CON Website: http://ahca.myflorida.com/MCHQ/CON_FA/index.shtml

Georgia

Program Contact: Robert Rozier, Esq., Executive Director, Division of Health Planning, Georgia Department of Community Health
2 Peachtree Street, NW, 5th Floor, Atlanta, GA 30303-3142; Phone: 404-657-7198; Fax: 404-656-0554; Email: rrozier@dch.ga.gov
CON Website:
http://dch.georgia.gov/00/channel_title/0,2094,31446711_32467034,00.html

Iowa

Program Contact: Barb Nervig, Program Manager, CON Program Iowa Department of Public Health
321 E. 12th Street, Lucas State Office Building, Des Moines, IA, 50319; Phone: 515-281-4344; Fax: 515-281-4958; Email: bnervig@idph.state.ia.us
CON Website: http://www.idph.state.ia.us/do/cert_of_need.asp

Maine

Program Contact: Catherine Cobb, Director, Division of Licensure and Regulatory Services
11 State House Station, Augusta, ME, 04333-0011; Phone: 207-287-2979; Fax: 207-287-5282; Email: catherine.cobb@maine.gov
CON Website: http://www.maine.gov/dhhs/beas/c_o_n/

Massachusetts

Program Contact: Joan Gorga, Acting Director, Determination of Need Program, Mass Department of Public Health
250 Washington Street, 7th Floor, Boston, MA 02108-4619; Phone: 617-753-7340; Fax: 617-753-7349; Email: Joan.Gorga@state.ma.us

CON Website: Massachusetts Determination of Need Web Pages
http://www.mass.gov/?pageID=eohhs2terminal&&L=5&L0=Home&L1=Government&L2=Departments+and+Divisions&L3=Department+of+Public+Health&L4=Programs+and+Services+A+-+J&sid=Eeohhs2&b=terminalcontent&f=dph_quality_g_determination_need&csid=Eeohhs2

Oregon
Program Contact: Jana Fussell, Manager, Certificate of Need Program, Oregon Health Division
800 NE Oregon Street, Suite 925, Portland, OR 97232; Phone: 503-731-4320; Fax: 503-731-4078; Email: jana.fussell@state.or.us
CON Website: http://egov.oregon.gov/DHS/ph/hsp/certneed/

Washington
Program Contact: Janis Sigman, Manager, Certificate of Need Program, Department of Health
310 Israel Road SE, MS 47852, Tumwater, WA 98504; Phone: 360-236-2956; Fax: 360-236-2901; Email: janis.sigman@doh.wa.gov
CON Website: http://www.doh.wa.gov/hsqa/fsl/certneed/

West Virginia- No interview conducted with program contact.
Program Contact: Dayle Stepp, CON Director, West Virginia Health Care Authority
100 Dee Drive, Charleston, WV 25311; Phone: 304-558-7000; Fax: 304-559-7001; Email: dstepp@hcawv.org
CON Website: http://www.hcawv.org/CertOfNeed/conHome.htm

Wisconsin
Program Contact: C. David Lund, Chief, N.H. Section, Resource Allocation Program, Health Care Financing
PO Box 309, Madison, WI 53701; Phone: 608-266-2021; Fax: 608-264-7720; Email: lundcd@dhfs.state.wi.us
CON Website: No website for CON

MARKET DEFINITIONS

Defining Hospital Markets

The first step in understanding the impact of regulation on the health care delivery system is to understand the markets affected. The goal in constructing these geographic markets is to allow comparison of health care delivery under similar conditions (such as urban or rural, highly competitive or monopolistic, high income or low) in different regulatory environments.

The research literature suggests a number of ways to define geographic markets. The most common method is to examine the flow of patients and define markets as consisting of those providers who draw patients from similar areas.

Most health care providers, and especially hospitals, are multi-product firms. To understand the markets, we would need to describe the separate geographic market for each service. Our purpose in this study is to understand the effects of Certificate of Need regulation on hospitals and their competitors over a broad range of services.

Method

Using the HCUP hospital discharge data, we first describe markets by describing the ZIP codes from which each hospital draws its patients. We map each ZIP code to a county. This allows us to match data from other sources that describe market characteristics. Then we define counties that retain more than 50 percent of their own patients as a market. Counties that have an outflow of more than 21 percent of their patients to another market are linked to that market. Counties that send more than 21 percent of their patients to two or more counties are linked to the county that they sent the largest percent of patients. Counties are thus linked together to form distinct markets. In a few states, some counties have no hospital and are too defuse in their patient flows to be assigned to a specific market

Results

The markets for each state are described in the maps below. Urban markets tend to cover a wide area, as adjacent rural areas send their patients to urban areas for care. In such markets, competition may be indirect in the sense that hospital A's decisions may affect hospital B's choices, which in turn affect Hospital C, even if hospital A and C do not directly compete for patients.

Massachusetts, Maine, and Utah have the smallest number of markets. Massachusetts is a small, highly urbanized state relative to the other states in our study. Utah and Maine

are relatively rural states with only a few urban areas. The other states have a mix of large metropolitan, smaller urban centers, and rural areas. Figure 7 shows the average Rural-Urban continuum number for each market in the state. Higher continuum numbers reflect more rural areas.

Figure 7

State	Rural-Urban Continuum
CO	6
FL	3
GA	5
IA	6
MA	2
ME	4
OR	5
UT	5
WA	4
WI	4
WV	5

Caveats

While the methods employed in developing these markets are widely used in both health services research and anti-trust cases, it should be noted that we employ these market descriptions over a wide range of services and examine markets over 25 years. Over time, markets change both in their composition of health care suppliers and in the demand for health care services: populations grow, hospitals merge, and new competitors entire the market. A more complete analysis of the effect of regulation on health care delivery would also examine markets defined more specifically for each regulated service or procedure and would examine how geographic markets change over time under different regulatory environments.

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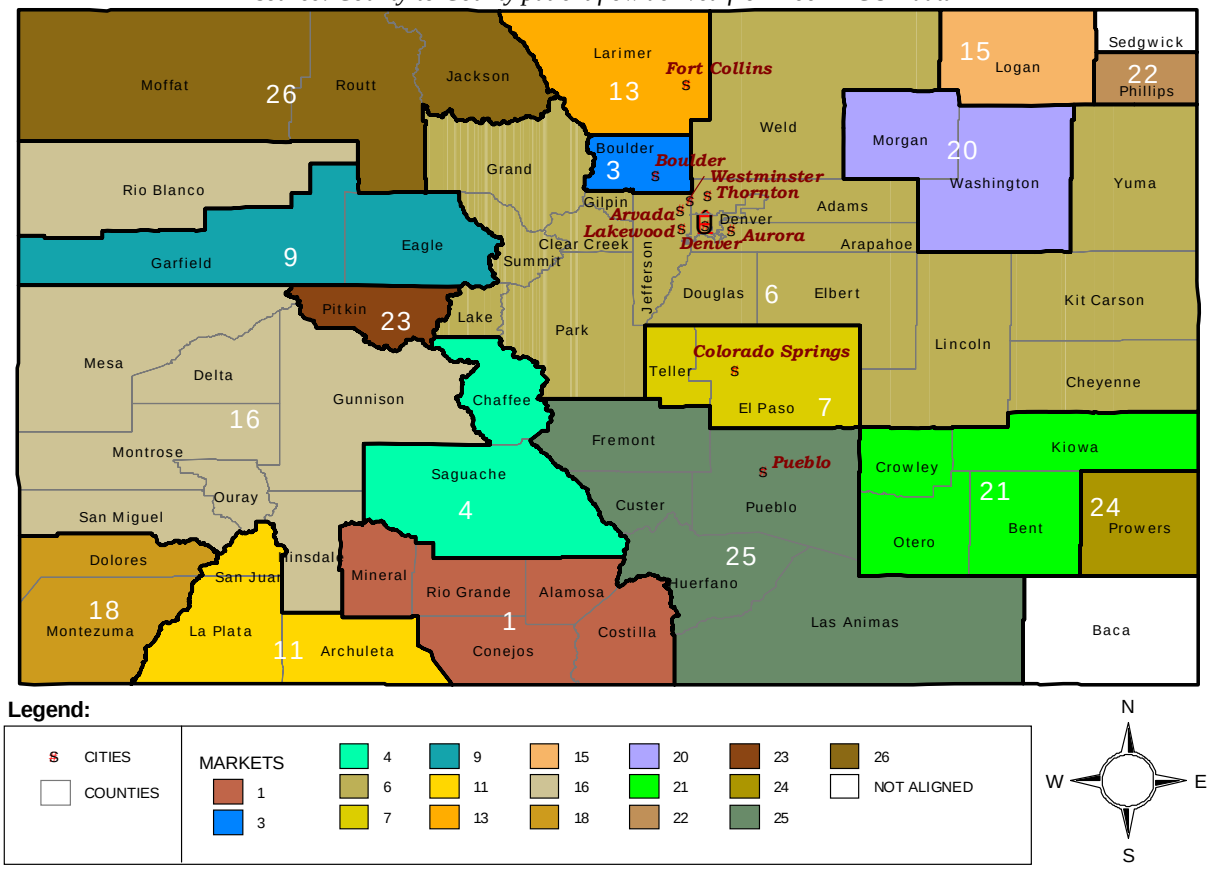
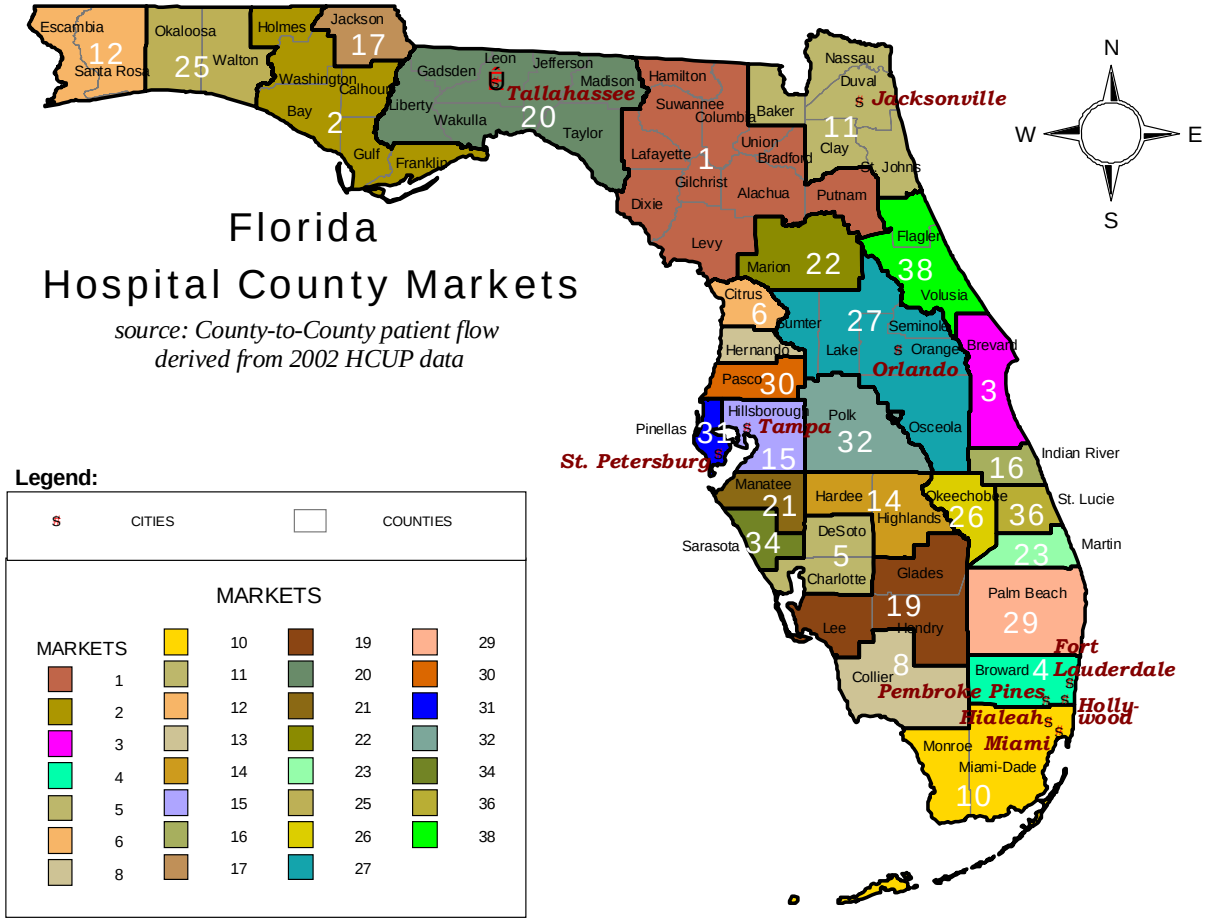
Colorado Hospital County Markets

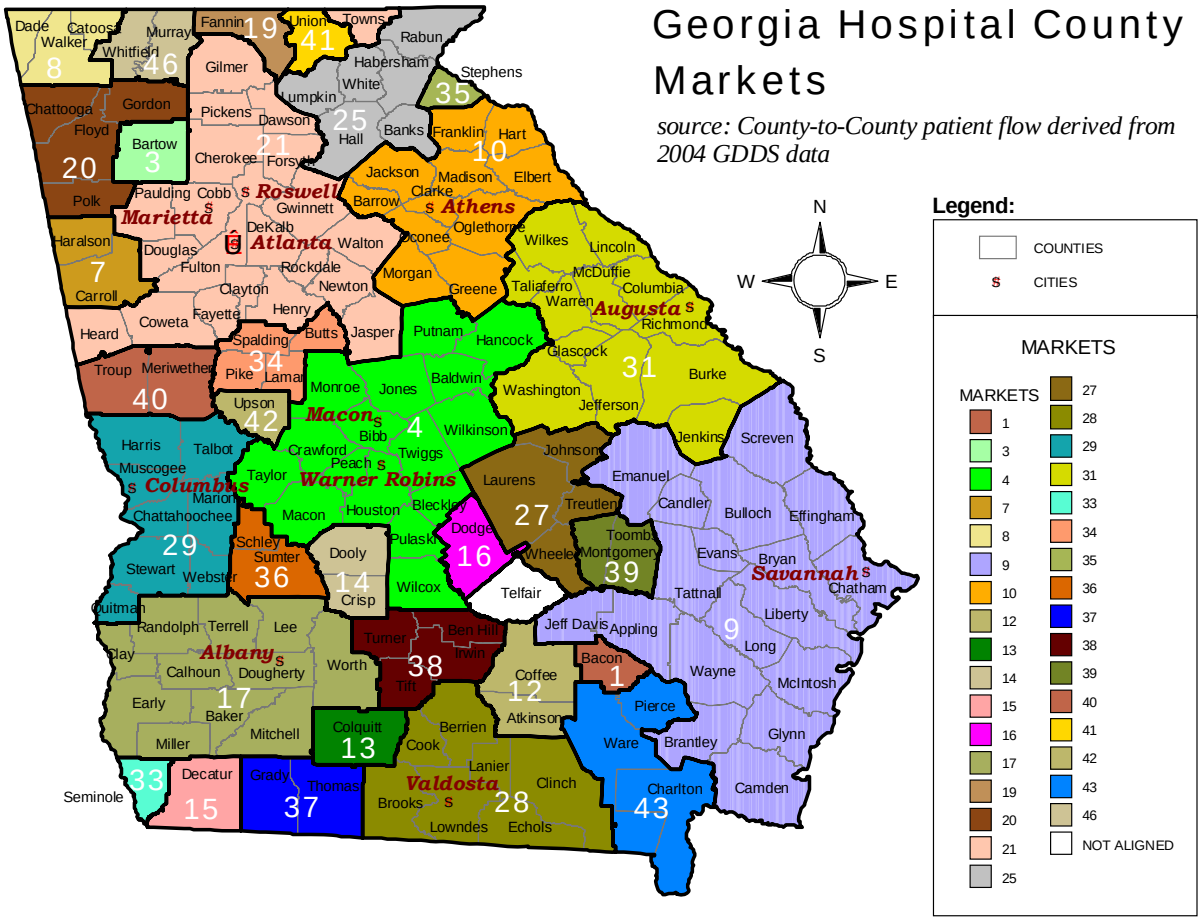
source: County-to-County patient flow derived from 2002 HCUP data




Florida
Hospital County Markets
source: County-to-County patient flow
derived from 2002 HCUP data
Legend:
CITIES
COUNTIES
MARKETS
Escambia
Okaloosa
Holmes
Jackson
Santa Rosa
Walton
Washington
Calhoun
Bay
Gadsden
Leon
Jefferson
Madison
Tallahassee
Liberty
Wakulla
Taylor
Gulf
Franklin
Hamilton
Suwannee
Columbia
Baker
Nassau
Duval
Jacksonville
Union
Bradford
Clay
St. Johns
Lafayette
Gilchrist
Alachua
Putnam
Dixie
Levy
Flagler
Marion
Volusia
Citrus
Sumter
Seminole
Hernando
Lake
Orange
Orlando
Brevard
Pasco
Hillsborough
Tampa
Polk
Osceola
Pinellas
St. Petersburg
Indian River
Manatee
Hardee
Okeechobee
St. Lucie
Highlands
DeSoto
Martin
Sarasota
Charlotte
Glades
Palm Beach
Lee
Hendry
Broward
Fort Lauderdale
Collier
Pembroke Pines
Hollywood
Hialeah
Monroe
Miami
Miami-Dade
N
W
E
S

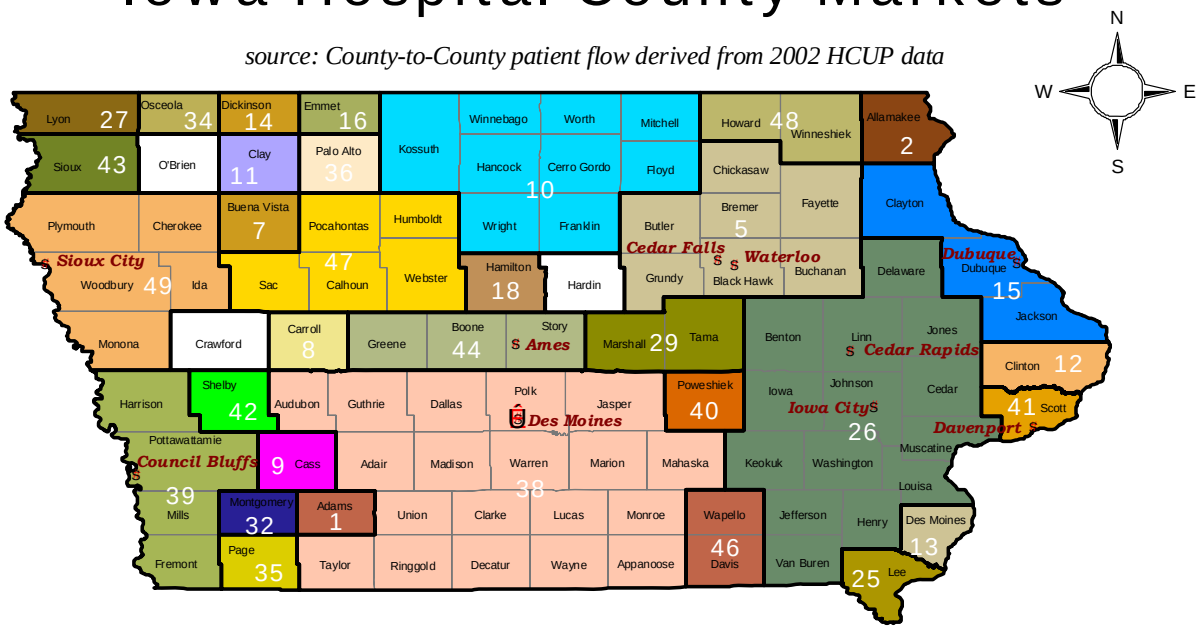
Georgia Hospital County Markets

source: County-to-County patient flow derived from 2004 GDDS data



Iowa Hospital County Markets

source: County-to-County patient flow derived from 2002 HCUP data



Legend:

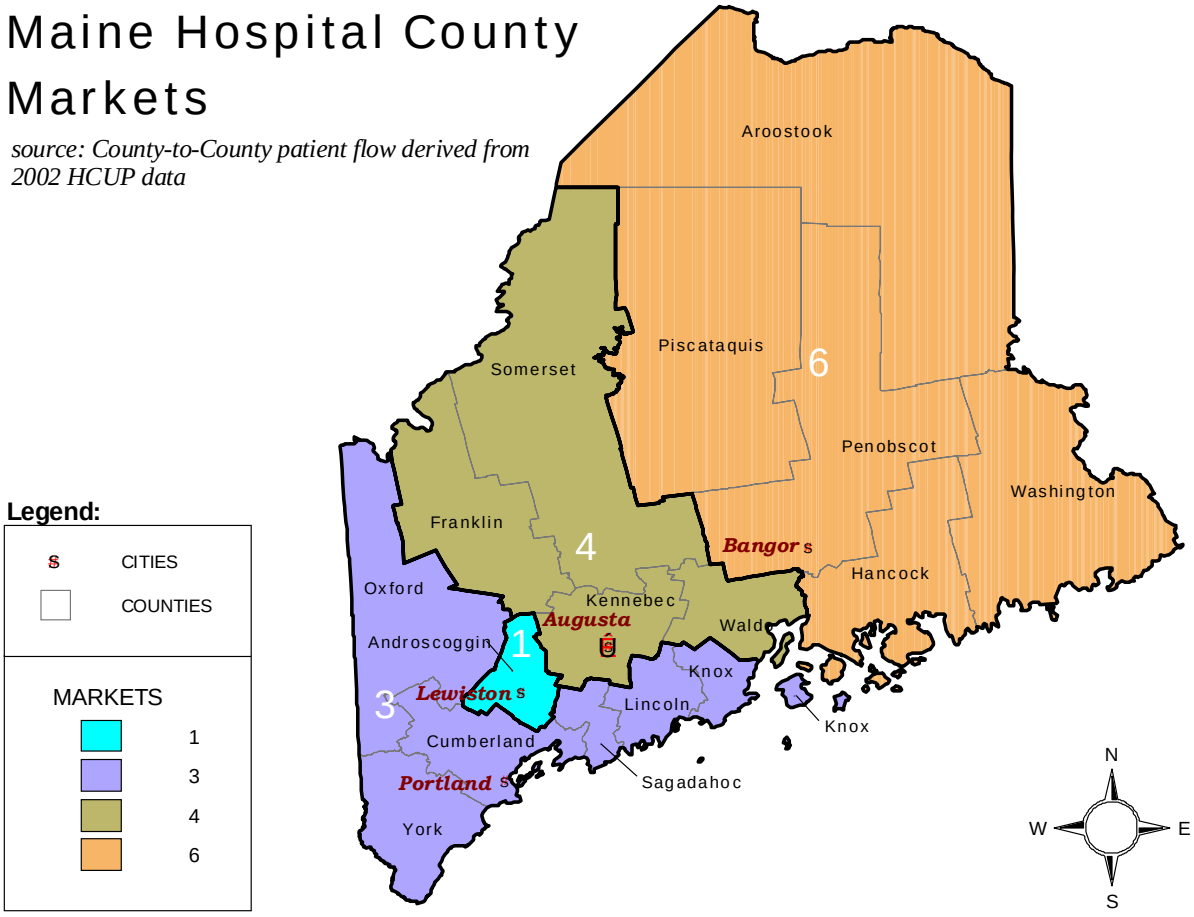
CITIES	MARKETS	7	11	15	26	34	39	43	48	
COUNTIES	1	8	12	16	27	35	40	44	49	
	2	9	13	18	29	36	41	46	NOT ALIGNED	
	5	10	14	25	32	38	42	47		

Massachusetts Hospital County Markets

source: County-to-County patient flow derived from 2002 HCUP data

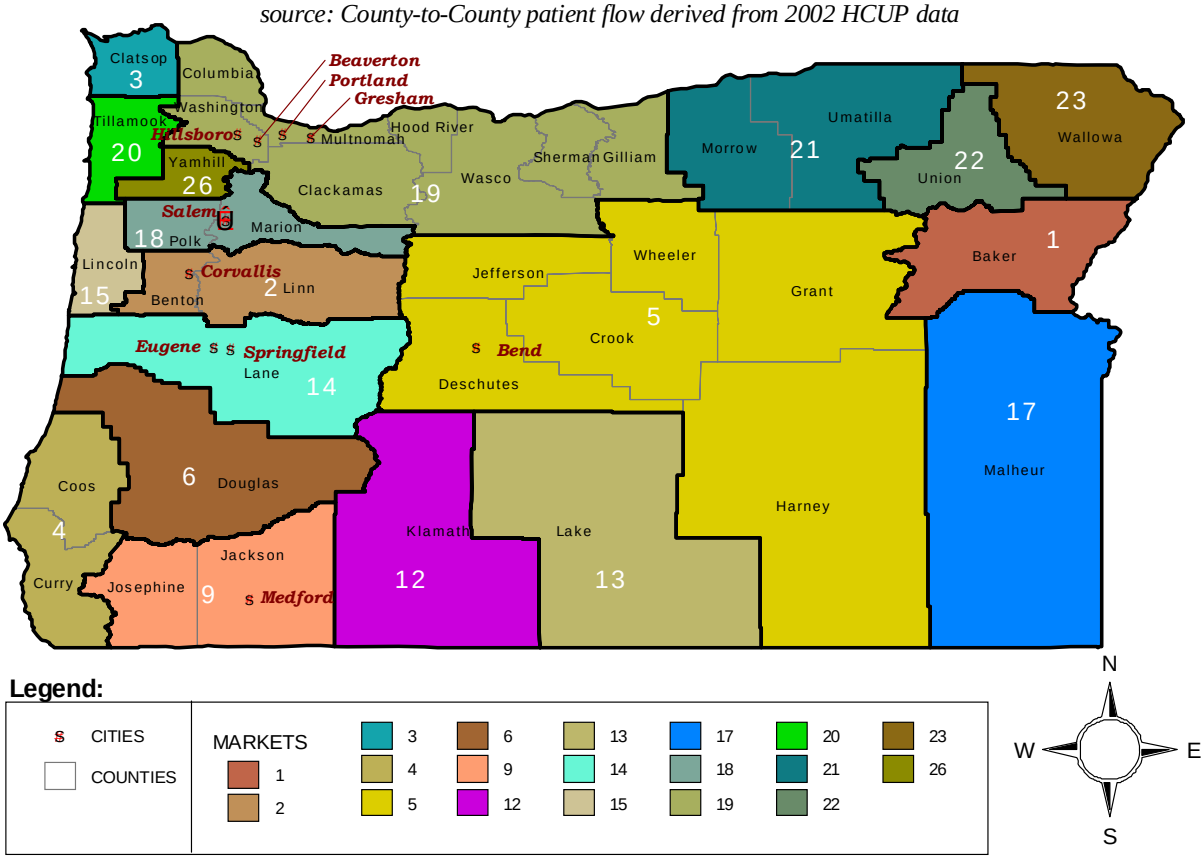
Maine Hospital County Markets

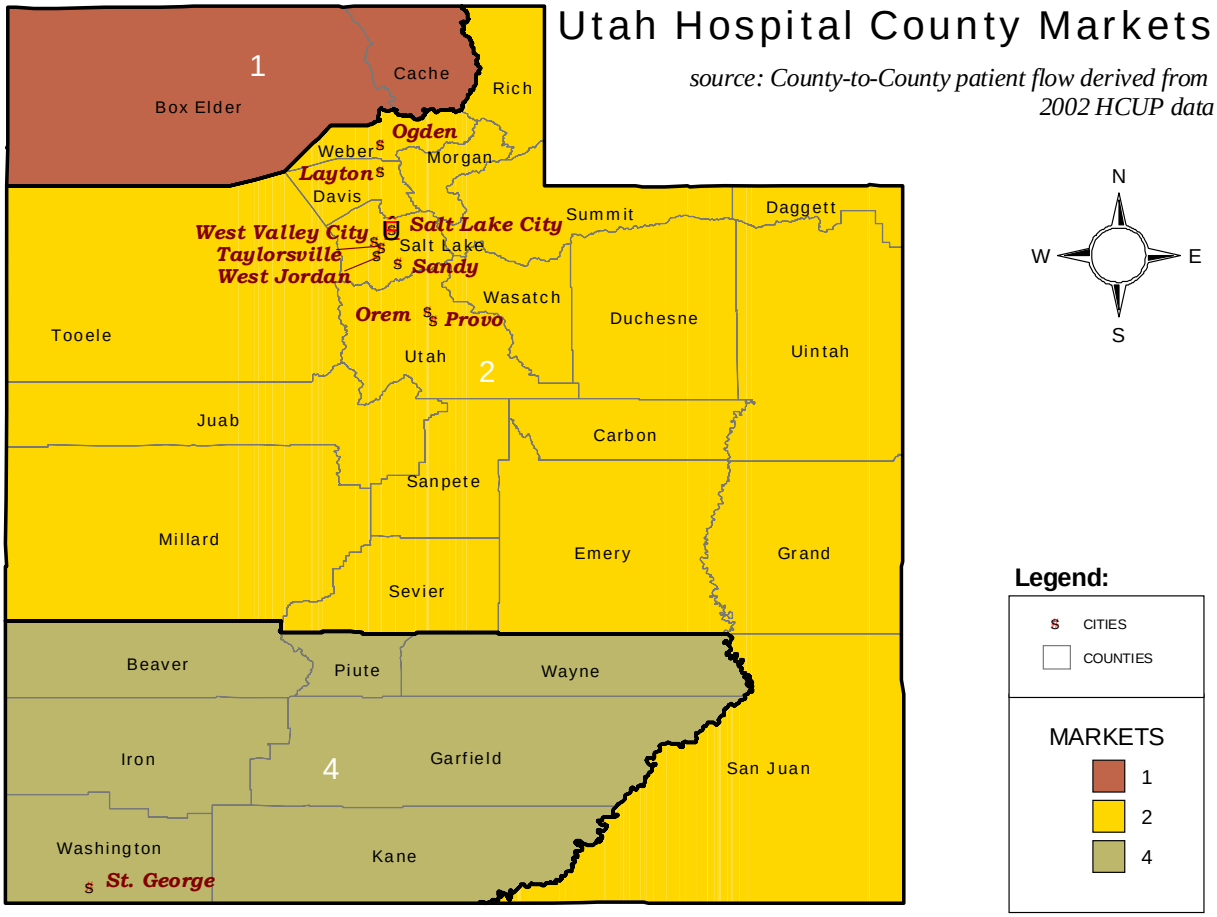
source: County-to-County patient flow derived from 2002 HCUP data



Oregon Hospital County Markets

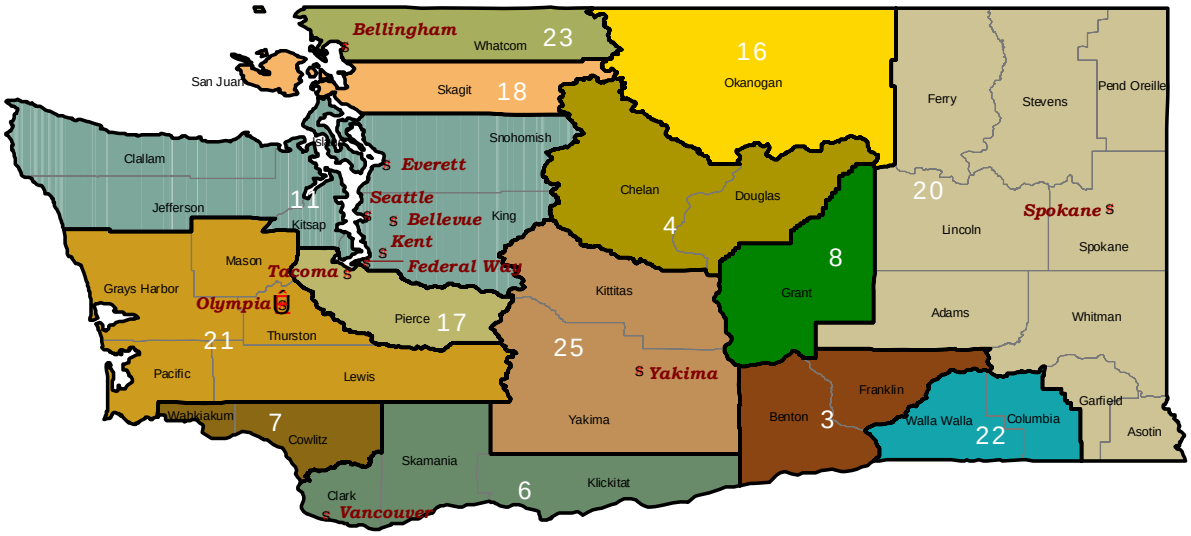
source: County-to-County patient flow derived from 2002 HCUP data




Utah Hospital County Markets
source: County-to-County patient flow derived from 2002 HCUP data
1
Box Elder
Cache
Rich
Ogden
Weber
Morgan
Layton
Davis
West Valley City
Taylorsville
West Jordan
Salt Lake City
Salt Lake
Sandy
Summit
Daggett
Wasatch
Orem
Provo
Duchesne
Tooele
Utah
2
Uintah
Juab
Carbon
Sanpete
Millard
Emery
Grand
Sevier
Beaver
Piute
Wayne
Iron
4
Garfield
San Juan
Washington
Kane
St. George
N
W
E
S
Legend:
CITIES
COUNTIES
MARKETS
1
2
4

Washington Hospital County Markets

source: County-to-County patient flow derived from 2002 HCUP data



Legend:

CITIES

COUNTIES

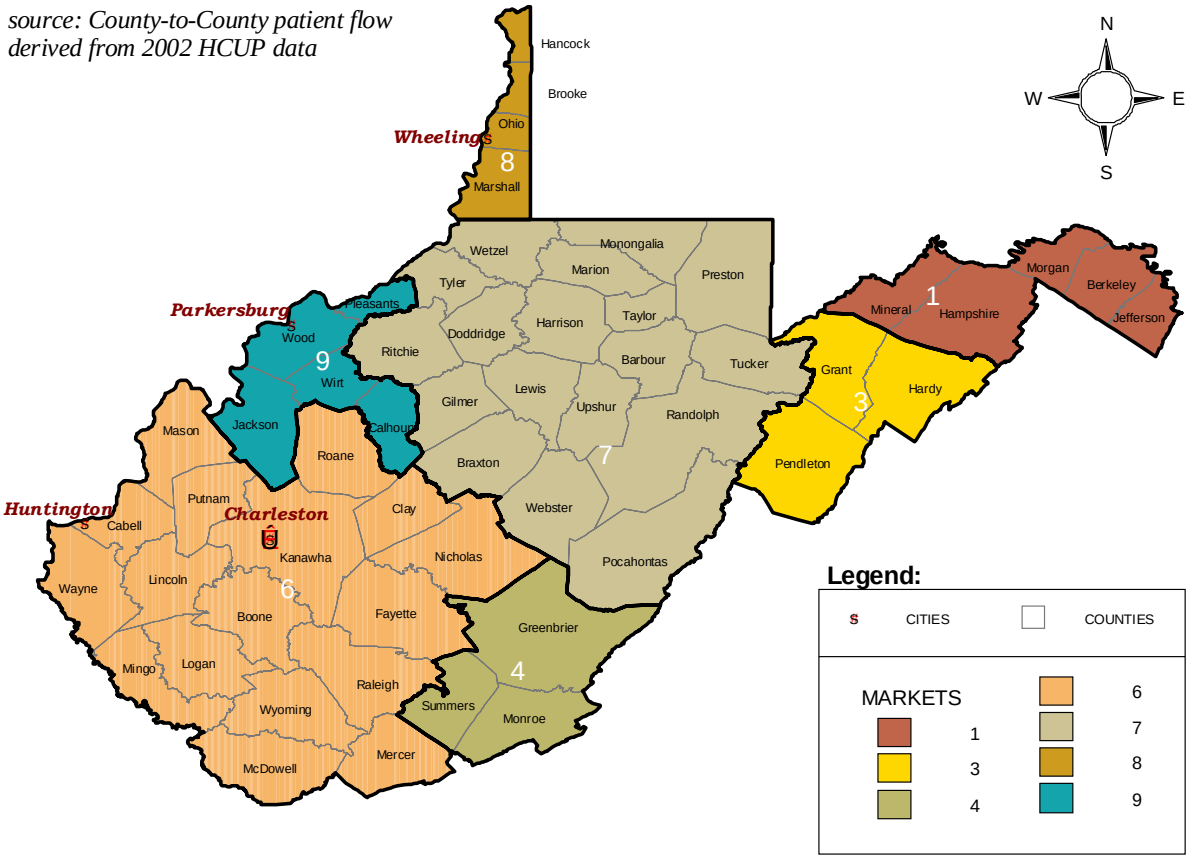
MARKETS

3 4 6 7 8 11 16 17 18 20 21 22 23 25

N W E S

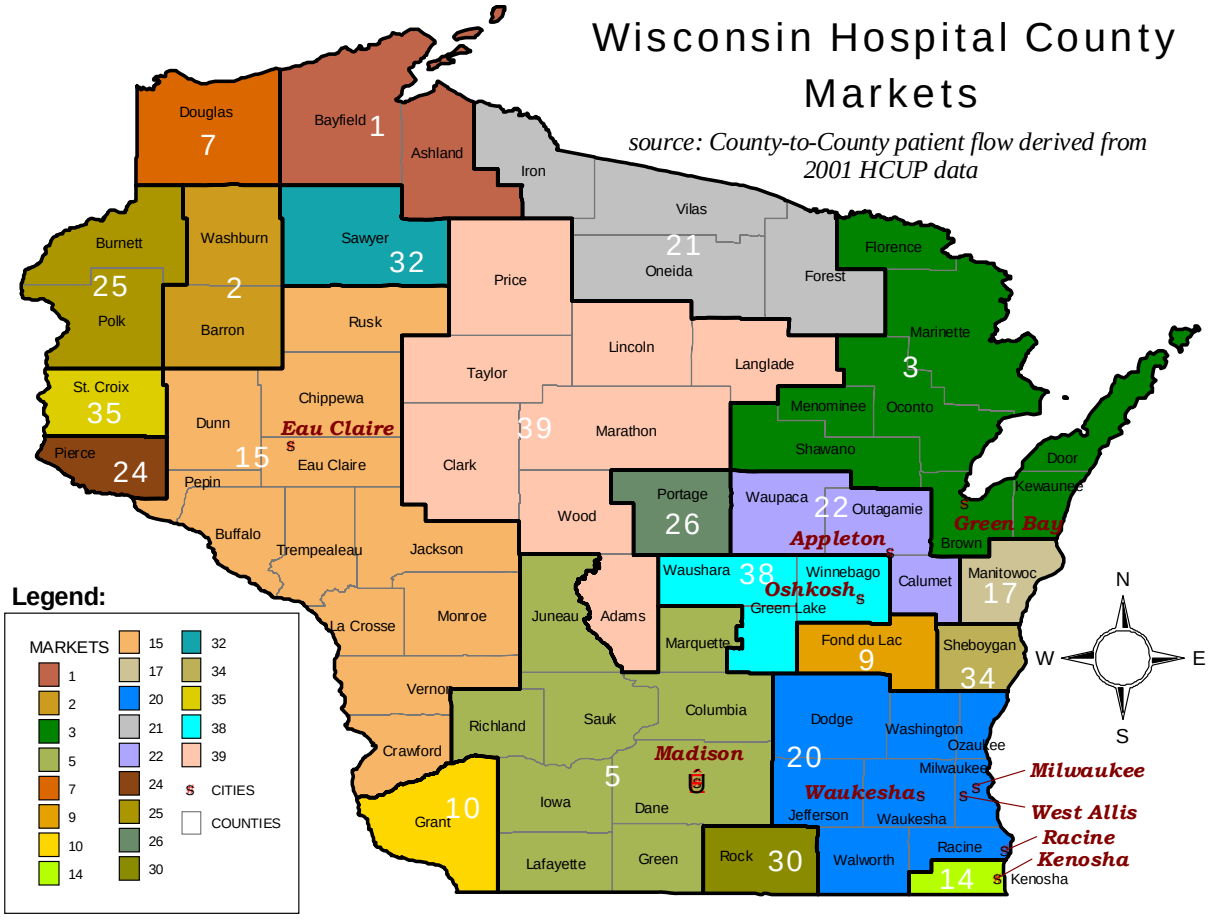
West Virginia Hospital County Markets

source: County-to-County patient flow derived from 2002 HCUP data



Wisconsin Hospital County Markets

source: County-to-County patient flow derived from 2001 HCUP data



ACUTE CARE

Market Structure

One of the original purposes of CON laws was to restrict the supply of health care services in order to limit competition on the basis of quality attributes that were believed to increase costs. Most studies of the impact of CON laws have found limited impact on general hospital beds or capital expenditures, although they have found some limitations on specific services.[2]

The health care delivery system has evolved dramatically over the last two decades. Changes in reimbursement methodologies used by both public and private payers have altered the incentives for hospitals to invest in new technologies, reduced their ability to subsidize uncompensated care, and changed the relationships between hospitals and physicians. Changes in reimbursement have lowered hospital operating margins and reduced their ability to finance the purchase of new technologies.

The number of hospitals and hospital beds per-capita has fallen over the last 20 years. In the states we reviewed, there were 220 fewer hospitals (Figure 8) and over 49,000 fewer hospital beds (Figure 9) between 1985 and 2002. When controlling for the rural-urban continuum of the market the most rigorous CON states lost fewer beds than other states.

One widely used measure of the competitiveness of a market is the Herfindahl-Hirschman Index (HHI). It is calculated by summing the square of each hospital's market share. For the sake of clarity, the resulting sum is multiplied by 10,000. A perfect monopoly is thus 10,000. The Federal Trade Commission's guidelines for any market describes a competitive market as one in which the HHI is less than 1,000. A moderately concentrated market is one with an HHI between 1,000 and 2,000. An HHI over 2,000 is described as concentrated. Further, FTC guidelines indicate that market changes that result in the market's HHI increasing by over 100 points are candidates for review.

The Herfindahl-Hirschman Index for each market (using beds, admissions, and inpatient days as output measures) are presented in Figure 8. Figure 8 presents weighted averages (weighted by market population) of the market HHI for each state. With the exception of Massachusetts, the average market HHI is rated as non-competitive.

[2] Mercer (2005) provides a good summary of recent literature. See Custer (1999) for a review of older research.

Across all markets, states ranked as having the most rigorous CON regulation have statistically significantly higher HHI's than non-CON states. States ranked as having less rigorous CON regulation have HHI's not significantly higher than the non-CON states.

The HHI is also calculated for each market for 1980 and 1985. Consistent with overall changes in the health care delivery system, almost all markets have become less competitive as measured by these broad measures of hospital output. However, there is not a statistically significant relationship between the change in competitiveness and Certificate of Need.

Figure 8
HHI Index by State

State	Population	Weighted Average HHI for Beds	W.A. Change in HHI from 1980
CO	4,508,519	2,673	825
FL	17,019,068	2,834	606
GA	8,684,715	2,533	262
IA	2,944,062	4,376	1,317
MA	6,433,422	253	78
ME	1,305,728	4,483	2,726
OR	3,559,596	4,347	1,382
UT	2,351,467	2,655	1,574
WA	6,131,445	3,218	1,281
WI	5,472,299	2,700	967
WV	1,810,354	2,188	487

Figure 9 Number of Hospitals per State and Change since 1985		
State	Number of Hospitals	Percent of Current Hospitals
CO	78	-23%
FL	229	-9%
GA	171	-12%
IA	123	-12%
MA	134	-57%
ME	17	-24%
OR	63	-30%
UT	48	13%
WA	96	-21%
WI	134	-25%
WV	63	-25%

Figure 10 States by Beds per 1,000			
State	Beds Per 1,000 - 2002	Beds per 1,000 - 1985	Percent Change
ME	3.26	6.29	-48%
WI	3.01	5.61	-46%
OR	2.10	3.75	-44%
CO	2.40	4.13	-42%
MA	2.82	4.76	-41%
WA	2.09	3.44	-39%
FL	3.22	5.12	-37%
GA	3.36	5.34	-37%
IA	4.18	6.16	-32%
UT	2.18	3.04	-29%
WV	4.66	5.71	-18%

Figure 11 presents the number of ambulatory surgery centers (ASCs) by state. The states are ordered from the highest per-capita number of ambulatory centers to the lowest. Of all the states, Georgia experienced the most rapid growth in the numbers of ASCs. Florida has the greatest number and Washington the most per-capita. There is not a statistically significant relationship between CON rigor and the number or growth of ASCs.

Figure 11 Ambulatory Surgery Centers by State and Measures of CON Rigor						
State	ASCs 2004	ASCs 1994	Change	ASC per 100,000	Hospital Rigor	**Free Standing Centers Rigor**
Washington	195	85	129%	3.2	108	108
Georgia	198	56	254%	2.3	122	110
Florida	319	169	89%	1.9	105	30
Colorado	76	28	171%	1.7	0	0
Utah	38	14	171%	1.6	0	0
Oregon	55	18	206%	1.5	94	19
Maine	18	8	125%	1.4	143	146
Wisconsin	39	21	86%	0.7	0	0
West Virginia	11	8	38%	0.6	117	117
Iowa	17	7	143%	0.6	117	117
Massachusetts	37	17	118%	0.6	118	124

Certificate of need regulation is also associated with lower numbers of physicians per capita, and lower rates of growth in physicians per capita over time. Looking across markets, there is no difference in the number of surgical or medical specialists, but there is a significant difference in the number of generalists per capita between CON states and non-CON states.

Cost

The Literature on the Effect of CON Laws on Hospitals

Early studies of the impact of CON laws on hospital investments were completed by Salkever and Bice (1976, 1979) and Hellinger (1976). Salkever and Bice use data from the period 1966-1972. Many states had not yet enacted CON legislation in this period, providing a natural experiment on the effect of CON laws. They find that, "CON controls did not reduce the total dollar amount of investment during the 1966 to 1972 period, but significantly altered its composition . . ." (1976, p204). In other words, hospitals, assured of reimbursement for their investments and facing competition from other hospitals for physicians and patients, found ways to increase their capital stock in spite of CON reviews. Hellinger found a similar result using data from 1971-1972.

Sloan and Steinwald (1980) created several measures intended to capture the comprehensiveness of CON programs and used them to measure the effect of those programs on hospital costs and investment between 1969 and 1975. Unlike Salkever and Bice, they found no evidence that hospitals shifted investment to non-reviewed assets in states with CON laws, but they did find the hospitals increased their use of labor. In examining the effects of CON laws on hospital costs, Sloan and Steinwald found that comprehensive CON programs had no effect on hospital costs, but states with less comprehensive programs had higher costs than states with no CON programs.

Sloan (1981) examined the effects of CON programs between 1963 and 1978 on average hospital costs within states. He found no evidence that CON laws affected neither the level of hospital costs nor their rate of increase.

Joskow (1981) and Eastaugh (1982) employed time-series analysis using data from the mid-1970's to examine the effect of CON programs on hospital expenditures and investment respectively. Joskow found no significant effects of CON programs on hospital expenditures. Eastaugh could find no statistically significant relationship between CON programs and hospital investment, but his data suggest that CON programs were positively related to hospital investment (i.e. hospitals in states with CON programs had higher investment rates).

Farley and Kelly (1985) modeled the financial performance of hospitals over the period 1970-1978. They found that CON laws were associated with increases in average hospital costs.

Sherman (1988) used data from 1983-1984 to examine the relationship between hospital costs and CON regulation. He reached a conclusion that was "similar to that obtained by other researchers using data from the 1960s and 1970s: CON laws do not appear to

have become more effective in reducing hospital costs in the 1980's than they were in earlier years." (p. 78)

Conover and Sloan (1998) examined annual state-level data from 1980 to 1993 and found no evidence of lower hospital costs per-capita in states with mature CON programs; or a surge in hospital costs following removal of CON regulations.

Methods

There are a number of factors unrelated to Certificate of Need laws that may affect costs of health care services. The state's cost of living, the state's overall economic well being, its traditional utilization patterns, the overall regulatory environment, and the structure of the health care delivery system are among the factors that can determine health care expenditures.

Figure 12 compares total per-capita expenditures for personal health care across the states in this study. The last column contains our estimates of the rigor and scope of the CON regulations in each state, where zero means no CON and two is the most rigorous. The middle column presents personal state health expenditures as a percent of that state's Gross State Product; a measure of the state's income. CON rigor and per-capita health expenditures are weakly correlated, but health expenditures and CON rigor are more strongly statistically related.

Figure 12
State Per -Capita Health Expenditures and Health as a Share of GSP

State	Per Capita Health Expenditures	Health Expenditures as Share of GSP	CON Rigor and Scope
Colorado	$4,972	11.2%	0
Florida	$5,568	15.9%	1
Georgia	$4,765	12.1%	2
Iowa	$5,175	13.3%	2
Maine	$6,116	18.5%	2
Massachusetts	$7,046	14.3%	1
Oregon	$4,926	13.7%	1
Utah	$4,163	11.9%	0
Washington	$5,260	12.4%	1
West Virginia	$5,640	20.5%	2
Wisconsin	$5,707	14.8%	0

Source: CMS Health Expenditure tables

If CON regulation affects costs, it will be most readily detected in the actual payments made by private payers. Public programs use administered prices that are often developed independently of the actual costs of providing services or of the relative market power of the health care provider.

Data was purchased from the Thomson MEDSTAT Market scan database for two years (2002 & 2004). These data are composed of health care claims from large employers and insurers. They include information from a standard claims form, including diagnosis, procedure, age, and gender. They also include information about the consumer's health plan.

The data is a "convenience sample" in the sense that availability of data by state is a function of the number of participating employers in that state. Figure 13 indicates that Georgia and Florida have the most claims in the data set. The third column indicates the number of claims in our data set per 100,000 privately insured persons in the state. By that measure, Georgia, Colorado, and Iowa have the most representative data, while Massachusetts and Oregon may have too few observations to draw statistically significant conclusions.

Figure 13
Summary of Inpatient Claims and Average Cost

State	Number of Claims	Average Cost of an Inpatient Stay	Claims per 100,000 Privately Insured
CO	18,326	$12,067	611
FL	28,943	$12,274	313
GA	61,496	$15,369	1,165
IA	11,105	$10,321	552
MA	123	$47,657	3
ME	1,958	$14,009	258
OR	388	$18,881	18
UT	2,659	$9,266	156
WA	13,144	$10,529	343
WI	9,918	$16,371	274
WV	3,292	$11,932	366

Figure 13 demonstrates that average costs vary greatly by state. It is unlikely CON explains all or even most of that variation. Wisconsin and Georgia have some of the highest average costs for an inpatient stay, while Utah and Iowa are among the lowest, yet each of the four states has very different approaches to Certificate of Need

regulation. The goal is to isolate the marginal effect of CON on inpatient costs. We, therefore, estimate the following equation for each diagnosis or procedure we are investigating:

$$Ln(C_i) = b_aA + b_mM + b_HH + b_DD + b_sS + \varepsilon_cC + \varepsilon$$

Where C_i= the costs of service i
A =a vector of patient demographics
M= a vector of market characteristics
H = a vector of Health Plan characteristics
D = a vector of episode characteristics
S = state
C = Certificate of Need rigor

This equation is called a fixed effects model. The effect of this model is that it holds constant other characteristics of a state, market, patient, and episode of care so that we can examine the marginal effects of CON regulation on hospital inpatient costs.

Results

We start by estimating the effect of CON on the average total costs for an inpatient stay and on the average total payments to hospitals for a stay. This approach groups many different types of patients, diagnoses, and procedures together. The actual impact of CON laws may be much more specific in terms of procedure and diagnosis. We employ the same model on more specific types of inpatient stays in our analysis, so it is useful to start with this most general model.

A number of different cost variables are used in the analysis: total payment for an episode of care; total payment for an episode of care adjusted for cost of living differences among states; and the payment to the hospital for an episode of care. The choice of dependent variables did not alter the results for the average cost for an inpatient stay, so other measures of cost are only reported below if there is a difference in the outcomes.

The first column of Figure 14 lists the explanatory variables used in a multiple regression model estimating total costs of an inpatient stay. The pluses and minuses in the table describe the effect of the explanatory variable on total costs of a stay. Each of the five columns describes the relationship between the explanatory variables and costs for an inpatient stay using either a different empirical model or different measure of CON regulation.

Figure 14 Regression Results for Total Payment for all Inpatient Stays				
Patient Characteristics	(1) CON Index	(2) CON Categories	(3) CON Index with Interaction Terms	(4) CON Categories with Interaction terms
Age	+	+	+	+
Female	+	+	+	+
Spouse	+	+	+	+
Child	-	-	-	-
Number of Diagnoses	+	+	+	+
Episode Characteristics				
Surgical	+	+	+	+
Medical	+	+	+	+
Maternity	+	+	+	+
Number of Procedures	+	+	+	+
Length of Stay	+	+	+	+
Episode Outcomes				
Transfer	+	+	+	+
Died	+	+	+	+
Plan Characteristics				
Patient Share of Costs	-	-	-	-
Market Characteristics				
Rural Urban	+	+	+	+
Market Median Age	-	-	-	-
Market Median income	+	+	+	+
Herfindahl Index	+	No effect	+	+
Ambulatory Surgery Centers (Per - Capita)	+	No effect	+	+
CON Measures				
Scope and Rigor Index	+	n/a	+	n/a
CON Category 1	n/a	+	n/a	+
CON Category 2	n/a	+	n/a	+
Interaction Terms				
Rigor Index and Rural	n/a	n/a	-	
Rigor Index and HHI	n/a	n/a	-	
CON1 and Rural	n/a	n/a		-
CON2 and Rural	n/a	n/a		-
Percent of Variation Explained	57%	57%	57%	57%
The full regression results are reprinted in Appendix C.				

Equation (1) is a fixed effects model using the index of CON rigor as an explanatory variable. Equation (2) uses using categories of CON regulation as explanatory variables. Equations (3) and (4) interact the CON indicators with the rural index to see if CON regulations impact rural areas differently than more urban markets. All models explain about 57 percent of the variation in inpatient stay costs.

The Effects of Patient Characteristics

The patient characteristics have the expected relationship to the cost of an inpatient stay. Older patients and female patients are more expensive. Spouses of workers with coverage are more expensive, but their children are less so. The number of diagnoses the patient has is a measure of patient severity of illness. The more diagnoses, the sicker the patient and the higher the cost of an inpatient stay.

The Effects of the Characteristics the Episode of Care

The characteristics of the inpatient stay also have the expected results. Surgical, medical, and maternity admissions all cost more than psychiatric admissions (the omitted category). The number of procedures the patient has during the stay has direct consequences for costs, as does the length of the inpatient stay. The outcome of an episode of care is correlated with the severity of illness and the costs of an admission. Patients who transfer to another health care facility or who die are associated with higher costs.

The Effects of the Generosity Of The Health Plan

The generosity of the patient's health plan may affect the demand for services and, therefore, the price of care. There is a consistent, negative effect of the patient's share and the costs of care.

The Effects of Market Characteristics

Market characteristics affect the cost of an inpatient stay. The market's median age is negatively related to costs. This result was unexpected, but may reflect lower levels of private health insurance coverage in areas with higher median ages. The median income of the market is positively related to inpatient costs in all specifications. In all equations, more rural markets have higher costs for inpatient stays. Similarly, the degree of competitiveness as measured by the Herfindahl Index has a positive coefficient, which means the less competitive the market, the higher the price of an inpatient stay.

Finally, the number of ambulatory surgery centers per capita in a market is positively related to price. While it is possible that the density of ACSs is a proxy for higher demand for health care services, this result is consistent with the idea that the presence

of ambulatory surgery centers increases the acuity level of hospital patients and, therefore, increases average inpatient costs.

The Effects of CON

The index measure of the rigor and scope of CON regulations is significant and positively related to inpatient stay costs. While both tiers of the two-tiered measures of CON rigor we used are significantly related to higher inpatient stay costs, the tier of states designated as having less rigorous CON regulatory processes have a greater impact on inpatient costs than the more rigorous states.

When we interact both measures of CON rigor with rural, we find that the effects of CON laws on inpatient stay costs are moderated to some extent in rural areas. The impact of CON on costs is also reduced in less competitive markets.

Costs Estimation by Major Diagnostic Category

If CON has specific impacts on certain types of procedures or diagnoses, an aggregation of all inpatient stays may obscure the real impact of CON regulations. The limitation on examining the effect of CON on specific diagnoses and procedures is the number of claims available. Figure 15 presents the number of claims available for each Major Diagnostic Category (MDC), the average cost per inpatient stay for that MDC, the percent of total claims accounted for by that MDC, and, for comparison purposes, the percent of all claims from the HCUP hospital discharge data sets.

The HCUP data includes all payers, while the Medstat claims data contains only private payers. The percent of claims in each MDC in the Medstat data is largely consistent with the overall percentage in the HCUP data with three exceptions. The claims data has fewer patients with respiratory (MDC4) or circulatory (MDC5) diagnoses and more births (MDC14). These differences are consistent with the differences between the Medicare population reflected in the HCUP data and privately insured individuals represented in the Medstat data.

The relatively small number of claims for many MDCs reduces the statistical validity of the cost estimates for those diagnostic groups. For completeness in reporting, we will estimate the cost model for every MDC with at least 2,000 claims, but a rough estimate is that an MDC must have 5,000 claims to yield statistically significant estimates.

Figure 15 Claims by Major Diagnostic Category					
MDC	MDC Name	Number of Claims	Average Episode Cost	Percent of Claims	Percent of all Discharges (HCUP Data)
1	Nervous System	8,843	$17,066	4%	6%
2	Eye	265	$9,524	0%	0%
3	Ear, Nose, Mouth And Throat	2,266	$9,647	1%	1%
4	Respiratory System	13,035	$13,227	7%	10%
5	Circulatory System	26,634	$18,324	13%	17%
6	Digestive System	18,669	$12,587	9%	9%
7	Hepatobiliary System And Pancreas	5,637	$15,733	3%	3%
8	Musculoskeletal System And Connective Tissue	16,146	$20,916	8%	8%
9	Skin, Subcutaneous Tissue And Breast	3,764	$10,347	2%	2%
10	Endocrine, Nutritional And Metabolic System	6,111	$10,016	3%	3%
11	Kidney And Urinary Tract	5,632	$11,822	3%	3%
12	Male Reproductive System	1,110	$12,247	1%	1%
13	Female Reproductive System	12,035	$10,360	6%	3%
14	Pregnancy, Childbirth And Puerperium	36,294	$7,282	18%	12%
15	Newborn And Other Neonates (Perinatal Period)	23,624	$5,777	12%	11%
16	Blood and Blood Forming Organs and Immunological Disorders	1,780	$13,036	1%	1%
17	Myeloproliferative DDs (Poorly Differentiated Neoplasms)	1,888	$27,080	1%	1%
18	Infectious and Parasitic DDs	3,178	$16,598	2%	2%
19	Mental Diseases and Disorders	6,233	$5,128	3%	4%
20	Alcohol/Drug Use or Induced Mental Disorders	2,032	$4,890	1%	1%
21	Injuries, Poison And Toxic Effect of Drugs	2,343	$10,537	1%	1%
22	Burns	154	$29,309	0%	0%
23	Factors Influencing Health Status	1,876	$29,887	1%	1%
24	Multiple Significant Trauma	435	$48,951	0%	0%
25	Human Immunodeficiency Virus Infection	190	$22,072	0%	0%

Figure 16 presents the results of the estimates of the cost regressions for those MDCs with sufficient claims. Since most of the coefficients of the explanatory variables are consistent with the estimates over all inpatient stays, Figure 15 only notes where those estimates differ from the full claims estimates. The full regressions can be found in the appendix.

Figure 16 Cost Estimates by MDC, Highlights of Results			
MDC	**Name**	**CON Variables**	**Other Results**
1	Nervous System	Positive, mitigated in rural areas, tier one has smaller effect than tier 2	Age is negatively related to cost. HHI not significant
2	Eye	Not enough claims	
3	Ear, Nose, Mouth And Throat	Positive, mitigated in rural areas	ASC, HHI not related to costs
4	Respiratory System	Positive, mitigated in rural areas, tier one has smaller effect than tier 2	
5	Circulatory System	Positive, mitigated in rural areas, tier one has smaller effect than tier 2	
6	Digestive System	Positive, mitigated in rural areas, tier one has smaller effect than tier 2	
7	Hepatobiliary System And Pancreas	Positive, mitigated in rural areas, tier one has smaller effect than tier 2	
8	Musculoskeletal System And Connective Tissue	Positive, mitigated in rural areas, tier one has smaller effect than tier 2	
9	Skin, Subcutaneous Tissue And Breast	Tier one not significant	HHI, ASC not significant
10	Endocrine, Nutritional And Metabolic System	Positive, mitigated in rural areas, tier one has smaller effect than tier 2	
11	Kidney And Urinary Tract	Positive, mitigated in rural areas, tier one has smaller effect than tier 2	
12	Male Reproductive System	Tier one not significant	ASC not significant
13	Female Reproductive System	Same as Full Estimation	
14	Pregnancy, Childbirth And Puerperium	Same as Full Estimation	
15	Newborn And Other Neonates (Perinatal Period)	Same as Full Estimation	
16	Blood and Blood Forming Organs and Immunological Disorders	Same as Full Estimation	HHI not significant
17	Myeloproliferative DDs (Poorly Differentiated Neoplasms)	Same as Full Estimation	HHI, Ambulatory Surgery Centers not significant
18	Infectious and Parasitic DDs	Same as Full Estimation	
19	Mental Diseases and Disorders	Same as Full Estimation	HHI, negatively related
20	Alcohol/Drug Use or Induced Mental Disorders	CON not significantly related to costs except negatively in tier 2 in rural areas	
21	Injuries, Poison And Toxic Effect of Drugs	Positive, mitigated in rural areas, tier one has smaller effect than tier 2	
22	Burns	Not enough claims	
23	Factors Influencing Health Status	Same as full estimation	
24	Multiple Significant Trauma	Not enough claims	
25	Human Immunodeficiency Virus Infection	Not enough claims	

The positive effect of CON rigor on the costs of an inpatient stay is consistent for all MDCs. States deemed to have the most rigorous CON programs have the greatest impact on inpatient costs for those diagnoses that, except for pregnancy and newborns, have the largest number of claims. These diagnoses also encompass the types of surgical and diagnostic procedures mostly likely affected by Certificate of Need regulation.

We also use the primary diagnosis of the patient to group inpatient stays by similar disease types. Using ICD-9 codes, we group stays as depicted in Figure 17.

Figure 17
ICD-9 groupings of Inpatient Stays

Group	Name	Claims
1	Infectious And Parasitic Diseases (001-139)	3,802
2	Neoplasms (140-239)	12,336
3	Endocrine, Nutritional And Metabolic Diseases, And Immunity Disorders (240-279)	6,229
4	Diseases Of Blood And Blood-Forming Organs (280-289)	1,583
5	Mental Disorders (290-319)	8,281
6	Diseases Of The Nervous System And Sense Organs (320-389)	2,514
7	Diseases Of The Circulatory System (390-459)	22,965
8	Diseases Of The Respiratory System (460-519)	11,265
9	Diseases Of The Digestive System (520-579)	18,357
10	Diseases Of The Genitourinary System (580-629)	11,995
11	Complications Of Pregnancy, Childbirth, And The Puerperium (630-676)	35,899
12	Diseases Of The Skin And Subcutaneous Tissue (680-709)	2,393
13	Diseases Of The Musculoskeletal System And Connective Tissue (710-739)	11,742
14	Congenital Anomalies (740-759)	1,018
15	Certain Conditions Originating In The Perinatal Period (760-779)	854
16	Symptoms, Signs, And Ill-Defined Conditions (780-799)	10,948
17	Injury And Poisoning (800-999)	11,486

Cost equations are estimated for each of these diagnostic groups using the CON rigor index as an explanatory variable and interacting it with the market's rural-urban continuum and the market's Herfindahl Index. The full set of regressions is reported in Appendix C.

The results for this set of regressions are consistent with the earlier cost estimations. CON regulation is associated with higher inpatient costs. For most diagnostic groups, the impact of CON regulation on costs is mitigated in rural areas and less competitive areas.

For diagnostic groups 1, 3, 5, 6, 7, 8, 12, 13, 14, and 16 the more rigorous CON states have significantly greater effects on inpatient costs than do the less rigorous CON states. This suggests that the different styles of CON regulation have differential effects by diagnosis and, therefore, by patient type.

The relationship between ambulatory surgery centers (ASCs) and hospital inpatient hospital costs is positive for those diagnoses where they compete with hospitals (such as Group 7) and not significant in groups where they do not (such as Group 14).

Utilization

Using the hospital discharge data, we examine inpatient utilization rates. We find higher levels of inpatient utilization in states with CON regulation. This is true when we looked by payer type: both Medicare and Private pay patients have higher per capita admission rates in CON states

Looking at admission rates for coronary bypass surgeries, we find that CON is associated with increased per capita admission rates and increases in the percentage of a hospital's total admissions.

The number of Ambulatory Surgery Centers per capita is associated with higher inpatient utilization rates. This might reflect the attractiveness of high utilization markets to investors in ASCs.

Quality

The debate over the effect of Certificate of Need laws on quality of care centers on the same issues surrounding the impact on competition: does competition impede or enable efficiencies? The issue is a little more direct for quality because one correlate of good outcomes for common procedures is volume. Competition that reduces patient volume for a given procedure may reduce overall quality of patient care.

The research literature is mixed. Shortell and Hughes (1988) found that, after controlling for patient and hospital characteristics, states with stringent CON programs had higher mortality rates among Medicare patients than states without such programs. Conover and Sloan found little evidence of quality differences.

In contrast, Vaughan-Sarrazin (2002) found significant volume and outcome differences in Coronary Artery Bypass Graft Surgery (CABG) among states with CON and states without for Medicare Patients. Ho re-examined this issue and found significant volume differences and some cost differences between CON and non-CON states, but found little difference in mortality rates.

Methods

In order to examine the impact of Certificate of Need regulations on quality, we employ inpatient quality indicators developed by The Agency for Healthcare Research and Quality (AHRQ). These indicators are organized into four modules: Prevention Quality Indicators (PQIs), Inpatient Quality Indicators (IQIs), Patient Safety Indicators, and Pediatric Quality Indicators (PDIs). We use the first three in this study.

These quality indicators were developed by AHRQ using state hospital discharge datasets. We use the module provided by AHRQ to calculate risk adjusted indicators which are then compared to expected rates. We aggregate the indicators to the market level and then report the percentage of markets where there is a failure in meeting an indicator. A failure is defined as have a risk adjusted rate that is statistically significantly different from the expected rate. For example, if the market's risk adjusted mortality rate for Congestive Heart Failure is statistically significantly greater than the expected rate, they are counted as failing that indicator. In the tables below, we present the percentage of markets in each state with sufficient numbers of the relevant cases that fail each indicator.

There are two types of indicators in this analysis. The first looks at expected rates based on the individual provider's characteristics and the second bases the expected rates on the county population.

Provider Indicators

Figure 18 demonstrates that there is considerable variation on a number of dimensions of quality across markets and this is particularly true for those indicators measuring patient safety (PSI indicators). However, there is no apparent pattern with respect to Certificate of Need regulation and no statistical correlation. It should be noted that we are examining quality at the market level and noting only those markets whose risk adjusted indicator rate is greater than the expected rate. Other studies of quality have looked at the variation in actual provider rates.

Figure 18
Percentage of Markets that Fail Indicator

State	CABG Mortality Rate (IQI 12)	Congestive Heart Failure (CHF) Mortality Rate (IQI 16)	Acute Stroke Mortality Rate (IQI 17)	Gastrointestinal (GI) Hemorrhage Mortality Rate (IQI 18)	Cesarean Delivery Rate (IQI 21)	Vaginal Birth After Cesarean (IQI 22)
CO	0%	0%	17%	0%	11%	0%
FL	5%	0%	4%	20%	33%	23%
GA	25%	11%	6%	0%	86%	42%
IA	0%	12%	24%	0%	15%	12%
ME	0%	25%	0%	100%	0%	0%
MA	0%	0%	0%	0%	0%	0%
OR	33%	17%	33%		17%	0%
UT	0%	0%	0%		0%	0%
WA	0%	0%	11%	50%	7%	0%
WV	0%	14%	20%	0%	25%	0%
WI	0%	27%	27%	33%	0%	0%

Figure 18 (Continued) Percentage of Markets that Fail Indicator						
State	Laparoscopic Cholecystectomy Rate (IQI 23)	Incidental Appendectomy in the Elderly Rate (IQI 24)	Bilateral Cardiac Catheterization Rate (IQI 25)	PTCA Mortality Rate (IQI 30)	Acute Myocardial Infarction Mortality Rate, (IQI 32)	Primary Cesarean Delivery Rate (IQI 33)
CO	14%	0%	20%	50%	0%	13%
FL	0%	33%	22%	6%	0%	23%
GA	0%	100%	0%	25%	7%	54%
IA	6%	18%	0%	0%	6%	3%
ME	75%	100%	50%	0%	0%	0%
MA	33%	0%	100%	0%	0%	0%
OR	40%	50%	0%	0%	0%	12%
UT	50%		50%	0%	0%	0%
WA	27%	100%	22%	0%	0%	7%
WV	0%	100%	0%	0%	20%	38%
WI	17%	100%	25%	0%	9%	0%

Figure 18 (Continued) Percentage of Markets that Fail Indicator					
State	Iatrogenic Pneumothorax (PSI 6)	Selected Infections Due to Medical Care (PSI 7)	Postoperative Hemorrhage or Hematoma (PSI 9)	Postoperative Respiratory Failure (PSI 11)	Postoperative PE or DVT (PSI 12)
CO	100%	60%	67%	40%	14%
FL	28%	25%	33%	26%	0%
GA	33%	0%	50%	0%	9%
IA	9%	6%	21%	3%	0%
ME	0%	33%	0%	0%	33%
MA	50%	33%	0%	0%	0%
OR		0%	0%	0%	14%
UT	100%	100%	0%	0%	0%
WA		0%	67%	0%	14%
WV	50%	0%	0%	0%	50%
WI	50%	20%	33%	0%	13%

Figure 18 (Continued) Percentage of Markets that Fail Indicator				
State	Accidental Puncture or Laceration (PSI 15)	Birth Trauma—Injury to Neonate (PSI 17)	Obstetric Trauma—Vaginal Delivery with Instrument (PSI 18)	Obstetric Trauma—Vaginal Delivery without Instrument (PSI 19)
CO	50%	60%	13%	20%
FL	14%	80%	7%	7%
GA	27%	60%	27%	18%
IA	9%	6%	9%	6%
ME	0%	100%	100%	25%
MA	0%	50%	0%	0%
OR	10%	0%	25%	27%
UT	67%	100%	33%	0%
WA	18%	67%	0%	0%
WV	33%	100%	0%	50%
WI	18%	50%	25%	31%

Area Quality Indicators

A number of the quality indicators AHRQ developed examine quality on a population basis. These indicators examine rates at the county level. We use the AHRQ application to estimate area quality indicators.[3]

Figure 19 describes the percentage of counties within a state that have risk adjusted rates that are statistically significantly greater than the expected rate for four procedures (Coronary Artery Bypass Graft; Percutaneous Transluminal Coronary Angioplasty; Hysterectomy; and Laminectomy) that have been identified as potentially over utilized.

[3] Georgia and West Virginia's data was incomplete and are excluded from the area analysis.

Figure 19 Failure Rates as a Percentage of Counties Reporting				
State	(IQI 26) CABG Rate	(IQI 27) PTCA Rate	(IQI 28) Hysterectomy Rate	(IQI 29) Laminectomy Rate
Colorado	22%	67%	42%	53%
Florida	58%	52%	50%	40%
Iowa	10%	10%	18%	9%
Maine	100%	67%	47%	38%
Massachusetts	33%	25%	8%	8%
Oregon	86%	50%	65%	64%
Utah	67%	40%	53%	43%
Washington	60%	33%	41%	53%
Wisconsin	62%	64%	36%	36%

It is difficult to detect a pattern related to Certificate of need from the data in Figure 19. For example, Utah and Wisconsin have a high percentage of counties with greater than expected CABG rates, but Colorado has a low percentage and Maine and Oregon have high rates.

It is also difficult to correlate Prevention Quality Indicators (Figure 20) with CON. The only two indicators with any correlation with Certificate of Need are PQI 1 (Diabetes Short-term Complication Admission Rate) and PQI 7 (Hypertension Admission Rate). The Diabetes rate is negatively correlated with CON, while Hypertension is positively correlated. In the case of diabetes admissions, Colorado and Utah have a relatively large percentage of counties with high rates, but Wisconsin has a low rate. The hypertension case is driven in large part by the number of admissions in Florida.

Figure 20 Prevention Quality Indicators Percentage of Counties with greater than Expected Rates									
Indicator Name (Number)	CO	FL	IA	ME	MA	OR	UT	WA	WI
Diabetes Short-term Complication Admission Rate (PQI 1)	27%	17%	2%	0%	17%	6%	20%	9%	7%
Perforated Appendix Admission Rate (PQI 2)	18%	25%	9%	22%	0%	13%	50%	0%	24%
Diabetes Long-term Complication Admission Rate (PQI 3)	10%	13%	2%	0%	8%	0%	0%	4%	14%
Chronic Obstructive Pulmonary Disease Admission Rate (PQI 5)	13%	33%	11%	27%	14%	0%	0%	3%	5%
Hypertension Admission Rate (PQI 7)	15%	29%	7%	0%	9%	0%	0%	0%	0%
Congestive Heart Failure Admission Rate (PQI 8)	5%	23%	2%	0%	7%	0%	5%	3%	3%
Low Birth Weight Rate (PQI 9)	16%	18%	1%	20%	17%	11%	0%	10%	19%
Dehydration Admission Rate (PQI 10)	16%	20%	6%	13%	25%	0%	25%	3%	15%
Bacterial Pneumonia Admission Rate (PQI 11)	25%	23%	16%	0%	14%	6%	41%	9%	6%
Urinary Tract Infection Admission Rate (PQI 12)	10%	18%	3%	0%	8%	0%	13%	0%	0%
Angina without Procedure Admission Rate (PQI 13)	40%	37%	20%	27%	8%	32%	22%	22%	38%
Uncontrolled Diabetes Admission Rate (PQI 14)	14%	23%	3%	0%	0%	0%	0%	7%	0%
Adult Asthma Admission Rate (PQI 15)	10%	20%	3%	0%	17%	4%	0%	4%	4%
Rate of Lower-extremity Amputation Among Patients with Diabetes (PQI 16)	9%	17%	3%	13%	18%	8%	17%	0%	30%

Most of the Patient Safety Indicators developed by AHRQ are unreported or have no variation across states. Of three indicators reported in Figure 21, only PSI 25 (Accidental Puncture of Laceration) is correlated with CON. Non-Certificate of Need states have a higher percentage of counties where observed rates are greater than expected.

Figure 21 Patient Safety Indicators Percentage of Counties with Risk Adjusted Rates Greater than Expected									
Indicator Name (Number)	CO	FL	IA	ME	MA	OR	UT	WA	WI
Selected Infections Due to Medical Care (PSI 23)	18%	18%	1%	17%	10%	0%	20%	0%	13%
Accidental Puncture or Laceration (PSI 25)	67%	26%	10%	33%	27%	44%	50%	53%	44%
Postoperative Hemorrhage or Hematoma (PSI 27)	0%	3%	1%	0%	9%	0%	0%	0%	0%

Summary

There are significant differences in the quality of hospital care across individual providers, markets, and states. However, it is difficult to observe a pattern in that variation related to Certificate of Need regulation.

Access to Care for the Uninsured

There are two issues concerning Certificate of Need legislation and access to care. The first suggests that protecting hospitals from competition allows them to use resources that would otherwise be competed away to treat the uninsured. The second argument is that regulators can impose on providers to provide greater access to the uninsured by making it a criterion for awarding a Certificate of Need. Conover and Sloan characterize the literature as finding a "weak" link between access to care for the uninsured and Certificate of Need regulation.

We examine this question in two ways. Hospital discharge data allow us to examine admissions by payer type. If an individual has no identifiable source of insurance they are categorized as "self-pay". We test to see if Certificate of Need rigor affects either the percentage of admissions that are self-pay or the number of admissions per uninsured person. The table below presents those estimates by state. (The appendix has the full table by market).

Figure 22
Percent of Admissions that are Self Pay and Self-Pay Admissions Per 1,000 Uninsured

	Percent Self Pay	Self pay Per 1,000 Uninsured
Colorado	6%	33
Florida	5%	51
Georgia	6%	48
Iowa	4%	55
Maine	3%	51
Massachusetts	2%	20
Oregon	4%	28
Utah	3%	21
Washington	2%	11
West Virginia	4%	43
Wisconsin	4%	44

There is no significant relationship between the percent of admissions that are self-pay and Certificate of Need regulations. There is a statistically significant positive relationship between self-pay admissions per uninsured and the rigor of Certificate of Need when we also control for the market's median income. Markets with CON regulation tend to have more self-pay admissions per uninsured than markets with similar incomes in non-CON states.

A second way to measure the effect of Certificate of Need legislation is to examine admissions for ambulatory care sensitive condition. These are admissions for care that might have been avoided had the person received appropriate outpatient care. Although the research literature has a number of definitions of these conditions, the list of conditions we use were developed by the Agency for Health Care Quality and Research (AHRQ).

Figure 23
Ambulatory Sensitive Conditions (ASC) Admissions

	Percent ASC admits	Percent of Self Pay Admits that are ASC	ASC admits per 1,000 Uninsured
Colorado	14%	13%	4.1
Florida	16%	13%	5.8
Georgia	19%	18%	8.5
Iowa	17%	14%	6.8
Maine	15%	7%	3.6
Massachusetts	13%	8%	3.4
Oregon	14%	11%	2.8
Utah	18%	23%	4.6
Washington	12%	12%	1.5
West Virginia	16%	15%	3.9
Wisconsin	15%	12%	4.6

The rigor of the CON regulation is weakly related to the percent of all admissions that are for ambulatory care sensitive conditions. It is also weakly related to the percent of self-pay admissions that are ambulatory care sensitive. Both those relationships can be explained by the lower median income of the average market in CON states. Income explains higher uninsured and lower access to care better than Certificate of Need regulation.

Certificate of Need rigor is significantly related to the number of ambulatory care sensitive admissions per 1,000 uninsured even when controlling for the market's median income. That relationship is significant for the tier of states with the highest level of CON rigor, but not for the lower tier of CON states.

Summary

The evidence from these data of the effect of CON regulation on access to care is mixed. CON rigor is associated with increased number of admissions per uninsured individual, but also with increase number of ambulatory sensitive condition

admissions. The question of how much of that relationship is due to unmeasured correlates and how much is casual cannot be explored within the limits of these data.

Other Issues:

Literature Review – Ambulatory Surgery and Specialty Hospitals

There is a limited but growing body of research that evaluates the efficiency of specialty hospitals and ambulatory surgery centers (ASCs) compared to general hospitals and the effect of such providers on local market structure and hospital performance, on quality of care, on healthcare costs, and on access to care for vulnerable populations. Most of the literature evaluates the effect of these providers together. Therefore, we review literature regarding Ambulatory Surgery Centers and provide that information together with the findings for Specialty Hospitals.

The primary economic justification for CON (described previously) is the possible existence of economies of scope or scale with respect to hospital and healthcare services. However, even in the absence of economies of scale or scope, the ability of providers to cross subsidize unprofitable service lines and provide care to patients paying less than full costs requires them to maintain some services and patients for which they receive revenue that substantially exceeds costs. Therefore, to the extent that CON limits entrants into a market who cipher away profitable services and patients from local community hospitals, it could protect the ability of such providers to offer a broad range of services and care for vulnerable populations, primarily Medicaid patients and the uninsured.

However, if there are quality and efficiency benefits from a high degree of specialization (diseconomies of scope) then single specialty hospitals could decrease overall healthcare costs while providing a setting for increasing the quality of care through enhanced specialization. The term "focused factories" suggests cost and quality benefits associated with limiting the scope of production.

The question is clouded by the fact that many single specialty hospitals are owned in whole or in part by physicians who stand to gain financially by referring their low acuity, privately insured patients to these facilities, while directing their less profitable patients to community hospitals. Even in the presence of diseconomies of scope such that limited service facilities could reduce costs and improve quality, the incentives inherent in physician ownership could eliminate the potential benefits of specialization if such incentives substantially distort the referral process or result in over utilization.

We review a broad set of literature in the following section. Three studies are notable for their national scope. The Medicare Modernization Act (MMA) commissioned a study of physician owned specialty hospitals by the Medicare Payment Advisory Commission (MedPAC) which used Medicare claims data from 2002 for an initial report and from 2003-2004 for a follow-up report[4]. The Center for Medicare and Medicaid Services (CMS) was also commissioned under the same act to evaluate quality of care, patient satisfaction and referral patterns associated with physician-owned specialty hospitals.[5] A broad economic and policy analysis of specialty hospitals was conducted by the Health Economics Consulting Group utilizing Medicare Cost Reports and the Area Resource File (ARF) data. [6] Other studies reviewed utilize more narrow data from a single market, a few markets, or a few study states.

We note that most of these studies focus primarily on the effect of orthopedic and cardiac specialty hospitals or other surgical specialty facilities despite the fact that these facilities comprise only a small share of all specialty hospitals. These facilities are the most likely to be partially or totally owned by physicians and to provide services that are associated with higher than average operating margins (Schneider et al. 2005). Furthermore, the federal studies were commissioned with a charge to focus on these particular facilities.

The following summarizes our review of the literature with respect to market structure, costs, utilization, and access to care.

Market Structure

Using data from the Area Resource File, we find that the number of Ambulatory Surgery Centers has grown from 1,888 in 1994 to 4,136 in 2004 in our study states. While we find no relationship between ASC growth and the presence of CON in our study states, the MedPAC study finds that the number of physician owned specialty hospitals doubled between 2002 and 2004 and that the growth has been particularly strong in states without CON. The GAO issued a report on specialty hospitals in 2003 and found that the number of such hospitals has tripled since 1990. An 18 month moratorium on payments for physician services at newly constructed specialty hospitals has slowed

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[4] August 2006 Report to the Congress: "Physician Owned Specialty Hospitals Revisited."
http://www.medpac.gov/publications/congressional_reports/Aug06_specialtyhospital_mandated_report.pdf
Accessed October 12, 2006

[5] March 2005 Report: "CMS Study of Physician-owned Specialty Hospitals"
http://www.cms.hhs.gov/MLNProducts/Downloads/RTC-StudyofPhysOwnedSpecHosp.pdf
Accessed October 12, 2006

[6]Schneider, John et al. (Health Economics Consulting Group): "Economic and Policy Analysis of Specialty Hospitals" February 4th, 2005.

their growth since 2004. Federal programs have instituted a payment freeze on reimbursements to ASCs that should slow their growth over the next three years (Schactman, 2005).

The literature regarding the effect of ASCs and specialty hospitals on hospital performance is limited. In an economic analysis conducted on behalf of the American Surgical Hospital Association, Schneider et al (2005) find no evidence to support the notion that general hospitals have been financially harmed by competition from specialty hospitals. In the analysis of profit margins for markets with and without specialty hospitals, they find that general hospitals in a market with a specialty hospital have higher profit margins than do hospitals in a market without such a specialty provider.

While the MedPAC study finds substantial evidence that community hospitals lose Medicare revenue to specialty hospitals, MedPAC notes that such community hospitals compensate for lost revenue through cost containment efforts and expansion in more profitable product lines to maintain profit margins. Thus the findings of these two studies are not inconsistent. It is important to note that both the MedPAC study and the analysis by Schneider utilize hospital performance data from the Medicare Cost Reports through 2003 and limit their evaluation to the effect of specialty hospitals. We find no peer reviewed analysis of the effect of ASCs on hospital operating margins.

We find substantial concern regarding the net effect of ASC and specialty hospital proliferation on the profitability of general hospitals expressed by hospital and health system executives and hospital associations (see for example Casalino, Devers and Brewster, 2003), and anecdotal evidence of an effect when physicians compete with local hospitals (Lynck, 2002). However, we find little peer reviewed empirical research documenting such an effect.

In summary, our review of the literature finds ample discussion of the potential for ASC and specialty hospitals to adversely impact hospital sustainability and empirical evidence that such facilities reduce Medicare revenues to general hospitals. However, there have been no empirical studies to date that have documented systematic declines in hospital margins because of such facilities.

Costs per Case

MedPAC (2006) finds no evidence of a reduction in per person costs for cardiac care associated with specialty hospitals compared to general hospitals, despite shorter lengths of stay and the promise of improved efficiency associated with the "focused factory" approach of specialty hospitals. In addition, they find that orthopedic specialty

hospital care is associated with inpatient costs per discharge that are higher than costs for comparable patients in community hospitals, despite shorter average lengths of stay.

Survey data indicate that physician owners believe that specialized facilities can provide services at a lower per unit cost than in community hospitals through limiting the required surgical equipment, specialization of staff, and scheduling to minimize down time (Casalino, Kevers, and Brewster, 2003). Despite this assertion, there is little empirical evidence to substantiate this belief.

In a very recent study, Bian and Morrisey (2006) look at the effect of managed care penetration on the growth in ASCs over time. They hypothesize that if ASCs could provide care at significantly lower per unit costs, managed care organizations would prefer contracting with ASCs and we would observe in a greater expansion of ASCs in markets with substantial HMO penetration. They find the opposite effect, suggesting at least the possibility that ASCs are associated with higher average costs.

Winter (2003) analyzed Medicare Claims data to support the notion that ASCs serve less medically complex patients than do hospital outpatient departments, and are therefore likely to incur lower costs for the same procedure. However, Medicare reimbursement for the two settings is based on payment methodologies that do not systematically account for this variation, leading to payments that do not reflect current costs. In fact, ASC rates are "higher than outpatient department rates for eight of the ten procedure codes with the highest share of Medicare payments to ASCs."[7] Thus, while reimbursement is higher, actual costs incurred for Medicare patients is likely lower at ASCs versus hospital outpatient departments.

Cost comparisons between providers must therefore clearly distinguish between production costs and reimbursement and consider the differential case mix of the providers. There are no data sets that permit national analysis of the cost structure of free-standing ambulatory surgery centers within the context of the services provided. There are differences across diagnostic related groups (DRGs) with respect to their profitability. There is strong evidence from multiple sources that in general, specialty hospitals treat a higher percentage of profitable DRG patients and a lower percentage of severely ill patients than general hospitals (MedPAC, 2005; Mitchell, 2003, GAO, 2003) and that ASCs treat a less complex set of patients than do hospital out-patient surgery departments (Winter, 2003).

[7] Winter, Ariel (2003): "Comparing the Mix of Patients in Various Outpatient Surgery Settings" *Health Affairs* Vol. 22(6), pg 69.

We note that a privately funded study by the Lewin Group found that one set of proprietary cardiac hospitals (MedCath) had a higher degree of patient complexity than did comparable general hospitals. In their study of physician owned specialty hospitals, CMS (2005) finds that cardiac specialty hospitals actually resemble full service general hospitals in terms of bed size, average daily census and the presence of emergency departments. Despite this similarity, CMS finds that Medicare cardiac patients treated in physician owned specialty hospitals were significantly less ill than those treated in competitor general hospitals.

Utilization

In addition to a comparison of the per procedure cost or the case adjusted per procedure cost for procedures performed in the various settings, it is essential to identify changes in utilization that could result from provider incentives in order to identify effects on total utilization. It is important to note that association of higher procedure specific utilization for physician owners of facilities is not sufficient evidence of inappropriate utilization resulting from such ownership. As noted by Schneider et al (2005), the inference of causality is problematic. In fact, high utilizers for particular procedures are the most likely to benefit from ownership in, and control over the organization and administration of specialty hospitals or ASCs. Therefore, the association of provider owners with higher volumes of patients treated than physicians without such ownership stake (Mitchell, 2003) is not necessarily indicative of inappropriate or physician-induced utilization.

MedPAC finds evidence that markets with physician owned heart hospitals were associated with significantly higher rates of cardiac surgery without any material shift in the ratio of high- to low-severity surgeries. This is stronger evidence of an effect of ownership on utilization because it is found at the market, not the provider level. However, if such specialty hospitals are locating in markets with the demographic and provider demand to support such a facility, then the higher rates may be a result of underlying differences in utilization rather than the cause of such differences.

Quality

The argument for the focus factory approach to specialty hospitals and ambulatory surgery centers is most compelling as it pertains to quality. The well known association between volume and quality would suggest that specialty hospitals and ASCs with a limited surgical focus have opportunities to improve quality through standardization of procedures.

Schneider et al (2005) find no difference in mortality rates between specialty and general hospitals in the same markets, suggesting no differences in quality. CMS (2005)

analyzed claims and found no evidence of higher- or lower quality in all physician owned specialty hospitals compared to competing general hospitals. In addition, they find that care provided in specialty cardiac hospitals is as good as or better than care provided in competing general hospitals. Furthermore, patient satisfaction appears to be very high for care provided in specialty hospitals (CMS, 2005; Greenwald et al, 2006). We find no peer reviewed literature that supports the notion of lower quality in specialty hospitals or ASCs.

Access for Vulnerable Populations

The concern voiced by many over the move to highly specialized, physician owned facilities is that access to care for vulnerable populations will suffer. The argument is twofold:

- If quality of care is better at focused, specialized hospitals, such high quality care will be inaccessible to patients with poor or no coverage. In particular, the uninsured and patients with Medicaid coverage will not be able to obtain care at these desirable facilities.
- Secondly, as more profitable patients move into specialized facilities, the available funds to subsidize indigent care at community hospitals will fall and access to care will suffer. In fact, it is possible that community hospitals will be forced to reduce quality in order to continue to provide necessary care, further exacerbating differences in quality.

There is evidence that supports the notion that specialty hospitals and ASCs provide different levels of access to indigent populations than to privately insured patients. MedPAC (2006) and the GAO find that Medicaid patients are significantly less likely to be admitted to physician owned specialty hospitals than to community hospitals, even after adjusting for case mix. Mitchell's more limited study in a single state (2005) also finds that publicly funded and uninsured patients are significantly less likely to obtain care in physician owned, limited service facilities.

Both the CMS study and a study by Greenwald et al (2006) note that specialty hospitals do provide substantially lower levels of indigent care to the community than do non-profit competitors. However, both of these studies suggest that when taxes (real estate and property, sales, and income tax) are considered in combination with indigent care, physician owned specialty hospitals provide a greater community benefit as a share of revenue than do their non-profit competitors. This comparison is likely incomplete if non-profit hospitals provide community benefit in addition to indigent care (for example, maintaining unprofitable service lines). Furthermore, there is no evidence that these tax revenues are used to expand access to indigent care. Thus while net

community benefit could be as high in specialty hospitals as in non-profits, it does not necessarily true that indigent care is equal under the two settings.

Summary

The literature on market structure, cost, quality, and access as it relates to specialty hospitals and ambulatory surgery centers remains largely speculative and theoretical. Empirical research is often limited to single sites (Mitchell, 2003) or surveys in a few sites (Casalino et al, 2003). The small numbers of national empirical analyses show the following:

- Specialty hospital growth has been particularly strong in markets without CON.
- Specialty hospitals reduce Medicare revenue to local competitors
- There is no evidence to date of declining hospital margins associated with the presence of specialty hospitals.
- Specialty hospitals and ASCs treat less complex patients than local general hospitals.
- There is no evidence of lower costs per unit of care when measured as a function of reimbursement. The lower patient complexity would support the notion of lower real costs incurred.
- There is no evidence that quality in specialty hospitals and ASCs is lower than quality of care in general hospitals. There is anecdotal and survey data to support potentially higher quality. Analyses of mortality based outcomes data has found no measurable difference by provider type, although CMS finds that cardiac care provided in specialty hospitals is "as good or better" than comparable care from general hospitals.
- Specialty hospitals provide lower levels of care to Medicaid and uninsured patients than do their generalist competitors.

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Imaging Services

There is no scholarly research that provides information on the relationship between Certificate of Need and the growth in cost and utilization of imaging services.

Market Structure, Cost and Utilization

We find no specific data to describe the numbers and types of imaging centers nationwide or in our study states.

There is little doubt that escalating costs associated with imaging are cause for concern among public and private payers. MedPAC presented testimony to the House Ways and Means Committee in March of 2005 outlining the growth in utilization of imaging services for Medicare beneficiaries between 1999 and 2003.[8] MedPAC isolates growth into utilization and intensity of services apart from growth resulting from price changes. While the cumulative growth in intensity and utilization for all physician services per beneficiary was 22 percent, growth in imaging services was more than twice as high at 45 percent. MedPAC data suggests a particular growth in imaging services in physician offices and independent diagnostic testing facilities. However, they find only a very small offsetting decline in hospital outpatient department revenue.

Growth in utilization and intensity of service is also of concern to private payers. Average annual increases in health plan imaging costs were between 18 and 25 percent from 1999 to 2003 (Glabman, 2005). The rapid increase in imaging costs in the private sector is leading to a reinstatement of and an increased reliance on tight network restrictions and preauthorization among managed care plans.

However, there is some evidence that imaging costs are not driving up the overall costs of inpatient care. In a study of inpatient claims from Massachusetts General Hospital for care provided between 1996 and 2002, the costs for total imaging relative to total hospital costs were tracked over time. The authors found substantial increases in utilization for imaging services but evidence that imaging costs increased at the same rate as did total inpatient costs (Beinfeld and Gazell, 2005).

Variation in utilization of imaging services exceeds variation in most other major procedures (Miller 2005). There is no evidence that higher levels of utilization are

[8] Miller, Mark E (2005): "MedPAC recommendations on imaging services" Testimony before the Subcommittee on Health, Committee on Ways and Means, US House of Representatives.

associated with improved outcomes, nor does any study link the variation in utilization to market restrictions such as CON.

Quality

MedPAC finds substantial evidence of variability in the quality of provision of imaging services in non-hospital settings. However, no study links that variability to market restrictions like CON.

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LONG-TERM CARE

Background

In general, Certificate of Need (CON) laws are based on the theoretical presence of economies of scale and scope and are designed to prevent unnecessary duplication of technologically sophisticated services. There is little theoretical evidence that such economies support regulation of the nursing home or home health industries. However, application of the CON process in the long-term care industry has a different rationale. The extent to which public payers, particularly state Medicaid programs, pay for nursing home services and the budgetary impact of such expenditures for public payers causes policy makers to look for ways to constrain the growth of these programs. Therefore, many states have retained CON programs to limit the supply of long-term care beds in order to constrain public expenditures. Furthermore, some states have implemented a moratorium on the licensing of new nursing home beds even in the absence of a CON program.

Harrington et al. (1997) show that states with CON or a moratorium experienced slower growth in the supply of nursing home beds between 1981 and 1993 compared to states without such barriers to entry. However, the effect of that constrained supply on overall costs is less certain. Literature in the 1980s supported the notion of supply limitations to control expenditures (Feder and Scanlon, 1980; Harrington and Swan, 1987). However, it is important to note that nursing home occupancy rates have been falling over time, and the effect of constrained supply on expenditures is likely to depend upon how binding that constraint is on the market. If occupancy rates are such that there is little or no unmet demand for nursing home beds in the market, then constrained supply may not constrain expenditures, especially if complementary services such as home health are also limited. The more recent Harrington study (1997) finds no relationship between the changes in nursing home beds over time and Medicaid reimbursement rates. And, in a recent study of the effect of CON repeal on nursing home and long-term care expenditures using data from 1981 through 1998, Grabowski, Ohsfeldt and Morrisey (2003) find that repeal of CON or moratorium laws did not result in significant growth in either nursing home or long term care Medicaid expenditures.

A similar dichotomy exists in the literature with respect to the relationship between CON and nursing home quality. In an environment with excess demand, theory and some empirical research suggest that nursing homes have little incentive to compete based on quality, and that the incentive for such competition is even lower when Medicaid reimbursement is higher. (Gertler, 1989). Thus, CON could have an inverse

effect on quality if nursing homes can fill all beds without competing based on quality. However, recent research has supported a positive relationship between Medicaid reimbursement rates and quality and that in an environment with moderate occupancy rates, CON would have no effect on quality (Grabowski, 2004).

There is very little literature regarding the effect of CON laws on cost, quality, or access to home health services. Despite the low capital investment required to establish a home health agency and very little evidence to support economies of scale or scope in the provision of such services, one-third of states continue to restrict market entry for home health agencies through the CON or moratorium process (Harrington et al, 2004) States report using CON as a mechanism for monitoring the distribution of home health services across markets within the state and to control quality within the Home Health industry.

The following analysis seeks to provide the State of Georgia with additional measures of the relationship between its CON program and long-term care services by comparing access, quality, and costs for nursing home and home health services in our 11 study states, controlling for local market characteristics.

Data

In order to measure the effect of CON on the long-term care industry, we obtained data on nursing homes and home health agencies from the Minimum Data Set (MDS) from the Centers for Medicare and Medicaid Services "Nursing Home Compare" and "Home Health Compare" web site. This public use file provides data on quality for each nursing home and home health agency in our study states. Nursing home quality measures are derived from resident assessment data that nursing homes routinely collect on all residents at specified intervals during their stays (referred to as the Minimum Data Set). The information collected pertains to residents' physical and clinical conditions and abilities, as well as preferences and life care wishes. We merge these data to the Area Resource File (ARF) data at the county level to control for market level characteristics such as the population and elderly population, local per capita income, and the rural versus urban nature of the county. State level estimates of cost and reimbursement are obtained from the Office of State Agency Financial Management, Compilation from the CMS 64 data, and from the American Association of Retired People's Public Policy Institute.

Nursing Homes

In the following pages, we present state level summary tables to describe nursing home market structure, quality of care, and limited cost information. We also provide brief analyses for each table. Detailed tables providing data at the market level by state are provided in Appendix D.

Our review of the Nursing Home regulatory environment indicates that eight of the 11 study states have a CON process that applies to Nursing Homes, while Wisconsin, Colorado, and Utah do not. However, we also consider whether or not a state has a moratorium on new bed construction (either new nursing homes or additional beds), and we find that seven of the 11 study states use either the CON process or the licensing process to place an absolute cap on any additional nursing home beds. Only in Georgia, Iowa, Oregon, or Colorado is it theoretically possible for additional nursing home beds to be built. In Iowa and Oregon, the expansion possibilities through the CON process apply to specific beds. In Colorado, only Medicare or private-pay beds may be built. No additional Medicaid beds are being approved. The following matrix classifies the states reviewed based on the overall regulatory environment.

	CON Regulation of Nursing Homes	**No CON**
Absolute Moratorium on all new LTC Beds	Florida, Maine Massachusetts, Washington, West Virginia	Wisconsin, Utah
Limited additional beds possible	Georgia, Iowa, Oregon[9]	Colorado

Where noted below, we test the significance of any observed differences based on the presence of a moratorium on additional beds, the presence or absence of a CON process, and the rigor of the CON process as described in the Overview of Qualitative Findings. In all of the tables that follow, we order the states alphabetically, showing first the moratorium states, then the limited restriction states.

[9] Oregon operates under a policy that considers nursing homes to be the placement of last resort. The state has also placed great emphasis on developing alternative living arrangements, such as assisted living facilities and adult foster homes. (Oregon's Medicaid program pays for care in these alternate settings.) These strategies resulted in a drop in the ratio of nursing home beds per 1,000 older persons from 47 in 1982, to 36 in 1992, one of the lowest ratios in the country.

Market Structure

Figure 24

	Number of Facilities	Licensed Beds per 1,000 elderly	Occupancy Rate	Mean Herfindahl
All Study States	3,282	39.75	85.7	2,436
Moratorium States				
Florida	680	28.4	88.4	1,185
Maine	113	38.94	89.8	969
Massachusetts	456	57.44	89.9	101
Utah	93	39.54	72.1	1,694
Washington	246	32.43	85.9	1,680
West Virginia	131	39.68	90.1	1,242
Wisconsin	398	53.51	87.1	1,496
All Moratorium States	**2,117**	**36.33**	**87.67**	**1,879**
Limited Restriction States				
Colorado	212	46.6	82.3	3,671
Georgia	359	48.49	90	3,497
Iowa	455	76.07	81.3	2,221
Oregon	139	27.69	66	4,508
All Limited Restriction States	**1165**	**49.33**	**82.34**	**3,256**
CON states	2,579	**40.2**	86.4	2,274
Non-CON states (WI, CO, UT)	703	**51.3**	83.7	2,436

We find that compared to the most restrictive markets, the relative bed supply is higher and the occupancy rate is lower in markets with limitations - but not absolute barriers - to entry for nursing home beds. This is consistent with better utilization of beds in moratorium states

The Herfindahl Index measures the concentration of beds by provider within each market. A lower Herfindahl Index is indicative of more competition, and it is generally accepted that a Herfindahl of 2,000 or less indicates a competitive market place. Using the hospital markets described on pages 21 – 31, we find substantial evidence that those states with moratoria in place have generally competitive long-term care markets, while

the average market in states without moratoria are not competitive. Thus, despite lower overall supply in moratorium states, the beds appear to be distributed across markets more evenly, resulting in more competition.

Of course, the hospital markets are likely larger than typical nursing home markets. While county boundaries may define the nursing home markets too narrowly, we compare the measures of competition using counties to the results using the hospital markets to measure competition. Not surprisingly, we find higher average Herfindahl scores reflecting generally lower levels of competition at the county level. However, the relative ranking of each state in terms of competition and the findings of significantly higher levels of competition in moratoria states remains.

In a multivariate context that controls for market demographics, urban/rural differences, and the presences of home health agencies within the same local market, the observed differences between the two groups of states for the above measures persist and are strongly significant. This suggests that compared to other states, there may be some markets in Georgia, Iowa, Oregon, and Colorado in which additional LTC beds may be appropriate to improve competition (lower the Herfindahl index) although the overall bed supply appears high in those states. There is no evidence from this analysis that redistributing the supply in this manner will result in low occupancy rates.

When we compare market structure based on the presence or absence of CON, we find Beds per 1,000 to be unrelated to CON. Occupancy is higher in CON versus non-CON states although the effects of CON are smaller than the effects of a moratorium. CON tends to be associated with a slightly lower Herfindahl and, hence, more competition. Thus, it appears that the relevant differences in market structure are related to the presence of a moratorium and to CON, although the effects are generally stronger for the moratorium. We note that this analysis is insufficient to demonstrate causality. It may be that a moratorium is in place in those states in which such a policy is most appropriate.

We also assess whether ownership or the location of beds within a hospital is related to the presence of CON or a bed moratorium. Figure 18 demonstrates that facilities in CON states are more likely to be for-profit, while facilities in non-moratorium states are more likely to be non-profit. Hospitals in states that have only limited restrictions as opposed to a moratorium have a larger share of long-term beds and have a greater share of hospitals operating swing-beds than do hospitals in states with a moratorium.

Figure 25

		For Profit	Non-Profit	Publicly Owned		Share of all Beds Located in Hospitals	Share Hospitals Reporting Swing Beds
All Study States		65%	30%	6%		4%	9%
Moratorium States							
Florida		71%	27%	2%		1%	0%
Maine		71%	28%	1%		4%	5%
Massachusetts		70%	29%	2%		1%	1%
Utah		78%	17%	4%		5%	5%
Washington		70%	22%	8%		3%	9%
West Virginia		67%	24%	9%		10%	15%
Wisconsin		47%	37%	15%		5%	9%
All Moratorium States		66%	**28%**	6%		**3%**	**5%**
Limited Restriction States							
Colorado		66%	25%	9%		5%	10%
a Georgia		65%	28%	7%		13%	11%
Iowa		51%	44%	5%		7%	23%
Oregon		78%	18%	4%		1%	10%
All Limited Restriction States		62%	**32%**	6%		**8%**	**14%**
CON states		**67%**	29%	4%		4%	9%
Non-CON states (WI, CO, UT)		**57%**	31%	12%		5%	9%

Consistent with our findings in acute care, the identified effects of CON and moratoria on nursing home market structure are more pronounced in urban versus rural markets.

Patient Characteristics: Case Mix

One measure that is relevant to both market structure and quality is the extent to which nursing homes care for equally complex patients. Despite declining occupancy rates, it is possible that CON influences the complexity of patients admitted to nursing homes and thus the resource requirements and potential outcomes of care. The data utilized for this study do not provide sufficient detail to completely control for case mix

differences by nursing homes. However, among the quality measures provided in the Nursing Home Compare data are four indicators that are likely highly correlated with the case mix of the patients in nursing homes:

1. Percent of Residents Whose Need for Help With Daily Activities Has Increased
2. Percent of Low-Risk Residents Who Lose Control of Their Bowels or Bladder
3. Percent of Residents Who Spent Most of Their Time in Bed or in a Chair
4. Percent of Residents Whose Ability to Move About in and Around Their Room Got Worse

In the absence of an absolute measure of limitations in activities of daily living or mobility, we use these four measures as a proxy to measure the average case mix of nursing homes in our study states. The data for these individual items are shown in Figure 20, and it is important to note that the mean case mix summary score is significantly higher in CON states than in non-CON states, suggesting that nursing homes in CON states provide care to a slightly more complex population. This, in turn, implies that the bed constraint, to the extent that it is binding, is rationing beds at least partially based on patient need.

Quality

We evaluate the effect of market restriction and the CON process on nursing home quality with respect to:

- Care process,
- Patient outcomes, and
- The propensity to report outcomes.

Care Process

The following figure provides state level estimates of two quality indicators for care processes:

- Total licensed staff hours per resident per day (RN + LPN)
- Total patient care staff hours per resident per day (licensed plus nursing assistant).

Figure 26

	Licensed Staff Hours per Resident per Day	Total Patient Care Staff Hours per Resident Per Day
All Study States	1.42	3.86
Absolute Moratorium States		
Florida	1.57	4.4
Maine	1.37	4.42
Massachusetts	1.59	3.91
Utah	1.66	4.16
Washington	1.49	4
West Virginia	1.25	3.67
Wisconsin	1.67	3.79
Mean: Moratorium States	**1.51**	**4.065**
Limited Restriction States		
Colorado	1.51	3.76
Georgia	1.31	3.49
Iowa	1.14	3.26
Oregon	1.25	3.86
Mean: Limited Restriction States	**1.24**	**3.50**
Mean: CON states	**1.43**	**3.89**
Mean: Non-CON states	**1.38**	**3.76**

On the structural measures of quality, the long-term care facilities located in markets in the most restrictive states have significantly higher levels of licensed and total care hours per patient per day than facilities located in the less restrictive states. In addition, facilities located in CON states have significantly higher levels of licensed and total care hours per patient per day than facilities located in non-CON states.

In a multivariate context that controls for market demographics, urban/rural differences, a proxy for patient acuity, nursing home size and occupancy, market competition, and the presences of home health agencies within the same local market, the observed differences between the groups of states for the above measures persist and are strongly significant. Thus the patient acuity differential identified above is consistent with, but does not fully explain, the higher staffing levels in CON states.

In the regression analysis, we note that increased competition as measured by the Herfindahl index is associated with higher staffing levels, suggesting a positive relationship between competition and quality. In addition, the presence of a home health agency within the local market is also associated with increasing staffing ratios. However, a high supply of beds per 1,000 elderly is associated with decreasing staffing ratios after controlling for competition. We also find higher average family income in the market associated with lower staffing ratios, a finding that might be consistent with admitting patients with fewer functional status limitations.

Outcome Measures

The following table provides summary information on resident acuity and quality outcome measures for all study states.

Measures available for all nursing homes are:

1. Percent of Residents Whose Need for Help With Daily Activities Has Increased
2. Percent of Residents Who Have Moderate to Severe Pain
3. Percent of High-Risk Residents Who Have Pressure Sores
4. Percent of Low-Risk Residents Who Have Pressure Sores
5. Percent of Residents Who Were Physically Restrained
6. Percent of Residents Who are More Depressed or Anxious
7. Percent of Low-Risk Residents Who Lose Control of Their Bowels or Bladder
8. Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder
9. Percent of Residents Who Spent Most of Their Time in Bed or in a Chair
10. Percent of Residents Whose Ability to Move About in and Around Their Room Got Worse
11. Percent of Residents with a Urinary Tract Infection
12. Percent of Residents Who Lose Too Much Weight
13. Percent of Short Stay Residents with Delirium
14. Percent of Short Stay Residents who had Moderate to Severe Pain
15. Percent of Short Stay Residents with Pressure Sores

Note: All measures in the following tables are provided in such a manner that a higher percentile reflects potentially lower quality or greater patient acuity.

Where differences between CON and non-CON states and between Moratorium and limited restriction states are results are statistically significant and robust to modeling in a multivariate model, those differences are shown in bold. We find that on three measures, facilities in moratorium states are more likely to have lower scores (better

quality) than in non-moratorium states. Facilities in CON states are associated with higher (poorer quality) scores on six measures and lower (better quality) scores on two measures.

	NURSING HOME QUALITY / PATIENT ACUTY							
Figure 27a	**Average Percent of Residents Needing More Help with Daily Activities**	**Average Percent of Residents with Moderate to Severe Pain**	**Average Percent of Residents with High Risk Pressure Sores**	**Average Percent of Residents with Low Risk Pressure Sores**	**Average Percent of Residents Who Are Physically Restrained**	**Average Percent of Residents Who Became More Depressed or Anxious**	**Average Percent of Residents Who Lose Control of Bowels**	**Average Percent of Residents with Catheter Inserted and Left in Bladder**
All Study States	15.86	5.5	12.18	2.6	5.47	15.4	49.33	6.27
Absolute Moratorium States								
Florida	14.31	6.34	13.97	2.63	9.25	10.18	48.47	5.77
Maine	19.02	4.00	11.03	3.00	3.97	30.90	67.85	6.51
Massachusetts	16.42	3.74	13.41	2.39	6.30	14.61	56.76	5.22
Utah	15.74	13.88	8.78	1.50	9.89	17.77	46.97	5.62
Washington	14.98	7.78	11.81	3.53	2.97	20.61	55.91	8.42
West Virginia	20.16	5.11	14.89	2.33	4.21	13.37	49.34	7.57
Wisconsin	15.44	5.23	10.31	2.86	2.57	13.25	42.18	7.11
Mean: Moratorium States	16.05	**5.12**	12.54	2.7	**4.99**	14.87	51.28	6.4
Limited Restriction States								
Colorado	15.88	7.52	9.30	2.25	6.52	15.65	43.13	7.66
Georgia	13.39	7.69	14.75	2.34	8.01	14.87	49.46	4.27
Iowa	14.64	6.20	8.83	2.28	2.40	17.00	42.29	6.58
Oregon	13.38	7.70	11.04	2.82	5.84	13.57	54.02	7.42
Mean: Limited Restriction States	15.48	**6.19**	11.32	2.43	**5.73**	16.39	45.56	6.01
Mean: CON State	15.8	5.44	**12.72**	2.6	5.77	**15.51**	**50.97**	**6.07**
Mean: Non-CON State	16.06	5.7	**9.72**	2.61	4.34	**15.02**	**43.21**	**7**

	NURSING HOME QUALITY / PATIENT ACUITY						
Figure 27-b	**Average Percent of Residents That Spend Most Time in Bed/Chair**	**Average Percent of Residents Whose Ability to Move about Got Worse**	**Average Percent of Resident Who Got Urinary Tract Infection**	**Average Percent of Residents Who Lose Too Much Weight**	**Average Percent of Short Stay Residents with Delirium**	**Average Percent of Short Stay Residents with Moderate to Severe Pain**	**Average Percent of Short Stay Residents with Pressure Sores**
All Study States	3.61	13.27	9.21	9.03	2.82	24.57	17.37
Absolute Moratorium States							
Florida	4.01	10.61	10.54	9.44	1.87	22.98	18.31
Maine	4.73	18.82	9.62	9.15	2.91	23.18	16.70
Massachusetts	2.08	14.86	9.36	7.81	2.08	21.14	17.86
Utah	2.36	10.74	8.05	6.62	3.24	37.29	14.71
Washington	4.67	12.78	11.27	9.07	3.92	32.80	16.48
West Virginia	6.61	12.71	11.09	9.38	2.18	20.70	20.04
Wisconsin	1.64	12.03	8.61	8.39	2.97	26.17	13.92
Mean: Moratorium States	3.39	13.69	9.68	9.23	**2.53**	24.27	17.61
Limited Restriction States							
Colorado	1.87	11.62	9.43	8.50	3.42	30.16	13.72
Georgia	7.84	10.83	8.98	9.60	3.62	22.78	17.72
Iowa	1.24	10.87	8.16	6.80	2.97	25.66	13.13
Oregon	5.95	10.54	11.86	9.50	3.19	37.41	16.07
Mean: Limited Restriction States	4.01	12.44	8.44	8.67	**3.62**	25.71	17.23
Mean: CON States	**4.1**	13.26	**9.43**	9.15	2.78	**23.62**	**18.1**
Mean: Non-CON State	**1.8**	13.3	**8.39**	8.6	2.96	**28.26**	**14.5**

In order to determine the net affect of the CON process or market restrictions on quality, we identify those facilities with quality scores in the highest decile for each of the 15 quality measures above. Note that for all measures, **higher percentages reflect potentially poorer quality, and potentially poorer outcomes.** We sum those indicators over all 15 variables. The table below shows the distribution of scores overall, by CON and moratorium status, and by state.

Figure 28
Share of Facilities with Scores in Top Decile

	No Score in the Top Decile	1 Score in Top Decile	2 Scores in Top Decile	3 or More Scores in Top Decile
All Study States	40.1%	30.6%	16.5%	12.7%
Absolute Moratorium States				
Florida	36%	31%	18%	15%
Maine	28%	27%	25%	19%
Massachusetts	45%	33%	14%	9%
Utah	33%	31%	13%	23%
Washington	28%	26%	25%	21%
West Virginia	32%	27%	23%	18%
Wisconsin	54%	30%	13%	4%
Total: Moratorium States	40%	30%	17%	12%
Limited Restriction States				
Colorado	42%	33%	16%	10%
Georgia	27%	33%	19%	21%
Iowa	53%	31%	12%	4%
Oregon	36%	27%	17%	20%
Total: Limited Restriction States	41%	31%	15%	12%
Total: CON State	38.2%	30.6%	17.3%	13.9%
Total: Non-CON State	47.2%	30.7%	13.7%	8.4%

The presence of a moratorium has no effect on the share of facilities with scores in the top decile. However, we find that facilities in states with CON are more likely to have two or more quality scores in the top (poor quality) decile. In a multivariate context that controls for market demographics, urban/rural differences, competition, a proxy for patient acuity, and the presence of home health agencies within the same local market,

the observed differences between states with and states without CON persist and are significant.

We control for market and facility characteristics and find that higher occupancy rates, market competition, more beds per 1,000 in the market, higher average income, and the presence of home health options within the community are associated with better quality outcomes. On the other hand, a more urban community and a higher level of patient acuity are associated with more frequent poor quality scores. However, there are no differences in the effect of CON on quality measures in rural versus urban markets.

Reporting

If the number of observations is deemed too small to be statistically significant, the results of a particular measure are not reported. Furthermore, in some cases the results are simply not reported. The following table provides information on the share of all measures either not reported or not provided in the public use data file due to sample size. The average facility size is provided as a reference for non-reporting due to sample size.

Figure 29
Reporting of Quality Indicators

	Share of Measures Not Reported	Share of Quality Measures Missing Because of Sample Size	Average Beds per Facility
All Study States	3.5%	20.4%	99
Florida	1.6%	11.8%	120
Maine	3.3%	33.0%	65
Massachusetts	1.4%	18.0%	110
Utah	14.2%	31.0%	84
Washington	4.0%	21.2%	91
West Virginia	12.2%	15.9%	83
Wisconsin	3.1%	17.3%	97
Mean: Moratorium States	2.6%	17.5%	103
Limited Restriction States			
Colorado	4.1%	23.9%	94
Georgia	1.5%	12.9%	111
Iowa	6.1%	33.0%	73
Oregon	5.6%	37.2%	91
Mean: Limited Restriction States	2.9%	25.7%	91
Mean: CON states	4.6%	21.1%	100
Mean: Non-CON states	3.2%	20.2%	94

We find wide variation among states as to the degree of reporting. Failure to report results in missing data for 14 percent of all observations in Utah and 12 percent of all observations in West Virginia. On the other hand, Florida, Massachusetts, and Georgia nursing homes report over 98 percent of all measures. One fifth of all measures are not reported in the public use file because of small sample size, which can distort the interpretation of the measure. We note that only 13 percent of all measures are subject to censoring due to sample size problems in Georgia, while over one-third of all measures are not publicly available for facilities located in Iowa, Maine, and Oregon. Small facility size is related to the likelihood of missing quality measures due to sample size.

There appears to be no relationship between failure to report data and the likelihood of approval of additional beds or the presence or absence of CON processes.

Cost

Figure 30
Reimbursement per Bed Day, 2002[10]

	Medicaid	Medicare	Private (Urban Average)
Total: USA	$118	$265	$158
All Study States	$119	$265	$162
Absolute Moratorium States			
Florida	$134	$262	$149
Maine	$132	$252	$187
Massachusetts	$141	$285	$233
Utah	$103	$277	$118
Washington	$129	$296	$165
West Virginia	$130	$234	$151
Wisconsin	$110	$259	$168
Mean: Moratorium States	**$126**	$266	**$167**
Limited Restriction States			
Colorado	$123	$266	$140
Georgia	$91	$245	$129
Iowa	$95	$239	$195
Oregon	$111	$301	$137
Mean: Limited Restriction States	**$105**	$263	**$150**
Mean: CON States	**$120**	$264	**$168**
Mean: Non-CON States	**$112**	$267	**$142**

The nature of the long-term care market provides insufficient data to compare costs at the market level, and we are, thus, unable to test for the significance of observed differences in a multivariate context. However, we note that the bivariate differences between average Medicaid and private costs in moratorium states and more limited

[10] Source: "Across the States: Profiles of Long Term Care," *AARP Public Policy Institute*, 6th edition from 2004

restriction states are statistically significant (p<.05) and between CON and non-CON states are weakly significant (p<.1).

Trend

We also assess the trend in Medicaid expenditures for nursing home care over all and on a per capita basis by state.

Figure 31[11]

		Growth Rate: 2001-2005	
	2005 per Capita Expenditures - Nursing Home	**Medicaid Nursing Home Per Capita Expenditures**	**Total Medicaid Nursing Home Expenditures**
Total: USA	$165	2.4%	2.5%
All Study States	$140	2.1%	4.5%
Absolute Moratorium States			
Florida	$125	4.8%	7.0%
Maine	$154	-0.4%	0.3%
Massachusetts	$264	4.3%	4.4%
Utah	$58	9.1%	11.5%
Washington	$93	-2.5%	-1.3%
West Virginia	$215	7.3%	7.5%
Wisconsin	$169	-1.3%	-0.7%
Mean: Moratorium States	$154	2.8%	3.9%
Limited Restriction States			
Colorado	$95	3.8%	5.2%
Georgia	$159	15.0%	17.3%
Iowa	$142	2.8%	3.1%
Oregon[12]	$70	-18.1%	-17.2%
Mean: Limited Restriction States	$116	-0.4%	6.5%
Mean: CON States	$107	1.7%	1.8%
Mean: Non-CON States	$153	2.2%	5.1%

[11] Source: Compilation from the CMS 64 data, Office of State Agency Financial Management

[12] Oregon has made a policy decision to reduce the reliance on Nursing Homes as the primary provider of Long-term Care. Therefore, the findings with respect to cost must be considered in the context of the broader health care industry.

We find no significant differences in growth rates for CON versus Non-CON states, nor any significant difference in Medicaid cost growth based on whether or not there is a moratorium in place. We are unable to assess rural versus urban cost differences as our data are not available at the market or facility level.

Summary

The following table summarizes the findings regarding the effect of market restrictions and CON on nursing homes.

Figure 32

	Finding	
Access / Market Structure	**Moratorium**	**CON**
Beds Per 1,000 residents	Negative association	No relationship
Occupancy Rate	Positive association (++)	Positive association
Competition (inverse Herfindahl)	Positive association (++)	Positive association
Case mix adjustment[13]	Positive association	Positive association
Quality		
Staffing per patient day	Positive association	Positive association
Outcome Measures (results shown control for case mix)		
Share of high-risk patients with pressure sores	No relationship	Positive association
Share of residents more depressed or anxious	No relationship	Positive association
Share of residents with a catheter	No relationship	Negative association
Share of residents with UTI	No relationship	Positive association
Share of residents with Delirium	Negative association	No relationship
Share of short stay residents with moderate to severe pain	No relationship	Negative association
Share of short stay residents with pressure sores	No relationship	Positive association
Index: Likelihood of scoring in worse decile across all measures	No relationship	Positive association – if no case mix adjustment No relationship – with case mix adjustment
Reporting	No relationship	No relationship
Costs		
Medicaid costs per patient day	Positive association	Positive association
Medicare costs per patient day	No relationship	No relationship
Private sector costs per patient day	Positive association	Positive association
Medicaid cost growth rate	Positive association	No relationship
Per capita growth rate	No relationship	No relationship

[13] Patient Acuity is measured as the sum of the share of patients whose ADLs are declining, the share of patients with inadequate bowel/bladder control, the share of patients spending most of the time in a bed or chair, and the share of patients whose ability to move around their room decreased.

Home Health

In the following pages, we present state level summary tables to describe home health market structure, quality of care, and limited cost information. We also provide brief analyses for each table. Detailed tables providing data at the market level by state are provided in Appendix D.

Among states that have a CON program, home health services are not always covered. In fact, nation wide only 17 states include Home Health Care as a reviewable service. Among our eight study states with CON, only Georgia, Iowa, Washington, and West Virginia include home health as a reviewable service. Therefore, in the tables that follow we provide a simple comparison for CON and non-CON states for Home Health market structure, quality, and costs.

Market Structure

In order to evaluate market structure for home health services, we measure:

- The number of agencies within each state,
- Agencies per 1,000 elderly population within the state
- Share of agencies offering a full complement of services (Physical Therapy, Occupational Therapy, Speech Pathology, and Social Services) in addition to Nursing and Home Health Aide services, and
- The Herfindahl Index that measures the concentration of providers within each market. Thus, a lower Herfindahl Index is indicative of more competition, and it is generally accepted that a Herfindahl of 2,000 or less indicates a competitive market place. We note that the data are inadequate to measure the market share of each provider. Thus the Herfindahl is calculated under the assumption that all agencies have the same market share and is subject to a downward bias (implying more competition) in the table below to the extent that competitors within each market have different market shares.

Figure 33

	Home Health Agencies	Agencies per 1,000 Elderly	Share Offering Full Service	Average Herfindahl
All Study States	1545	0.190	70.2%	4,608
CON States	**395**	**0.178**	**60.8%**	**5,437**
Georgia	95	0.116	82.1%	6,925
Iowa	179	0.409	44.1%	4,687
Washington	59	0.085	89.8%	4,588
West Virginia	62	0.226	48.4%	3,339
Non-CON states	**1,150**	**0.194**	**73.5%**	**3,862**
Colorado	139	0.326	71.2%	4,950
Florida	631	0.206	74.6%	1,744
Maine	29	0.153	86.2%	3,542
Massachusetts	116	0.133	85.3%	209
Oregon	60	0.132	75.0%	5,685
Utah	53	0.269	90.6%	2,406
Wisconsin	122	0.170	47.5%	4,741

We find that among non-CON states, there are more home health agencies per 1,000 elderly, a higher proportion of agencies offering the full complement of services, and a greater level of competition than in CON states.

When we test these differences in a multivariate context controlling for market characteristics and the availability of long term care services, we find the observed differences between CON and non-CON states with respect to the number of agencies and the level of competition (Herfindahl) persists. However, the observed difference between CON and non-CON states with respect to the likelihood of offering a broader set of services is explained by community characteristics rather than CON. Communities with more elderly, higher family income, fewer nursing home beds, and more metropolitan counties are associated with home health agencies that offer broader services.

We also evaluate the use of home health services in the study states by Medicare and Medicaid participants.

Figure 34

	Medicare Beneficiaries Receiving Home Health Services (2002)	Medicare Home Health Visits per User (2002)	Medicaid Home Health Participants per 1000 population (2001)
Total US	6%	30	2.6%
All Study States			
CON States	**5%**	**25**	**2%**
Georgia	6%	32	0.9%
Iowa	4%	24	5.9%
Washington	5%	18	1.1%
West Virginia	5%	25	1.0%
Non-CON states	**7%**	**31**	**2%**
Colorado	5%	26	1.9%
Florida	8%	30	0.9%
Maine	8%	30	2.5%
Massachusetts	9%	37	3.9%
Oregon	5%	19	0.3%
Utah	7%	46	0.7%
Wisconsin	4%	25	1.3%

We find that the lower number of agencies in the CON study states translates into significantly lower utilization among Medicare beneficiaries ($p<.1$) but no significant differences in visits or in utilization among the Medicaid population.

Quality

We evaluate the effect of market restriction and the CON process on home health quality with respect to:

- Patient outcomes, and
- The propensity to report outcomes.

Patient Outcomes

The following table provides summary quality outcome measures for all study states. It is important to note that these outcomes are not adjusted for patient acuity. The data that are available to us are at the agency level and do not provide any patient level detail.

Measures available for all home health agencies are:

1. Percentage of patients who get better at walking or moving around
2. Percentage of patients who get better at getting in and out of bed
3. Percentage of patients whose bladder control improves
4. Percentage of patients who have less pain when moving around
5. Percentage of patients who get better at bathing
6. Percentage of patients who get better at taking their medicines correctly (by mouth)
7. Percentage of patients who are short of breath less often
8. Percentage of patients who had to be admitted to the hospital
9. Percentage of patients who need urgent, unplanned medical care
10. Percentage of patients who stay at home after an episode of home health care ends.

We note that for measures eight and nine, a higher score represents a potential quality problem. For all other measures, a lower score is associated with potentially poorer quality.

State level summaries for each of these measures are shown in the following table.

Figure 35	HOME HEALTH AGENCY MEASURES									
State	Percentage of patients who get better at walking or moving around	Percentage of patients who get better at getting in and out of bed	Percentage of patients whose bladder control improves	Percentage of patients who have less pain when moving around	Percentage of patients who get better at bathing	Percentage of patients who get better at taking their medicines	Percentage of patients who are short of breath less often	Percentage of patients who had to be admitted to the hospital (NOTE: HIGHER IS WORSE)	Percentage of patients who need urgent, unplanned medical care (NOTE: HIGHER IS WORSE)	Percentage of patients who stay at home after an episode of home care
All Study States	37	51	46	60	60	37	56	28	22	68
CON States	37	52	44	59	59	38	56	30	25	65
Georgia	40	54	51	63	61	40	60	29	21	67
Iowa	38	49	40	56	59	37	54	30	24	65
Washington	37	52	50	58	63	38	61	21	18	76
West Virginia	43	56	46	59	59	36	56	28	25	70
Non-CON states	37	51	47	61	60	37	56	27	21	69
Colorado	35	49	48	56	62	36	59	23	21	72
Florida	38	51	49	62	63	41	57	24	18	71
Maine	38	55	48	58	59	39	58	27	22	70
Massachusetts	39	50	51	63	60	41	59	32	23	65
Oregon	35	53	50	58	62	37	62	21	20	76
Utah	41	57	52	58	67	40	63	23	20	71
Wisconsin	38	51	47	59	58	36	58	26	22	71

The comparison of quality measures in CON and non-CON states is fairly unremarkable. In order to further evaluate whether the CON process affects quality, we identify those facilities with quality scores in the lowest decile for eight of the ten quality measures and in the highest decile for measures nine and ten. We sum the indicators over all quality measures. The table below shows the distribution of scores overall, by CON status, and by state.

Figure 36: Score Distribution

	No Score in Lowest Decile	1 Score in Lowest Decile	2 scores in Lowest Decile	3 or More Scores in Lowest Decile
All Study States	79.1%	10.4%	4.0%	6.5%
CON States	76.3%	10.6%	6.9%	6.2%
Georgia	91%	6%	0%	2.5%
Iowa	58%	17%	12%	12.3%
Washington	93%	3%	0%	3.5%
West Virginia	79%	10%	12%	0.0%
Non-CON states	79.9%	10.4%	3.1%	6.6%
Colorado	74%	18%	3%	4.1%
Florida	80%	9%	2%	8.9%
Maine	88%	8%	4%	0.0%
Massachusetts	88%	7%	2%	2.5%
Oregon	83%	8%	7%	1.7%
Utah	86%	10%	0%	3.9%
Wisconsin	70%	16%	8%	5.7%

Although individual states appear to vary widely with respect to the likelihood of home health agencies with potentially poor quality scores, there is no evidence that the variation is systematically related to the presence of CON within the state.

Quality Reporting

As in the nursing home data, some home health agencies fail to report results for specific measures, and other measures are not reported because the sample size is too small. We assess whether the presence of CON has a systematic effect on the likelihood of reporting quality scores.

Figure 37

	Share of Measures Not Reported	Share of Quality Measures Missing Because of Sample Size
All Study States	5.8%	11.3%
CON States	2.0%	12.6%
Georgia	1.1%	2.6%
Iowa	2.8%	24.9%
Washington	0.0%	3.6%
West Virginia	3.2%	1.3%
Non-CON states	7.0%	10.8%
Colorado	5.8%	19.9%
Florida	8.7%	8.4%
Maine	3.4%	4.8%
Massachusetts	4.3%	11.0%
Oregon	0.0%	3.2%
Utah	9.4%	3.2%
Wisconsin	5.7%	21.1%

The presence of CON increases significantly the likelihood of reporting data, and the significance persists when measured in a multivariate context. We find no measurable impact of CON on the likelihood that a score is not reported due to sample size. We note that while competition has no effect on the propensity to not report, increased competition increases the likelihood that the sample size will be sufficiently large to report all scores. This suggests that competition may result in home health agencies serving more individuals per agency.

Cost

We assess the effect of CON on Medicare reimbursement per home health visit and private pay hourly rate for home health aide in the study states (Table 15) and on Medicaid spending for home health and per capita home health spending (Table 16).

Figure 38

	Medicare Reimbursement per Home Health Visit (2002)	Private Pay Hourly Rate for Home Health Aide - Urban Average
Total US	$124	$18
All Study States	$127	$19
CON States	$135	$18
Georgia	$127	$17
Iowa	$106	$22
Washington	$166	$ 18
West Virginia	$141	$14
Non-CON states	$122	$20
Colorado	$131	$26
Florida	$121	$16
Maine	$110	$20
Massachusetts	$108	$21
Oregon	$167	$18
Utah	$106	$19
Wisconsin	$114	$20

There is no evidence in these data of a significant difference in Medicare or private reimbursement for home health care between CON and non-CON states.

Figure 39

		Growth Rate: 2001-2005	
	2005 Medicaid per-Capita Expenditures - Home Health	**Medicaid Per-Capita Expenditures**	**Total Medicaid Expenditures**
Total US	$12.04	8.5%	7.4%
All Study States	$10.14	9.4%	8.1%
CON States	$13.42	**12%**	**11%**
Georgia	$10.29	18.0%	15.6%
Iowa	$20.80	6.6%	6.2%
Washington	$4.61	22.0%	20.5%
West Virginia	$17.10	13.1%	12.9%
Non-CON states	$7.93	**5.8%**	**4.5%**
Colorado	$19.79	6.0%	4.6%
Florida	$8.23	14.2%	11.9%
Maine	$3.61	-7.9%	-8.5%
Massachusetts	$10.19	-0.1%	-0.2%
Oregon	$0.20	0.1%	-1.2%
Utah	$3.76	28.9%	26.3%
Wisconsin	$9.71	-0.4%	-1.0%

We find no evidence that Medicaid per-person and overall expenditures differ significantly within our study states based on the presence of CON. However, the growth in per-capita expenditures and total expenditures is significantly higher ($p<.1$) in the CON states than in the non-CON states.

Figure 40

	CON Effect
Access / Market Structure	
Agencies Per 1,000 residents	Negative association
Competition (inverse Herfindahl)	Negative association
Share of Agencies with full service line	No effect
Medicare beneficiaries receiving Home Health Services	Negative association
Quality	
Outcome Measures - share patients with good outcomes	No effect
Outcome Measures – share of measures on which the facility measures in the lowest (best) decile	No effect
Reporting – likelihood that an agency will report all scores	Positive association
Costs	
Medicare costs per patient day	No effect
Private sector costs per patient day	No effect
Medicaid cost growth rate	Positive association
Medicaid per capita growth rate	Positive association

DATA SOURCES AND BIBLIOGRAPHY

Service	Data	Source
Short Stay Hospital Beds	Annual Hospital Survey Data Facility Claims Data Healthcare Cost and Utilization Project Data Area Resource File	American Hospital Association (AHA) Thomson Medstat Agency for Healthcare Research and Quality (AHRQ) Health Resources and Services Administration (HRSA)
Adult Cardiac Catheterization	Facility Claims Data Annual Hospital Survey Data Healthcare Cost and Utilization Project Data Area Resource File	Thomson Medstat AHA AHRQ HRSA
Open Heart Surgery	Facility Claims Data Annual Hospital Survey Data Healthcare Cost and Utilization Project Data Area Resource File	Thomson Medstat AHRQ HRSA
Pediatric Catheterization & Open Heart Surgery	Facility Claims Data Annual Hospital Survey Data	Thomson Medstat AHA
Perinatal Services	Facility Claims Data Annual Hospital Survey Data Healthcare Cost and Utilization Project Data	Thomson Medstat AHA AHRQ
Freestanding Birthing Centers	Facility Claims Data	Thomson Medstat
Psychiatric & Substance Abuse	Facility Claims Data Annual Hospital Survey Data Area Resource File	Thomson Medstat AHA HRSA
Organ Transplant	Facility Claims Data Annual Hospital Survey Data Healthcare Cost and Utilization Project Data	Thomson Medstat AHA AHRQ HRSA
Burn Units	Facility Claims Data Annual Hospital Survey Data Healthcare Cost and Utilization Project Data Area Resource File	Thomson Medstat AHRQ HRSA
Home Health	Home Health Compare Facility Claims Data Area Resource File	CMS Thomson Medstat HRSA
Skilled Nursing	Nursing Home Compare Facility Claims Data	CMS Thomson Medstat

Service	Data	Source
	Area Resource File	HRSA
Short Stay Hospital Beds	Annual Hospital Survey Data Facility Claims Data Healthcare Cost and Utilization Project Data Area Resource File	American Hospital Association (AHA) Thomson Medstat Agency for Healthcare Research and Quality (AHRQ) Health Resources and Services Administration (HRSA)
Traumatic Brain Injury Facilities	Facility Claims Data	Thomson Medstat
Comprehensive Inpatient Physical Rehabilitation	Facility Claims Data Annual Hospital Survey Data Healthcare Cost and Utilization Project Data Area Resource File	Thomson Medstat AHA AHRQ HRSA
Long Term Care Hospitals	Facility Claims Data Annual Hospital Survey Data Area Resource File	Thomson Medstat AHA HRSA
Hospice	Facility Claims Data Area Resource File	Thomson Medstat HRSA
Ambulatory Surgery Centers	Facility Claims Data Area Resource File	Thomson Medstat HRSA
Positron Emission Tomography	Facility Claims Data Annual Hospital Survey Data Healthcare Cost and Utilization Project Data Area Resource File	Thomson Medstat AHA AHRQ HRSA
Radiation Therapy Services	Facility Claims Data Annual Hospital Survey Data Healthcare Cost and Utilization Project Data Area Resource File	Thomson Medstat AHA AHRQ HRSA
Magnetic Resonance Imaging	Facility Claims Data Annual Hospital Survey Data Healthcare Cost and Utilization Project Data Area Resource File	Thomson Medstat AHA AHRQ HRSA
Computed Tomography	Facility Claims Data Healthcare Cost and Utilization Project Data Area Resource File	Thomson Medstat AHRQ HRSA
Renal Dialysis	Dialysis Facility Compare Facility Claims Data Annual Hospital Survey Data HCUP Data Area Resource File	CMS Thomson Medstat AHA AHRQ HRSA

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APPENDIX A: QUALITATIVE ANALYSIS -STATE REPORTS

FLORIDA
Ranking: 5
Rigor: 3
Scope: 7
Combined: 108

Telephone and follow-up interviews were conducted with Jeff Gregg, Bureau Chief with Florida's Agency for Health Care Administration, Health Facility Regulation Bureau. Additional information was gathered from Florida's CON website and the National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006. Florida has had an active Certificate of Need (CON) program since 1973. Moratoria on new community nursing homes and beds have been in place since 2001. Florida reviews projects for new hospitals and certain services within hospitals including acute, transplant, neonatal intensive care, rehabilitation, mental health, and long-term care. Florida also reviews community nursing home projects excluded from the moratorium, nursing beds within retirement communities, transfers of CONs with the exception of approved CONs when hospitals are acquired by another entity, and intermediate care facilities for developmental disabilities.

Florida has no set thresholds for any capital expenditures, equipment expenditures, or services. Any project is reviewable unless it is specified as exempt.

PRE-APPLICATION PROCEDURES

Letters of Non-Reviewability or Exemption
Florida requires that an applicant request an exemption for projects which are specifically exempt according to Florida's statutes. A fee of $250 per exemption request is required. Notification to the CON department is required for replacement of a hospital, termination of certain services, and addition or delicensure of certain beds. Projects exempt from review under section 408.036(3), Florida Statutes, require a determination by the Agency, while projects that require notification, as defined under section 408.036(5), Florida Statute, do not require a determination by the Agency.

Letters of Intent
Florida requires that applicants submit a Letter of Intent (LOI) 30 days prior to submitting an application. Expedited applications are exempt from submitting a Letter of Intent. A competitive application can be submitted after another applicant has

submitted a Letter of Intent, as long as the LOI is submitted within 16 days of the first LOI.

Costs of Applying for Certificate of Need

Of the states reviewed, Florida is tied for the highest minimum application fee for a Certificate of Need. The minimum charge is $10,000 plus an incremental charge of .015 of project cost. The maximum charge, at $50,000, is in the mid-range with other states for application submission. Florida does not provide a refund for withdrawn applications.

Availability of Certificate of Need Rules and Application Criteria or Standards

Florida provides information about applying for a Certificate of Need online. The standards of review, review rules and processes, as well as applications and other necessary forms are available for download. In addition to a document on the Certificate of Need laws, there are rules for some programs.

Availability of Criteria for Needs Assessment

Potential applicants may determine whether a project meets a need by reviewing Florida's Fixed Need Pool Publications, available on Florida's Certificate of Need web pages.

APPLICATION REVIEW

Florida's CON staff review applications within the first 7 days of receipt for completeness. Staff notify the applicant if information is found to be missing or other information is needed. The applicant has 21 days to submit any additional information. This second deadline is called the Omission Deadline. According to Jeff Gregg, most applicants in Florida use professional consultants to complete the applications, and these consultants are familiar with the CON department and processes. Batched applications are usually initially submitted in a skeletal format with the intentions of providing a complete application by the Omission Deadline. Due to the highly competitive nature of the CON program in Florida, this is done to protect the details of a project from competitors. Florida will deem an application either complete or withdrawn within seven days of the 21-day Omission Deadline.

Florida's reviews are done in batch cycles. There are two cycles each for hospital projects and for other beds and projects. Applications for similar projects in the same planning area will be given a joined review. This means the application will be linked competitively and review is comparative.

It generally takes the CON department 60 days to make the initial decision on an application. Decisions are frequently appealed in Florida's highly competitive CON market. On average, an additional two years is needed for a final decision to be made on an appeal. Expedited reviews are decided within 45 days of a completed application.

Applications that are approved may have certain conditions that must be met to keep the Certificate of Need. A common condition is the provision of services to lower income individuals. CON holders with this condition must report their provision of services annually. CON staff monitor this condition as well as construction progress.

Hearings and Involvement of Others

Opportunities for public hearings are available if requested by any applicant or substantially affected person within 14 days of the publication of notice that an application has been filed. Public hearings are held at the local level and often attract large groups of involved citizens. Other healthcare facilities that may be substantially impacted by the issuance of a Certificate of Need may also initiate or intervene in a hearing. Florida reports that due to the complexity of their CON programs, other departments and agencies generally do not get involved.

Appeals and Reconsideration of Decision

According to Jeff Gregg, many of the decisions made by the Certificate of Need department are appealed. Only applicants in the same batching cycle or health care facilities that may be substantially affected by the issuance of a CON may appeal a decision. These parties must submit a request for an administrative hearing within 21 days of the publication notice of the decision. Substantially affected health care facilities may also intervene in an administrative hearing.

The statutes suggest that the final decision on an appeal should take approximately 135 days from the initial decision notification. In reality, this process generally takes two years. A hearing usually does not occur until one year after the initial decision. Additional steps in the appeal process, such as the agency producing a recommendation and then a final order, adds between one and one and one-half years.

Appeals in Florida generally involve private attorneys and elaborate trial preparation. A hospital hearing may last five or six weeks. Each party is responsible for their own costs. If there is a second appeal, some costs may be accrued to the state.

Hospitals
Ranking: 6
Rigor: 78
Combined Scope and Rigor: 105
Florida reviews any new hospital and the addition of hospital beds in counties with low growth rates. Florida has no threshold levels for reviewability; therefore, any new hospital or addition of beds in these low growth rate counties is reviewable. Most hospitals in Florida are accredited by JCAHO.

Nursing Homes/Long Term Care
Ranking: 6
Rigor: 84
Combined Scope and Rigor: 114
Florida reviews bed additions for intermediate care facilities for the developmentally disabled, nursing home bed conversions, and transfers. If a moratorium were not in place, Florida would also review nursing homes. According to the Florida Certificate of Need program, a moratorium was placed on additional nursing home beds from 2001 through July 1, 2006. This moratorium was extended through July 1, 2011. This was done by the Florida legislature to slow the growth of the Medicaid budget. They desired "less restrictive and less institutional methods of long-term care" since the nursing home budget limits the types of care Florida may provide to its elderly residents. (http://ahca.myflorida.com/MCHQ/CON_FA/Batching/index.shtml)

According to the interview conducted with Jeff Gregg, only a very small provision is made for nursing home bed increases. Nursing homes with high occupancy rates in planning areas with high occupancy rates, may increase beds by ten percent or 10 beds. Recent approved nursing home projects include the delicensure of beds at one facility and the addition of the same number of beds at another. A project seeking to create a new nursing home through delicensure of beds at one facility was denied but not based on need. The transfer of beds is reviewable under the Florida CON program.

Florida reviews nursing home beds through a batch review process twice per year. A LOI is required 30 days in advance of the application.

Ambulatory Surgery Centers and Free-standing Imaging Centers
Florida does not review ambulatory surgery centers or free-standing imaging centers.

Health Service Markets
Health service markets are defined by administrative rules and vary by service. Depending on the type of service, some markets are population based, and some are

based on service planning areas. There are seven service markets, and these are set by the State Planning Agency. Florida provides the maps of the seven health service markets on their CON website.

SOURCES OF INFORMATION

1. National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006. American Health Planning Association. 17th edition.

2. Program Contact: Jeff Gregg, Bureau Chief, Florida AHCA, Health Facility Regulation 2727 Mahan Drive, Building 3, Tallahassee, FL 32038-5407; Phone: 850-922-8672; Fax: 850-488-6964; Email: greggj@ahca.myflorida.com

3. CON Website:-http://ahca.myflorida.com/MCHQ/CON_FA/index.shtml

GEORGIA
Ranking: 2
Rigor: 64
Scope: 60
Combined: 124

A telephone interview was conducted with Robert Rozier, Executive Director with the Division of Health Planning, Georgia Department of Community Health. Additional information was gathered from the Georgia CON website and from the National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006. Georgia has an active Certificate of Need (CON) program. Georgia's CON program began in 1974, and there are currently no moratoria in place. Georgia's CON program reviews hospitals, nursing homes, ambulatory surgery centers, obstetrical facilities, home health agencies, personal care homes with more than 25 beds, inpatient rehabilitation for brain injury, diagnostic, treatment and rehabilitation centers, new services, bed additions, major medical equipment purchases or leases, major hospital renovations, or other capital activities exceeding the threshold.

The capital expenditure threshold is $1,483,083, and the equipment expenditure threshold is $823,934. Physician-owned Ambulatory Surgery Centers are reviewable only above $1,610,823.

PRE-APPLICATION PROCEDURES

Letters of Non-Reviewability or Exemption
Georgia requires a Letter of Non-reviewability but limits this to diagnostic and therapeutic equipment that falls below the threshold of $823,934. The charge for this letter is $500 per request, with each proposal requiring a separate letter.

Letters of Intent
Georgia requires that applicants processed through batch reviews submit a Letter of Intent (LOI) 30 days prior to submitting an application. Only skilled nursing facilities, intermediate care facilities, and home health agencies are subject to the batch review process. Those reviewed through the normal review process are not required to submit an LOI.

Costs of Applying for Certificate of Need
Georgia charges a minimum of $1,000 and a maximum of $50,000 for an application submission. There is an incremental charge for projects over $1,000,000 of .001 of the

project costs. Georgia, unlike some other states, does not provide a refund on applications that are submitted and later withdrawn.

Availability of Certificate of Need Rules and Application Criteria or Standards

Georgia provides information about applying for a Certificate of Need online. The standards of review, review rules and processes, as well as applications and other necessary forms are available for download. There is also a guide for Frequently Asked Questions available on the Georgia website.

Availability of Criteria for Needs Assessment

Potential applicants determine whether a project meets a need either by using formulas available within the rules, which are available online, or from notification that there is need as determined by CON staff.

APPLICATION REVIEW

Georgia's CON staff reviews applications within the first 10 days of receipt for completeness. Staff will notify the applicant within the first 60 days if additional information is found to be missing or other information is needed. The applicant can meet with staff to discuss information that may be missing from their application. Applicants are given up to two calendar months to provide the needed information. After applications are complete, staff provides a written notice and provides the applicant with a schedule for the review.

Georgia conducts regular reviews, batch reviews, and expedited reviews. The staff completes regular reviews within 90 days of the application being certified as complete, unless it is impractical. If the review cannot be completed in 90 days, the staff may have a 30 days extension. Applications for batch reviews require that a Letter of Intent be submitted 30 days in advance and are accepted only at times when the department has determined that there is an unmet need for the facilities or services. The review period for batched applications is 120 days. The review period for expedited CON applications is 45 days.

Throughout the process for regular and batched reviews, interested parties not limited to competing applicants or competing healthcare facilities, have the opportunity to oppose the application, and the applicant has opportunities to respond to the opposition.

Applications that are approved undergo monitoring and reporting requirements by the Certificate of Need department. CON staff review and monitor CON progress during the construction or project implementation phase until licensed.

Hearings and Involvement of Others
Hearings may be conducted if they are requested by at least ten residents, the applicant, competing applicants, or competing healthcare facilities within 20 days of the beginning of the review period. The applicant, competing applicant, or competing healthcare facility must notify the office of General Counsel in writing by the 60th day of the review cycle if opposing a proposed project.

Appeals and Reconsideration of Decision
Interested parties must request an initial administrative hearing within 30 days of a decision. Competing health care facilities in the same service area who notified CON staff that they had an issue with the application during the review period may appeal. In addition, competing applicants, the applicant, and the county home of the proposed project may appeal. The hearing officer issues the decision within 45 days of the close of record of the hearing. Interested parties may submit further objections to the hearing officer's decision within 30 days of receiving the decision. The review board will meet and issue a written order within 30 days of that meeting.

The costs of reproducing transcripts and creating hearing records associated with appealing a decision are split equally across all parties involved, including the state's CON office.

Hospitals
Ranking: 2
Rigor: 62
Combined: 122

Georgia reviews any new hospital service or any hospital expenditure that is above the capital threshold of $1,483,083 or expenditure threshold of $823,934. Most hospitals in Georgia are accredited by JCAHO.

Nursing Homes/Long Term Care
Ranking: 3
Rigor: 64
Georgia reviews nursing homes and long term care facilities on an as-needed basis through the batch review process. A review of need is conducted at least every six months, at which time if there is an identified need, applicants may submit a Letter of Intent, followed by an application.

Ambulatory Surgery Centers and Free-standing Imaging Centers
Ranking: 4
Rigor: 50
Combined: 110

Georgia reviews both Ambulatory Surgery Centers (ASCs) and Free-standing Imaging Centers. Physician-owned ASCs are only reviewable above the threshold of $1,610,823. Specialty ASCs are reviewable at any level. Existing ASCs and hospital-based ASCs are reviewable at the regular capital expenditure or equipment expenditure threshold.

Health Service Markets
Approximately half of services use State Service Delivery Regions (13 areas subdivide the state). The remaining services use markets based on need determined by Technical Advisory Committee (consists of members with knowledge of the service). They review maps of all current facilities, identify areas of need, and then divide the state.

SOURCES OF INFORMATION

1. National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006. American Health Planning Association. 17th edition.

2. Program Contact: Robert Rozier, Esq., Executive Director, Division of Health Planning, Georgia Department of Community Health
   2 Peachtree Street, NW, 5th Floor, Atlanta, GA 30303-3142; Phone: 404-657-7198; Fax: 404-656-0554; Email: rrozier@dch.ga.gov

3. CON Website:
   http://dch.georgia.gov/00/channel_title/0,2094,31446711_32467034,00.html

IOWA
Ranking: 4
Rigor: 62
Scope: 61
Combined: 122

A telephone interview with follow-up was conducted with Barb Nervig, Program Manager with the Iowa Department of Public Health's CON Program. Additional information was gathered from the Iowa CON website and from the *National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006*. Iowa has had an active Certificate of Need (CON) program since 1977. There are bed capacity limits on intermediate care facilities for mental retardation and psychiatric medical institutions for children. Iowa reviews projects for new hospitals or healthcare facilities (nursing homes), new equipment, and new beds and certain ambulatory surgery centers. Any new facility is reviewable, regardless of cost. New or expanded services also reviewable regardless of cost include cardiac catheterization, open heart surgery, radiation therapy services, and organ transplantation. Pet Scanners and other equipment are only reviewable above the threshold. Imaging centers are not included in Iowa's definition of an institutional health facility and are not reviewable. Any mobile health service above the threshold for equipment is reviewable. Iowa does not review the replacement of facilities if the replacement does not add new beds or services. Replacement equipment is not reviewed.

Iowa has a $1,500,000 threshold for capital expenditures and equipment expenditures. The new service threshold is $500,000.

PRE-APPLICATION PROCEDURES

Letters of Non-Reviewability or Exemption
Iowa does not require that applicants request exemptions or letters of non-reviewability for projects that the CON does not review.

Letters of Intent
Iowa requires that applicants submit a Letter of Intent (LOI) 30 days prior to submitting an application, unless the application is for a summary (expedited) review. Summary applications are exempt from Letters of Intent.

Iowa may also, at the applicant's request, use the Letter of Intent to determine if a proposed project requires a Certificate of Need and to inform the applicant of any factors that might lead to the denial of the Certificate of Need.

Costs of Applying for Certificate of Need

Iowa has one of the lowest application fees of the states reviewed. The minimum cost is $600, and the maximum cost is the second lowest at $21,000. Application costs are based on the total project costs including site costs, facility costs, land improvements, movable equipment, and financing costs. Iowa refunds application fees up to 75 percent based on the time frame of voluntary withdrawal. An application that is withdrawn voluntarily more than sixty days after submission receives a refund of 25 percent of the application fee.

Availability of Certificate of Need Rules and Application Criteria or Standards

Iowa's statutes and administrative rules which contain application criteria are available online. According to Barb Nervig, certain formulas and criteria need to be reviewed for updating or possible deletion from the standards. Applications and other forms are also available on the website.

Availability of Criteria for Needs Assessment

The criteria for determining need that is used in decision-making is available in statute. Standards for specific services are available in administrative rules. The standards are used as guidelines in decision-making. In some cases the standards have not kept pace with evolving technology. The burden of proof of need rests with the applicant.

APPLICATION REVIEW

Iowa's CON staff review applications within the first 15 days of receipt for completeness. If an application is incomplete, additional information is requested from the applicant until the application is complete or withdrawn. Although the rules indicate that staff will return incomplete applications to the applicant, CON staff work with the applicant to complete the application. Staff notify all affected persons that the formal review has begun once an application is complete. The notice of an accepted application also informs the applicant and affected persons of the deadlines for the submission of additional material, generally 10 days prior to the meeting.

According to Barb Nervig, although it is not required, most applicants use a consultant or attorney to complete the CON application. Iowa conducts batch reviews for projects that are similar and serve the same market; otherwise, reviews are done on an individual basis. Deadlines for submitting an application are available online and coincide with meeting dates for the Health Facilities Council.

It generally takes the CON department 60-90 days to complete a review once a completed application has been accepted.

Once a CON is granted, a progress report is due in six months and an extension request at one year. The CON and subsequent extensions may not be granted for a period greater than one year.

Hearings and Involvement of Others

All meetings of the Health Facilities Council where applications are considered are treated as public hearings. The Council meets four times per year (more often if needed), and applications are due approximately six weeks prior to the meeting. It is noted that submitting an application by the posted deadline does not guarantee it will be reviewed at the next Council meeting.

Appeals and Reconsideration of Decision

Any dissatisfied party who is affected by the Certificate of Need decision and who participated in the formal review procedure or sought to participate may request a rehearing. A request must be made within 20 days after the issuance of the decision. The Council must grant a rehearing in writing within 20 days of receiving the request or the request is deemed denied. If a rehearing is granted, a final decision in made within 30 days after a public hearing on the rehearing.

If a rehearing is not requested or if an affected party remains dissatisfied after the request for rehearing, an appeal may be filed with the District Court. A request for rehearing is not required prior to appeal.

Hospitals
Ranking: 4
Rigor: 56
Combined Rigor and Scope: 117

Iowa reviews new hospitals and new hospital beds regardless of the cost level. The transfer of ownership of hospitals is not reviewable.

Nursing Homes/Long Term Care
Ranking: 5
Rigor: 59
Combined Rigor and Scope: 120
Iowa reviews new nursing homes and bed additions at any cost level. The change of ownership of nursing homes is not reviewable.

Ambulatory Surgery Centers and Free-standing Imaging Centers
Ranking: 3
Rigor: 53
Combined Rigor and Scope: 117
Iowa reviews organized outpatient health facilities. Iowa only reviews freestanding ambulatory surgery centers that meet the institutional health facility definition. Imaging centers are not considered institutional health facilities by Iowa.

Health Service Markets
Administrative rules define the service area for hospitals and nursing facilities as the county and contiguous counties. For other services, the rules define the service area as the county. The applicant may present evidence that demonstrates an altered service area for their project. There are 99 counties in Iowa.

SOURCES OF INFORMATION

1. National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006. American Health Planning Association. 17th edition.

2. Program Contact: Barb Nervig, Program Manager, CON Program Iowa Department of Public Health 321 E. 12th Street, Lucas State Office Building, Des Moines, IA, 50319; Phone: 515-281-4344; Fax: 515-281-4958; Email: bnervig@idph.state.ia.us

3. CON Website: http://www.idph.state.ia.us/do/cert_of_need.asp

MAINE
Ranking: 1
Rigor: 88
Scope: 58
Combined: 146

A telephone interview was conducted with Catherine Cobb, Director, Division of Licensure and Regulatory Services. Additional information was gathered from the Maine CON website and from the National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006. Maine has had an active Certificate of Need (CON) program since 1978. There currently are moratoria on new long term care beds. Creation of new hospital beds is not a priority under the State Health Plan. Maine reviews any capital expenditure, new health service, transfer of ownership, and acquisition of major medical equipment over the threshold. If major medical equipment is used to treat inpatients outside of a healthcare facility and was acquired without a Certificate of Need, then it is reviewable. However, replacement equipment is exempt from review. In 2006, Maine instituted a new threshold for third year operating expenses. Projects with expected third year operating expenses above the threshold are also reviewed. Maine cannot approve any nursing facility projects that will increase costs to Medicaid.

Maine's capital expenditure threshold is $2,666,198, equipment capital threshold is $1,333,098, new service threshold is $121,880, third year operating costs threshold is $443, 200, and nursing facilities capital expenditure is $510,000.

PRE-APPLICATION PROCEDURES

Letters of Non-Reviewability or Exemption
Maine requires that applicants include with their Letter of Intent (LOI) a request for a ruling regarding whether a Certificate of Need is required.

Letters of Intent
Maine requires that applicants submit a Letter of Intent 90 days prior to the beginning of the review cycle. Letters of Intent must describe the project, including an estimate of expected capital expenditure and third year operating costs, and request a ruling regarding reviewability.

Costs of Applying for Certificate of Need
Maine has one of the higher potential application fees. The minimum cost is $5,000, and the maximum is $250,000. The actual cost is $1,000 per $1,000,000 of project cost.

Availability of Certificate of Need Rules and Application Criteria or Standards

Maine posts the Procedures Manual for the CON program on its website. This document contains general rules and procedures. It is Maine's practice to work with the applicant to determine what standards must be met for the proposed project and what information should be included in the application. After the Letter of Intent is submitted, Maine CON staff will send a letter or checklist clarifying the requirements for application and which review cycle the applicant is in. CON staff meets with the potential applicants to review their project within 30 days of the LOI submission. This meeting is held to provide the applicant with technical assistance on the nature of the application, the extent and format of documentary evidence, statistical information, and financial information.

Availability of Criteria for Needs Assessment

Information on the criteria for assessing need is provided through technical assistance with Maine CON staff. No information is available on the CON website.

APPLICATION REVIEW

Maine's CON staff review applications and provide a letter or checklist to clarify the requirements of the application. There is no time frame given for this portion of the application process; however, applicants meet with CON staff within 30 days of submitting a Letter of Intent to begin determining how to complete the application. An application is certified complete after the applicant submits certification in writing that the application should be considered complete and schedules a public information meeting.

All applications except nursing homes are subject to the batch review process. There are two project review cycles each year. One cycle addresses hospital/non hospital large projects and begins in January. The second is for small hospital/non hospital projects and begins in April. Applications must be complete prior to the start of the review cycle. A public information meeting is held on each completed application. This hearing may be followed by a public hearing, if requested.

The Certificate of Need is due 150 days after the start of the review cycle. Applicants and interested parties may appeal a decision.

Although applying for a Certificate of Need in Maine has several barriers, in 2004 and 2005 no applications were denied. Several were withdrawn, but most received approval or were not subject to review.

Hearings and Involvement of Others
Competitors or a group of five taxpayers from the service area may request a hearing in writing within 30 days of the public information meeting.

Maine utilizes other state agencies in its review process. The Director of Maine's Centers for Disease Control and Prevention evaluates applications, and the Bureau of Insurance provides a perspective of the impact a proposed project may have on health insurance premiums.

Appeals and Reconsideration of Decision
As with a hearing, competitors or a group of taxpayers may appeal a decision. The applicant may also appeal. An appeal must be made within 30 days of the department's decision. This request must be all-inclusive and contain any supporting documentation. The department begins hearings within 30 days of receiving the request, if they find that there is good cause. A final decision by the department is given within 60 days of the start of the hearing.

Hospitals
Ranking: 1
Rigor: 88
Combined Scope and Rigor: 143
Based on a State Health Plan passed last year in late 2004, Maine currently has a moratorium on any new hospital beds. Many hospitals submitted applications prior to the plan being approved, and many of those applications were approved. No 2005 applications were denied, primarily because the State Health Plan and its priorities were not adopted prior to the January 2005 cycle applications being received. Existing hospitals, transfer, relocation, and renovation of hospitals are reviewable. However, hospitals are only reviewable above the threshold, and the capital expenditure must be within the limits for the Capital Investment Fund.

Recently, Maine revised the Hospital Cooperation Act to encourage collaboration between hospitals. The revised act lowers the burden of proof of cooperative agreements and provides for a Certificate of Public Advantage if the cooperation provides an advantage to the public.

Hospitals in Maine are in large part dropping JCAHO accreditation in favor of state licensing. With more focus on state licensing, the state licensing agency is going through a process of modification that will focus on the use of data in state survey operations.

Nursing Homes/Long Term Care
Ranking: 1
Rigor: 85
Combined Scope and Rigor: 143
A long term care moratorium exists. In addition to this moratorium, there is no money appropriated in the Capital Investment Fund for nursing homes, again limiting entry. Over a 10-year period, Maine reformed its long term care program to make it more difficult to enter a nursing home. This encouraged more use of residential and home and community based options. Maine serves more individuals at home that in nursing homes.

Ambulatory Surgery Centers (ACS) and Free-standing Imaging Centers
Ranking: 1
Rigor: 85
Combined Scope and Rigor: 146
Maine has 17 ASCs, but unless they exceed the threshold, they are not regulated under the Certificate of Need program. According to Lisa Wilson, who works in Rate Setting for Maine, ambulatory surgery centers are not highly reimbursed, and the few independent centers are being acquired by the hospitals. Maine does not allow ASCs with excess capacity to open that capacity for use by other physicians unless the center was licensed before 1998 and had excess capacity then.

Health Service Markets
Technically, Maine has Hospital Service Areas but regulators do not rely on those now. They were developed when most hospital care was done on an inpatient basis. They are reviewing how this is defined. Applicants indicate their methodology for determining their service area (ZIP codes, quantity), making it more competitive. Any official maps that exist are either outdated (not in use) or are in the possession of the group who defined the market.

Explanation of Third Year Operating Costs and Capital Investment Fund
Beginning in 2004, and annually thereafter, the Capital Investment Fund is established by the Governor's Office on Health Policy and Finance to limit expenditures of projects falling under CON regulation. This annual investment fund is for all projects except nursing home projects that require, for example, new construction or new acquisitions of healthcare technology. The fund is a limit on the third year expected operating expenses of projects approved under CON.

Operating costs of larger projects may be allocated over several years so that they do not deplete the Capital Investment Fund in any one year. The CON program reserves

12.5 percent of the fund for non-hospital projects. The third year operating costs threshold for reviewability is $443,200.

SOURCES OF INFORMATION

1. National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006. American Health Planning Association. 17th edition.

2. Program Contact: Catherine Cobb, Director, Division of Licensure and Regulatory Services
   11 State House Station, Augusta, ME, 04333-0011; Phone: 207-287-2979; Fax: 207-287-5282; Email: catherine.cobb@maine.gov

3. CON Website: http://www.maine.gov/dhhs/dlrs/

MASSACHUSETTS
Ranking: 3
Rigor: 76
Scope: 39
Combined: 115

A telephone interview was conducted with Joan Gorga, Acting Director for the Determination of Need Program (Massachusetts CON Program). Additional information was gathered from the Massachusetts CON website and from the *National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006*. Massachusetts has had an active Certificate of Need (CON) program since 1972. There is currently a moratorium on long term care. In addition, applications are not accepted for open heart surgery, multi-specialty ambulatory surgery centers, new MRI providers, or for any other service without a need.

Massachusetts reviews projects that have substantial capital expenditures or renovation that exceed the expenditure minimum. Certain expenditures such as those solely associated with outpatient care (except freestanding ASCs, innovative services, or new technology) are excluded from the expenditure calculation. Projects are also reviewed if they have a substantial change in service due to addition, expansion, or development of innovative services, new technology, non-acute care services, or freestanding ambulatory surgery centers. Freestanding ambulatory surgery centers are also regulated by CON. Healthcare facilities seeking initial licensure must go through the Determination of Need process as must those that will solicit funds from the general public or that seek to secure financing for a substantial capital expenditure or change in services.

Massachusetts' capital expenditure threshold is the highest of any state: $12,516,300. The equipment capital threshold is $1,335,072, and all new services are reviewable regardless of expenditure.

PRE-APPLICATION PROCEDURES

Letters of Non-Reviewability or Exemption
Massachusetts does not provide a letter of non-reviewability or letter of exemption for projects not subject to review. Applications for projects that do not show need are not accepted by Massachusetts Determination of Need program

Letters of Intent
Massachusetts is the only state reviewed that does not require applicants submit a Letter of Intent.

Costs of Applying for Certificate of Need
At $250, Massachusetts has the lowest minimum application fee for general projects of states reviewed. There is no set maximum application cost. Application filing fees are calculated at .1 percent of the capital cost of the project. This filing fee is refundable if the application is rejected (not denied).

Availability of Certificate of Need Rules and Application Criteria or Standards
Massachusetts does not provide information on their website for most rules or standards for applying for a CON. However, guidelines for MRI and PET Scanners are available on their website. Applicants may call the CON program or State House Bookstore and request the Massachusetts Determination of Need Regulations, which is required to complete the application. Other information to meet the financial feasibility requirements must be requested of CON staff.

Availability of Criteria for Needs Assessment
Massachusetts does not provide information on criteria for assessing project need on their website. Some of the criteria are included within the application; however, detailed criteria require service or project specific guidelines. These guidelines are available from CON staff but are not in electronic format. MRI and PET scanner guidelines are available online.

APPLICATION REVIEW
Massachusetts accepts applications on certain filing dates, based on the service to be provided. Filing dates are either on any business day or on the first business day of a given month. Massachusetts reviews applications for completion within 30 days of submission. If the filing requirements are met, then the application is accepted for review. Staff give applicants an opportunity to provide any information that is missing. However, no time limit for responding to this request for additional information is specified. The Massachusetts CON program considers applicant assistance to be a part of their duties and encourages applicants to contact them. Public hearings are held only if requested by a group of at least ten taxpayers or state agencies that have concerns about the proposed services or the project costs.

Massachusetts reviews applications on a case-by-case basis unless there are applications that are appropriate for a joined, competitive review. Applications proposing similar projects in similar service areas are considered comparable and, therefore, are joined.

It takes the CON department an average of one year to make a decision on an application. Transfer of ownership applications generally take one month.

Hearings and Involvement of Others
The opportunity for public hearings is available if requested by a group of at least ten Massachusetts taxpayers or a state agency concerned with the services proposed or the cost of the project. The Massachusetts CON staff not only consults with other Massachusetts state agencies to check the history of an applicant, but also sends a checklist to the other states in which the applicant has a presence so that they can be told of any problems systematically. Decisions are usually made by Delegated Review and approved by the Commissioner of The Department of Public Health. If there is a disagreement among the CON staff, the applicant, and the parties of record, a decision is reached by the Public Health Council.

Appeals and Reconsideration of Decision
There is no right to appeal at the present time. The only option for a dissatisfied party is through court action since the Appeals Board is not active. The court can decide for the plaintiff or send the case back to the CON department for reconsideration. The same parties who are allowed to request a hearing are allowed to appeal when there is an appeals process. These same parties may seek court action.

Hospitals
Ranking: 2
Rigor: 88
Combined Scope and Rigor: 118
Massachusetts reviews hospital projects that exceed the threshold. Any new service is reviewable regardless of expenditure.

Nursing Homes/Long Term Care
Ranking: 3
Rigor: 85
Combined Scope and Rigor: 124
Massachusetts has a moratorium on long-term care. No applications are accepted.

Ambulatory Surgery Centers and Free-standing Imaging Centers
Ranking: 2
Rigor: 88
Combined Scope and Rigor: 124

Massachusetts reviews single-specialty ambulatory surgery centers when there is a need. According to Joan Gorga, there is currently no need for single-specialty ASCs. There are moratoria on multi-specialty ASCs and new MRI providers. No applications for ASCs are approved if they are proposed in a service area listed as having only one hospital provider, called a "sole community hospital". In addition, Massachusetts has another barrier to entering the market for ASCs. A rule that requires that ASCs have a 15 minute "transfer of patients" agreement with a hospital. Generally hospitals are unwilling to give independent ambulatory surgery centers this agreement, thus making it impossible to open an ASC. Hospitals may develop ambulatory surgery centers without review if the hospital is licensed and already has a CON.

Health Service Markets

Health service markets are based on medical surgical bed need procedures and rely on point of origin studies from hospitals and from cities and towns. Massachusetts employs a hospital dependency factor. Communities are ranked according to those, that when taken cumulatively, account for 90 percent of a hospital's service-specific and age-specific discharges. The second factor, which is the community dependency factor, is calculated by identifying those communities listed among the 90 percent of the hospital's annual discharges that account for 5 percent of the community's service-specific and age-specific annual discharges.

SOURCES OF INFORMATION

1. National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006. American Health Planning Association. 17th edition.

2. Program Contact: Joan Gorga, Acting Director, Determination of Need Program, Mass Department of Public Health
   250 Washington Street, 7th Floor, Boston, MA 02108-4619; Phone: 617-753-7340; Fax: 617-753-7349; Email: Joan.Gorga@state.ma.us

3. CON Website: Massachusetts Determination of Need Webpages
   http://www.mass.gov/?pageID=eohhs2terminal&&L=5&L0=Home&L1=Government&L2=Departments+and+Divisions&L3=Department+of+Public+Health&L4=Programs+and+Services+A+-+J&sid=Eeohhs2&b=terminalcontent&f=dph_quality_g_determination_need&csid=Eeohhs2

WASHINGTON
Ranking: 4
Rigor: 68
Scope: 43
Combined: 111

A telephone interview was conducted with Janis Sigman, Manager for the Certificate of Need Program, Department of Health. Additional information was gathered from the Washington CON website and from the *National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006*. Washington has had an active CON program since 1971. There are currently no official moratoria in place. At the time of the initial interview Washington was not approving any new nursing homes. In October of 2006, when Washington returned edits to the draft report they had recently approved four nursing home projects. Washington reviews hospitals and hospital beds, nursing homes and nursing home beds, psychiatric hospitals, certain ambulatory surgery centers, home health and hospice for Medicare and Medicaid certified facilities, hospice care centers, rehabilitation, swing beds, open heart surgery, organ transplants, kidney dialysis (ESRD), and other services. Kidney dialysis is a prominent issue in Washington at the time of this survey. They are currently updating rules and service areas for this service and have four rounds for reviewing applications. Replacement beds for nursing homes are not reviewable if the facility meets certain criteria

Washington only has a threshold for capital expenditures for nursing homes. Any nursing home project over $1,200,000 is reviewable.

PRE-APPLICATION PROCEDURES

Letters of Non-Reviewability or Exemption
Washington does not require that projects that are not subject to review receive a letter of non-reviewability. However, Washington does require a letter of exemption for projects under CON that are not subject to review. Washington will determine if a CON is needed for a project if requested by a potential applicant.
Letters of Intent
Washington requires that applicants submit a Letter of Intent (LOI) 30 days prior to submitting an application. Letters of Intent in Washington are valid for a period of six months unless the project is subject to concurrent review; then the period is 30 days.
Costs of Applying for Certificate of Need
Washington's fee schedule is project or service specific. Each project has a specific application fee. Specific fees are available online in a fee schedule. The minimum filing fee is $505 for bed banking and replacement and renovation authorization. Nursing

homes have the highest fee at $30,293. Hospitals have the second highest fee at $26,506. Washington also assesses a fee of $1,381 for each amendment to an application. If an amendment results in an additional reviewable project, then the fee associated with that type of project is assessed.

Availability of Certificate of Need Rules and Application Criteria or Standards

Washington has posted CON rules and standards on their website in an easy to access format. Several changes were made to the website after initiation of this project and after the interview with Washington.

Availability of Criteria for Needs Assessment

Washington has posted criteria for assessing need on their website in an easy to access format. There is a webpage with links to each numeric need calculation method.

APPLICATION REVIEW

Washington's CON staff reviews applications for completeness within 15 business days of submission. Applicants have 45 days to submit any additional information requested by CON staff. Responses to the department screening letter are generally not considered an amendment and not subject to additional fees. If, however the applicant added a reviewable service when they responded to the screening letter, then that would be considered an amendment. Depending on the amendment, the fee may be $1,381 or the whatever the fee is for the type of project added. Unlike other states Washington allows applicants the opportunity to be reviewed without submitting the additional information. They also have the option to submit more information if needed. Applications subject to batch review have 30 days to submit the additional information. An application may be held open for 120 days before being returned as incomplete.

Applications are reviewed individually, batched, or may be expedited. Applications for batch (concurrent) review projects are accepted at specified times. Although other projects may be subject to concurrent review according to Washington's statutes, currently, nursing homes, hospices, hospice care centers, pediatric cardiac surgery, and open heart surgery applications go through the batch (concurrent) review process. Review for batch (concurrent) applications will begin 15 days after the end of the screening response period. If an application for a similar project in the same service area comes in before the formal review has begun they can be joined for a comparative review.

Washington offers a public comment period during the first part of the review period. Decisions are made approximately 45 days after the end of this period for regular reviews. The Washington statutes provide that the review period for Certificate of

Need for concurrently reviewed applications be 150 days. Otherwise the review period is 90 days after an application is accepted as complete. The department will specify the timeframe for requesting a public hearing and the requirements related to making public notice.

The number of CON applications for 2005 increased from previous years. Forty-five applications were submitted in 2005 compared to a maximum of 26 in any of the previous four years from 2001 to 2004. Many application decisions are appealed. Every hospital decision (approved and denied) for 2005 was appealed.

Hearings and Involvement of Others

Competitors may request a hearing within the first 35 days of public comment period (after the application is placed under review). The actual timeframe for submitting the request for public hearing will be given by the department. Competitors include health care facilities and health maintenance organizations that provide similar services in a similar health service area.

In addition Washington makes a thorough attempt to conduct a background review on applicants. Washington CON staff will contact all states in which the applying agency operates to learn about quality history, sanctions, lost Medicare certifications, and fines. They will also try to determine if issues that do surface are systemic or contained in a region or facility. Washington also does a Department of Justice investigation and key personnel who are individual license holders have their credentials checked.

Appeals and Reconsideration of Decision

Washington allows any interested or affected person to request reconsideration of the program's decision. Washington requires that the appellant for an adjudicative appeal be a competitor who participated in a public hearing and requested to be informed of the decision. The number of decisions appealed by applicants and competitors has gone up over the past five years. In the past five years there were 156 CON applications decisions. Of these 156 decisions (122 approved, 34 denied), 47 or 30 percent were appealed. In 2004 11 of 26 decisions were appealed and in 2005, 22 of 45, nearly half, were appealed. In 2005 19 of the 22 appeals were by the applicant denied a CON. In 2004, two applications were denied and both were appealed by the applicant.

Washington had a five year audit done earlier this year and in the years 2001 through 2005 adjudicative fees were 24 percent of the department's expenditures with a total cost of $250,000.

Hospitals
Ranking: 4
Rigor: 74
Combined Scope and Rigor: 108
Washington reviews any new hospitals, the sale, lease, or purchase of hospitals, and tertiary health services for existing hospitals. Bed increases are also reviewable. In 2005 there were 4 decisions made for hospitals. Only one was approved, but all four have been appealed.

Nursing Homes/Long Term Care
Ranking: 4
Rigor: 80
Combined Scope and Rigor: 108
Any capital expenditure for nursing homes over $1,200,000 is reviewable. Nursing home replacements and nursing home bed banking are also reviewable.

There are no official moratoria in place. The need methodology would be a determining factor on approval of nursing homes and hospices. At the time of the initial interview Washington was not approving any nursing homes. After the interview we were informed that four of eight nursing home applications had been approved. Two were for new 120 bed nursing homes and two were for small bed additions. There are currently 2,000 beds banked in Washington. Bed banking is used for providers who do not have the need for the beds but do no want to give up licensure or potential for capacity if the need arises in the future.

Ambulatory Surgery Centers and Free-standing Imaging Centers
Ranking: 5
Rigor: 65
Washington reviews ASCs except those that are located within a physician's practice or group practice unless the ASC is open to use by non-practice members. The ASC must also be an integral part of the physician's or group's practice to be exempt. Decisions for ASCs are frequently contested in Washington. In 2005 31 percent of the ASC decisions were appealed.

Health Service Markets
Washington's planning areas are generally by county. ASCs have smaller ones which are generally zip codes, but some older geographical descriptions still exist. They are updating kidney dialysis rules. Maps for their planning areas may exist in the future when counties have more than one single planning area. Have primary and secondary health service areas.

SOURCES OF INFORMATION

1. National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006. American Health Planning Association. 17th edition.

2. Program Contact: Janis Sigman, Manager, Certificate of Need Program, Department of Health
   310 Israel Road SE, MS 47852, Tumwater, WA 98504; Phone: 360-236-2956; Fax: 360-236-2901; Email: janis.sigman@doh.wa.gov

3. CON Website: http://www.doh.wa.gov/hsqa/fsl/certneed/

WEST VIRGINIA
Ranking: 2
Rigor: 65
Scope: 58
Combined: 123

Information for this report is based solely on the materials found on the state's website and the information reported in the *National Directory, State Certificate of Need Programs, Health Planning Agencies for 2006*. Researchers received no information from the department after several requests by phone and email for an interview or for the questionnaire to be completed.

West Virginia has had an active CON program since 1977. There are moratoria on certain long-term care projects. West Virginia reviews any health care provider that adds or expands health care services, that exceeds the capital expenditure threshold, that obtains major medical equipment above the equipment expenditure threshold, or that develops or acquires a health care facility. According to West Virginia's report form the *National Directory*, they review 23 types of new services. Ambulatory surgery centers may also be reviewable depending on type and expenditure level.

West Virginia's capital expenditure and equipment expenditure thresholds are both set at $2,000,000. There is no threshold for reviewability for new or expanded services, as a review is required regardless of expenditure.

PRE-APPLICATION PROCEDURES

Letters of Non-Reviewability or Exemption
West Virginia does not require that proposed projects that are not subject to review receive a letter of non-reviewability or letter of exemption. However, potential applicants may request a determination on whether a proposed project is reviewable at no cost.

Letters of Intent
West Virginia requires that applicants undergoing a regular review submit a Letter of Intent (LOI) 15 days prior to submitting an application. Applicants undergoing the batch review process must submit an LOI 30 days prior to submitting an application.

Costs of Applying for Certificate of Need

West Virginia assesses fees based on the project or service. The minimum fee of $25 is for hospice applications. Ambulatory surgery centers have a minimum fee of $1,500. There is no maximum fee set, and most fees have incremental increases based on number of beds or expenditure. A fee schedule is available on West Virginia's website, which includes how to calculate a proposed project's application fee.

Availability of Certificate of Need Rules and Application Criteria or Standards

West Virginia makes the rules for Certificate of Need available online in an easy to access format. Standards are available for each type of reviewable project. Information on review cycles and reviewable projects is also available.

In addition to a general application, there are specific applications for ambulatory care, hospice, and home health projects.

Availability of Criteria for Needs Assessment

Contained within the statutes for each type of reviewable project are the methods for calculating need. Applications also reference accessing the State Health Plan.

APPLICATION REVIEW

West Virginia's CON staff reviews applications for completion within 15 days of submission. Applicants have 180 days to submit any additional information requested by CON staff. Once additional information is received, staff will determine within 15 days if the application is complete. The cycle does not officially begin until publication that an application has been completed. It appears from information available online that an applicant that does not provide the additional information by the 75th day of the cycle may be reviewed in a different cycle.

Applications are reviewed individually, batched, or through the expedited process. Applications for expedited review projects are accepted at specified times each month. Regular and batch applications are accepted four times per year. Applications are batched if they are for similar services in the same health service area.

West Virginia allows affected parties to request a hearing within 30 days of the published notice that an application is complete. Decisions on regular applications are made within 90 days of the notice. Decisions for expedited applications are made within 65 days of the notice.

Decisions are available on West Virginia's website as weekly newsletters.

Hearings and Involvement of Others
Affected parties may request a hearing within 30 days of the published notice that an application has been completed. Hearings for applications subject to expedited review must be requested within ten days of the notice. The review board may also choose to hold a public hearing at its own initiative.

The West Virginia Health Care Authority, also known as the Board, is responsible for administering the CON program and makes decisions on applications.

Appeals and Reconsideration of Decision
Affected parties may file requests for both a reconsideration of the decision and for the appeal of a decision. A request to reconsider a decision must be received within 30 days of the Board's decision. If accepted, the Board will hold a reconsideration hearing and provide a decision within 45 days of the conclusion of the hearing. If the request for reconsideration is denied, the initial decision is the final decision and the appeal period begins on the date the reconsideration is denied. If the request for reconsideration is granted then the appeal period begins on the date of the decision on that reconsideration.

Affected persons also have the option of requesting an appeal of a decision by the Office of Judges. The request for appeal must be received within 30 days of notice of the Board's initial or final decision.

Hospitals
Ranking: 5
Rigor: 56
Combined Scope and Rigor: 117
Any new hospital, hospital expansion, service addition, bed change, or hospital sale, lease, or transfer is reviewable. The threshold for reviewability for capital and equipment expenditure is set at $2,000,000. Any new service is reviewable regardless of expenditure.

Nursing Homes/Long Term Care
Ranking: 4
Rigor: 65
Combined Scope and Rigor: 123
Moratoria currently exist on intermediate care facilities for mental retardation and skilled nursing home beds. Other nursing home services and activities are reviewable.

Ambulatory Surgery Centers and Free-standing Imaging Centers
Ranking: 3
Rigor: 56
Combined Scope and Rigor: 117
West Virginia reviews any new facility or new service for ambulatory surgery centers. In addition, if a private surgical facility or free-standing ambulatory surgery center acquires equipment over a two year period exceeding the equipment expenditure threshold they are reviewable. Hospital-based independent ASCs (located within a hospital but financially and administratively separate) are reviewable at any expenditure level.

Health Service Markets
For general applications, applicants determine the service area and provide a proposed map. For ambulatory surgery centers, applicants delineate service areas by documenting expected areas around the facility from which they expect to draw patients. Home-health service areas can be no smaller than one county, and multiple counties must be contiguous. The service area for acute care bed addition is the county of origin for the proposal and any adjacent counties significantly impacted.

SOURCES OF INFORMATION

1. National Directory, State Certificate of Need Programs, Health Planning Agencies, 2006. American Health Planning Association. 17th edition.

2. CON Website: http://www.hcawv.org/CertOfNeed/conHome.htm

No interview conducted with program contact.
Program Contact: Dayle Stepp, CON Director, West Virginia Health Care Authority
100 Dee Drive, Charleston, WV 25311; Phone: 304-558-7000; Fax: 304-559-7001; Email: dstepp@hcawv.org

APPENDIX B: MARKETS

Market Definitions			
State	Market number	Market Population	Number of Counties
CO	8001	40,319	5
CO	8003	278,231	1
CO	8004	23,549	2
CO	8006	2,541,909	17
CO	8007	572,264	2
CO	8009	93,631	2
CO	8011	58,114	3
CO	8013	266,610	1
CO	8015	20,928	1
CO	8016	221,987	8
CO	8018	26,160	2
CO	8020	32,735	2
CO	8021	32,260	4
CO	8022	4,511	1
CO	8023	15,002	1
CO	8024	14,164	1
CO	8025	223,417	5
CO	8026	35,822	3
CO	8099	6,906	2
FL	12001	520,423	11
FL	12002	233,954	6
FL	12003	505,711	1
FL	12004	1,731,347	1
FL	12005	187,271	2
FL	12006	126,458	1
FL	12008	286,634	1
FL	12010	2,420,107	2
FL	12011	1,202,900	5
FL	12012	428,978	2
FL	12013	143,449	1
FL	12014	118,710	2
FL	12015	1,073,407	1
FL	12016	120,463	1
FL	12017	46,508	1
FL	12019	540,439	3
FL	12020	373,375	7
FL	12021	286,804	1
FL	12022	280,288	1

FL	12023	135,122	1
FL	12025	224,477	2
FL	12026	37,481	1
FL	12027	1,861,861	5
FL	12029	1,216,282	1
FL	12030	388,906	1
FL	12031	926,146	1
FL	12032	510,458	1
FL	12034	346,793	1
FL	12036	213,447	1
FL	12038	530,869	2
GA	13001	10,135	1
GA	13003	84,730	1
GA	13004	508,804	16
GA	13007	125,985	2
GA	13008	136,579	3
GA	13009	685,905	17
GA	13010	369,979	11
GA	13012	46,885	2
GA	13013	43,203	1
GA	13014	33,546	2
GA	13015	28,212	1
GA	13016	19,374	1
GA	13017	220,433	11
GA	13019	21,234	1
GA	13020	207,367	4
GA	13021	4,245,131	21
GA	13025	271,787	6
GA	13027	69,074	4
GA	13028	161,583	7
GA	13029	254,434	8
GA	13031	416,505	12
GA	13033	9,270	1
GA	13034	113,795	4
GA	13035	25,264	1
GA	13036	37,152	2
GA	13037	67,852	2
GA	13038	76,388	4
GA	13039	35,160	2
GA	13040	83,004	2
GA	13041	19,119	1
GA	13042	27,978	1
GA	13043	62,537	3
GA	13045	27,509	1
GA	13046	127,279	2

GA	13099	11,523	1
IA	19001	4,371	1
IA	19002	14,551	1
IA	19005	232,108	7
IA	19007	20,205	1
IA	19008	21,086	1
IA	19009	14,314	1
IA	19010	144,736	9
IA	19011	17,073	1
IA	19012	49,804	1
IA	19013	41,247	1
IA	19014	16,399	1
IA	19015	128,724	3
IA	19016	10,805	1
IA	19018	16,316	1
IA	19025	36,714	1
IA	19026	541,398	14
IA	19027	11,746	1
IA	19029	56,979	2
IA	19032	11,289	1
IA	19034	6,819	1
IA	19035	16,346	1
IA	19036	9,705	1
IA	19038	689,248	19
IA	19039	126,915	4
IA	19040	19,033	1
IA	19041	159,414	1
IA	19042	12,717	1
IA	19043	32,104	1
IA	19044	119,315	3
IA	19046	44,442	2
IA	19047	79,456	5
IA	19048	31,091	2
IA	19049	157,738	5
IA	19099	49,854	3
ME	23001	106,115	1
ME	23003	636,690	6
ME	23004	238,848	4
ME	23006	324,075	5
MA	25001	1,598,415	5
MA	25002	4,835,007	9
OR	41001	16,375	1
OR	41002	185,456	2
OR	41003	35,820	1
OR	41004	84,832	2

OR	41005	185,902	6
OR	41006	102,332	1
OR	41009	190,077	1
OR	41010	79,030	1
OR	41011	64,769	1
OR	41012	7,440	1
OR	41013	330,527	1
OR	41014	44,667	1
OR	41016	31,239	1
OR	41017	362,990	2
OR	41018	1,608,888	8
OR	41019	24,590	1
OR	41020	83,635	2
OR	41021	24,561	1
OR	41022	7,082	1
OR	41025	89,384	1
UT	49001	140,168	2
UT	49002	2,050,906	20
UT	49004	160,393	7
WA	53003	209,786	2
WA	53004	101,726	2
WA	53006	409,416	3
WA	53007	98,894	2
WA	53008	78,691	1
WA	53011	2,812,531	6
WA	53016	39,134	1
WA	53017	740,957	1
WA	53018	123,995	2
WA	53020	581,975	9
WA	53021	434,992	5
WA	53022	60,844	2
WA	53023	176,571	1
WA	53025	261,933	2
WV	54001	168,303	4
WV	54003	32,320	3
WV	54004	62,076	3
WV	54006	815,126	17
WV	54007	458,897	19
WV	54008	137,406	4
WV	54009	136,226	5
WI	55001	31,765	2
WI	55002	61,980	2
WI	55003	413,640	8
WI	55005	691,870	9
WI	55007	44,093	1

WI	55009	97,833	1
WI	55010	49,368	1
WI	55014	156,209	1
WI	55015	471,235	12
WI	55017	82,065	1
WI	55020	1,967,945	8
WI	55021	75,893	4
WI	55022	263,358	3
WI	55024	37,872	1
WI	55025	59,512	2
WI	55026	67,386	1
WI	55030	154,794	1
WI	55032	16,713	1
WI	55034	113,376	1
WI	55035	71,155	1
WI	55038	201,327	3
WI	55039	342,910	8

Change in Hospital Competitiveness by Market					
State	Market	HHI Inpatient Days 2002	HHI Beds 2002	HHI Admissions	Change since 1980
CO	8001	4,605	4,930	5,222	-2,323
CO	8003	3,357	3,123	3,194	-460
CO	8004	10,000	10,000	10,000	0
CO	8006	1,398	1,346	647	-831
CO	8007	3,497	3,315	3,944	-1,552
CO	8009	3,800	3,416	4,206	903
CO	8011	10,000	10,000	10,000	-4,329
CO	8013	4,579	4,322	5,506	79
CO	8015	10,000	10,000	10,000	0
CO	8016	2,648	2,553	3,851	-871
CO	8018	10,000	10,000	10,000	0
CO	8020	8,030	6,450	8,073	-3,030
CO	8021	7,211	6,911	9,233	-3,052
CO	8022	7,436	5,304	5,036	-180
CO	8023	10,000	10,000	10,000	0
CO	8024	10,000	10,000	10,000	0
CO	8025	3,488	2,916	3,388	-126
CO	8026	8,099	6,476	5,975	-871
CO	8099	5,045	5,003	5,322	-866
FL	12001	2,979	2,861	1,511	-576
FL	12002	3,224	3,312	3,459	-1,119
FL	12003	2,329	2,139	2,835	296
FL	12004	1,582	1,698	721	-939
FL	12005	2,994	3,100	2,858	1,211
FL	12006	5,179	5,103	5,141	266
FL	12008	7,721	7,558	8,881	2,442
FL	12010	1,205	1,179	692	-769
FL	12011	1,469	1,481	1,204	-398
FL	12012	2,992	2,911	2,500	-1,013
FL	12013	4,066	4,063	3,816	5,937
FL	12014	5,458	5,185	5,371	-2,413
FL	12015	1,679	1,784	1,534	-603
FL	12016	4,403	4,544	5,207	1,083
FL	12017	8,310	6,510	7,939	-1,102
FL	12019	4,368	3,805	3,671	-420
FL	12020	4,383	3,615	4,674	618
FL	12021	5,096	5,448	5,167	-147
FL	12022	5,313	5,040	5,418	284
FL	12023	10,000	10,000	10,000	0

FL	12025	4,995	4,277	2,904	-1,475
FL	12026	10,000	10,000	10,000	0
FL	12027	3,178	3,238	2,176	-1,947
FL	12029	2,068	2,283	849	-1,328
FL	12030	5,471	4,493	2,735	-1,476
FL	12031	1,404	1,412	955	-612
FL	12032	4,040	4,149	3,851	-1,604
FL	12034	3,335	3,292	3,703	652
FL	12036	5,305	5,370	3,300	3,416
FL	12038	5,025	5,011	2,245	-3,156
GA	13001	10,000	10,000	10,000	0
GA	13003	10,000	10,000	10,000	0
GA	13004	3,591	2,492	2,631	1,364
GA	13007	10,000	10,000	6,393	-6,340
GA	13008	9,689	9,189	9,637	-1,085
GA	13009	959	883	1,383	105
GA	13010	2,382	2,325	3,125	-738
GA	13012	10,000	10,000	10,000	0
GA	13013	7,098	5,056	7,110	4,944
GA	13014	10,000	10,000	10,000	-4,664
GA	13015	10,000	10,000	10,000	0
GA	13016	10,000	10,000	10,000	0
GA	13017	2,685	2,435	5,646	-89
GA	13019	10,000	10,000	10,000	0
GA	13020	3,112	2,985	3,023	-621
GA	13021	609	571	490	-259
GA	13025	5,258	4,846	6,567	-1,789
GA	13027	5,588	4,941	5,691	100
GA	13028	2,237	2,137	4,513	393
GA	13029	2,607	2,636	2,085	-282
GA	13031	1,334	1,204	1,573	527
GA	13033	10,000	10,000	10,000	0
GA	13034	10,000	10,000	8,974	-2,320
GA	13035	10,000	10,000	10,000	0
GA	13036	10,000	10,000	10,000	0
GA	13037	5,001	5,265	5,817	39
GA	13038	4,305	4,346	5,321	-704
GA	13039	10,000	10,000	10,000	0
GA	13040	7,750	7,092	7,937	-1,583
GA	13041	10,000	10,000	10,000	0
GA	13042	10,000	10,000	10,000	0
GA	13043	9,233	8,539	9,153	-2,664
GA	13045	10,000	10,000	10,000	0

GA	13046	8,527	8,080	8,313	-797
GA	13099	10,000	10,000	10,000	0
IA	19001	10,000	10,000	10,000	0
IA	19002	10,000	10,000	10,000	-4,967
IA	19005	2,483	2,651	3,094	-1,326
IA	19007	10,000	10,000	10,000	-2,820
IA	19008	5,620	5,516	7,918	216
IA	19009	10,000	10,000	10,000	0
IA	19010	8,146	8,098	5,530	-6,002
IA	19011	10,000	10,000	10,000	0
IA	19012	6,388	6,746	8,857	-2,958
IA	19013	10,000	10,000	10,000	0
IA	19014	10,000	10,000	10,000	0
IA	19015	4,889	5,075	4,683	-1,767
IA	19016	10,000	10,000	10,000	0
IA	19018	10,000	10,000	10,000	0
IA	19025	5,143	5,918	5,081	-918
IA	19026	1,675	1,511	1,913	-133
IA	19027	10,000	10,000	10,000	0
IA	19029	10,000	10,000	10,000	0
IA	19032	10,000	10,000	10,000	0
IA	19034	10,000	10,000	10,000	0
IA	19035	4,518	3,954	3,895	1,312
IA	19036	10,000	10,000	10,000	0
IA	19038	2,348	2,159	2,012	-1,207
IA	19039	5,123	3,780	4,413	-38
IA	19040	10,000	10,000	10,000	0
IA	19041	9,138	6,846	8,967	-3,277
IA	19042	10,000	10,000	10,000	0
IA	19043	5,214	4,919	3,389	-1,564
IA	19044	3,167	2,753	6,267	316
IA	19046	5,471	5,093	8,289	-1,632
IA	19047	7,762	7,545	5,005	-4,196
IA	19048	6,055	6,250	6,296	-467
IA	19049	2,859	2,584	3,220	-234
IA	19099	5,751	4,058	3,482	-2,046
ME	23001	5,000	5,007	5,003	-997
ME	23003	1,720	1,445	2,046	-452
ME	23004	2,053	2,081	2,648	-83
ME	23006	3,353	2,988	1,668	-1,954
MA	25001	857	824	975	-459
MA	25002	601	579	284	-436
OR	41001	10,000	10,000	10,000	0

OR	41002	10,000	10,000	3,989	-6,818
OR	41003	5,141	5,071	5,512	419
OR	41004	4,941	3,998	6,456	1,063
OR	41005	4,433	3,152	5,001	-873
OR	41006	3,845	3,853	5,156	59
OR	41009	4,931	4,927	4,743	-1,123
OR	41010	10,000	10,000	10,000	-4,620
OR	41011	10,000	10,000	10,000	0
OR	41012	10,000	10,000	10,000	0
OR	41013	5,851	5,930	5,543	-1,998
OR	41014	10,000	10,000	5,036	-6,651
OR	41016	10,000	10,000	10,000	-4,996
OR	41017	5,063	4,206	5,858	147
OR	41018	2,040	1,815	977	-1,144
OR	41019	10,000	10,000	10,000	-4,990
OR	41020	3,095	2,541	4,303	2,484
OR	41021	10,000	10,000	10,000	0
OR	41022	10,000	10,000	10,000	0
OR	41025	6,153	5,429	5,865	16
UT	49001	8,155	5,241	6,122	-230
UT	49002	2,067	2,152	636	-1,563
UT	49004	5,359	4,599	5,657	-2,380
WA	53003	2,796	2,939	3,081	-142
WA	53004	6,980	5,871	7,990	-1,135
WA	53006	9,273	8,076	8,716	-4,092
WA	53007	10,000	10,000	10,000	-4,873
WA	53008	3,297	2,768	5,301	-511
WA	53011	584	547	577	-153
WA	53016	7,334	4,670	3,568	-929
WA	53017	3,285	2,707	1,949	-1,168
WA	53018	7,032	6,970	6,645	-3,035
WA	53020	2,282	2,358	2,031	-1,305
WA	53021	4,030	3,305	3,019	-1,719
WA	53022	2,410	2,290	3,519	454
WA	53023	10,000	10,000	10,000	-4,995
WA	53025	3,975	3,904	3,310	-1,482
WV	54001	4,965	4,705	3,398	-939
WV	54003	10,000	10,000	10,000	0
WV	54004	5,037	5,556	7,505	-1,366
WV	54006	778	729	933	-207
WV	54007	2,125	1,719	1,446	-897
WV	54008	3,119	2,807	2,974	-65
WV	54009	3,313	3,194	3,937	275

WI	55001	10,000	10,000	10,000	-4,977
WI	55002	2,702	2,243	2,677	26
WI	55003	2,691	2,251	1,836	-630
WI	55005	1,294	1,223	1,647	-252
WI	55007	10,000	10,000	10,000	0
WI	55009	5,254	4,171	5,037	-779
WI	55010	5,144	5,156	3,588	-2,931
WI	55014	6,579	6,550	5,969	-1,483
WI	55015	1,702	1,874	1,371	-948
WI	55017	5,779	5,737	5,468	-1,363
WI	55020	1,381	1,378	603	-997
WI	55021	10,000	10,000	4,337	-7,185
WI	55022	4,189	3,941	3,501	-1,907
WI	55024	10,000	10,000	10,000	0
WI	55025	3,458	2,966	3,083	-680
WI	55026	10,000	10,000	10,000	0
WI	55030	3,825	3,707	4,799	-393
WI	55032	10,000	10,000	10,000	0
WI	55034	6,963	6,806	4,516	-3,140
WI	55035	6,628	4,760	3,795	-1,822
WI	55038	3,071	2,557	3,543	154
WI	55039	1,773	1,526	2,729	-69

Changes in Bed Supply by Market					
State	Market	Beds per 1,000 2002	Change between 1985 and 2002	Hospitals 2002	Change since 1980
CO	8001	3.5	-2.7	3	-1
CO	8003	1.7	-0.3	4	-1
CO	8004	1.1	-1.2	1	0
CO	8006	2.4	-2.0	32	-5
CO	8007	1.7	-2.5	3	-3
CO	8009	2.0	-1.8	3	0
CO	8011	1.6	-2.4	1	-1
CO	8013	1.7	-0.6	3	-1
CO	8015	1.7	-3.3	1	0
CO	8016	4.2	-1.0	8	-1
CO	8018	2.3	-4.2	1	0
CO	8020	2.0	-1.1	2	-1
CO	8021	6.8	-15.4	2	-2
CO	8022	17.0	4.8	2	0
CO	8023	2.7	-2.0	1	0
CO	8024	2.8	0.0	1	0
CO	8025	5.8	-3.5	6	-1
CO	8026	3.6	-0.3	2	0
CO	8099	18.4	1.7	2	-1
FL	12001	5.1	-2.3	13	1
FL	12002	3.2	-0.9	7	0
FL	12003	2.9	-0.6	7	2
FL	12004	3.3	-3.0	23	-2
FL	12005	4.6	-6.7	4	-1
FL	12006	2.4	-0.5	2	0
FL	12008	2.0	-2.2	2	1
FL	12010	3.8	-1.9	32	-10
FL	12011	3.0	-2.7	14	-5
FL	12012	4.1	-1.9	7	-1
FL	12013	3.0	-0.6	4	3
FL	12014	2.7	-6.0	2	-2
FL	12015	3.4	-2.2	13	0
FL	12016	4.6	-0.2	3	1
FL	12017	2.4	-1.0	2	0
FL	12019	3.5	-0.9	6	1
FL	12020	5.2	-4.9	7	-1
FL	12021	2.8	-2.4	2	0
FL	12022	2.2	-1.5	2	0
FL	12023	2.3	-1.4	1	0
FL	12025	2.4	-1.6	4	0

FL	12026	2.7	-0.8	1	0
FL	12027	3.0	-1.3	12	-5
FL	12029	3.4	-0.8	18	4
FL	12030	2.9	-1.0	5	1
FL	12031	4.8	-2.3	16	-5
FL	12032	2.7	-1.6	4	-4
FL	12034	3.9	-1.0	5	1
FL	12036	3.6	-0.3	4	2
FL	12038	2.4	-2.3	7	-2
GA	13001	13.4	8.1	1	0
GA	13003	1.0	-0.4	1	0
GA	13004	5.2	-4.0	15	-1
GA	13007	2.1	-2.0	3	-1
GA	13008	2.3	-0.4	2	0
GA	13009	3.9	-1.5	18	0
GA	13010	4.3	-0.4	9	-1
GA	13012	1.9	-2.5	1	0
GA	13013	3.1	-1.2	2	1
GA	13014	1.9	-1.6	1	-1
GA	13015	7.8	0.8	1	0
GA	13016	4.6	-0.5	1	0
GA	13017	5.6	-1.2	8	-2
GA	13019	1.7	-1.6	1	0
GA	13020	4.3	-2.2	5	-2
GA	13021	2.4	-2.6	46	-14
GA	13025	2.4	-2.3	4	-2
GA	13027	8.2	-3.3	2	0
GA	13028	5.8	0.1	8	1
GA	13029	5.4	-1.5	6	1
GA	13031	7.1	-3.1	13	2
GA	13033	15.0	8.0	1	0
GA	13034	1.7	-0.6	2	0
GA	13035	6.9	2.5	1	0
GA	13036	6.5	1.4	1	0
GA	13037	9.2	-5.8	3	0
GA	13038	4.2	-0.8	3	-1
GA	13039	3.5	0.5	1	0
GA	13040	6.4	-0.4	3	0
GA	13041	10.5	-2.9	1	0
GA	13042	4.1	-0.4	1	0
GA	13043	3.0	-3.4	2	-1
GA	13045	4.7	-0.9	1	0
GA	13046	2.5	-0.6	2	0
GA	13099	3.8	-1.2	1	0
IA	19001	5.0	-1.3	1	0

IA	19002	1.7	-2.5	1	-1
IA	19005	4.5	-1.3	11	-1
IA	19007	1.5	-1.9	1	-1
IA	19008	10.5	2.0	2	0
IA	19009	4.3	-2.1	1	0
IA	19010	3.3	-1.2	8	-2
IA	19011	5.8	0.8	1	0
IA	19012	8.9	2.2	2	-1
IA	19013	7.5	-0.9	1	0
IA	19014	3.0	-0.2	1	0
IA	19015	4.6	-0.8	5	-1
IA	19016	3.4	-1.3	1	0
IA	19018	2.5	-1.3	1	0
IA	19025	4.7	-0.3	2	0
IA	19026	4.3	-2.9	16	-1
IA	19027	1.4	-0.9	1	0
IA	19029	1.8	-1.1	1	0
IA	19032	3.5	-1.7	1	0
IA	19034	4.7	0.7	1	0
IA	19035	10.7	-4.3	3	0
IA	19036	5.5	2.8	1	0
IA	19038	3.6	-3.1	22	-1
IA	19039	6.1	-5.4	5	0
IA	19040	2.5	-0.3	1	0
IA	19041	3.3	-0.8	2	-1
IA	19042	3.1	-2.1	1	0
IA	19043	10.7	2.4	4	0
IA	19044	6.2	-4.1	5	-1
IA	19046	3.0	-3.1	2	-1
IA	19047	4.1	0.5	5	0
IA	19048	3.2	-0.5	2	0
IA	19049	4.4	-4.7	7	-1
IA	19099	3.7	-1.6	4	-2
ME	23001	3.2	-1.6	2	-1
ME	23003	2.8	-1.8	15	-3
ME	23004	3.7	-4.0	7	-1
ME	23006	4.0	-1.8	17	-4
MA	25001	3.2	-3.5	31	-16
MA	25002	3.7	-3.6	79	-55
OR	41001	4.6	1.5	1	0
OR	41002	1.5	-0.7	3	-1
OR	41003	2.3	-0.7	2	0
OR	41004	2.6	-0.4	4	0
OR	41005	2.5	-2.0	6	0
OR	41006	3.4	-4.5	2	-2

OR	41009	2.3	-1.7	3	-1
OR	41010	1.3	-0.6	1	-1
OR	41011	2.1	-1.3	1	0
OR	41012	9.1	0.3	1	0
OR	41013	1.9	-0.6	5	0
OR	41014	1.6	-1.8	2	-1
OR	41016	2.4	-3.3	1	-1
OR	41017	2.9	-1.6	5	0
OR	41018	2.1	-2.5	17	-9
OR	41019	1.5	-4.0	1	-1
OR	41020	2.4	-2.8	4	-2
OR	41021	2.6	-0.9	1	0
OR	41022	8.1	-2.0	1	0
OR	41025	1.1	-0.9	2	0
UT	49001	1.9	-0.3	4	1
UT	49002	2.3	-1.1	38	5
UT	49004	2.3	-1.3	6	0
WA	53003	2.3	-0.4	5	1
WA	53004	2.1	-0.5	3	-1
WA	53006	0.9	-1.1	3	-1
WA	53007	2.1	-1.1	1	-1
WA	53008	2.8	-0.2	4	-1
WA	53011	2.0	-1.2	30	-6
WA	53016	5.0	0.0	3	0
WA	53017	2.7	-3.6	6	-4
WA	53018	1.9	-1.5	2	-1
WA	53020	3.8	-1.7	20	-2
WA	53021	2.0	-1.2	9	-1
WA	53022	5.3	-3.2	4	0
WA	53023	1.2	-0.8	1	-1
WA	53025	2.1	-0.9	5	-2
WV	54001	5.2	-2.8	4	0
WV	54003	1.7	-1.0	1	0
WV	54004	3.0	-0.3	2	0
WV	54006	5.3	-1.2	29	-8
WV	54007	5.0	-1.1	18	-5
WV	54008	7.4	-0.8	4	-4
WV	54009	4.3	-0.9	5	1
WI	55001	3.1	-5.9	1	-1
WI	55002	6.8	-1.4	5	0
WI	55003	2.3	-2.3	10	-1
WI	55005	3.4	-2.9	15	-2
WI	55007	0.7	-1.1	1	0
WI	55009	2.0	-3.6	4	0
WI	55010	5.5	-0.9	3	-3

WI	55014	1.3	-2.3	2	0
WI	55015	4.4	-4.9	19	-4
WI	55017	2.7	-2.0	2	-1
WI	55020	3.2	-2.9	31	-13
WI	55021	1.6	-5.2	3	-1
WI	55022	1.7	-2.2	5	-3
WI	55024	0.8	-3.4	1	0
WI	55025	3.6	-2.2	4	-1
WI	55026	1.8	-0.4	1	0
WI	55030	2.6	-4.7	3	-1
WI	55032	7.1	-1.2	1	0
WI	55034	3.5	-0.7	3	0
WI	55035	4.0	-3.4	4	-1
WI	55038	4.1	-2.1	5	-1
WI	55039	4.6	-2.3	11	-1

APPENDIX C: COST

Cost Regression Using All Inpatient Stays

Log of Total Cost Using Index of Scope and Rigor

```
      Source |       SS       df       MS              Number of obs =  198535
-------------+------------------------------           F( 26,198508) =10014.67
       Model |  142049.931    26  5463.45888           Prob > F      =  0.0000
    Residual |  108295.133198508  .545545436           R-squared     =  0.5674
-------------+------------------------------           Adj R-squared =  0.5674
       Total |  250345.064198534  1.26096822           Root MSE      =  .73861

------------------------------------------------------------------------------
     lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0005843   .0001825     3.20   0.001     .0002266    .0009421
      female |   .0579191   .0036401    15.91   0.000     .0507846    .0650536
        died |   .2294686   .0216165    10.62   0.000     .1871008    .2718364
      spouse |   .0359307   .0038957     9.22   0.000     .0282952    .0435662
       child |  -.5283035   .0077077   -68.54   0.000    -.5434105   -.5131965
    transfer |   .0713207   .0045722    15.60   0.000     .0623594    .0802821
  ruralurban |   .0228055   .0021556    10.58   0.000     .0185805    .0270304
   medianage |  -.0089516   .0009019    -9.92   0.000    -.0107194   -.0071838
medianincome |   4.60e-06   4.54e-07    10.13   0.000     3.71e-06    5.49e-06
    surgical |   1.032195   .0088968   116.02   0.000     1.014758    1.049633
     medical |   .2823541   .0086442    32.66   0.000     .2654118    .2992965
   maternity |   .2412425   .0089788    26.87   0.000     .2236443    .2588408
        days |   .0456812   .0002922   156.32   0.000     .0451084    .0462539
    diacount |   .0631599   .0006569    96.15   0.000     .0618724    .0644474
   proccount |   .0822901   .0007322   112.39   0.000     .0808551    .0837252
scopeandri~r |   .0046905    .000113    41.52   0.000     .0044691     .004912
hhibedssys~m |   4.09e-06   8.84e-07     4.62   0.000     2.35e-06    5.82e-06
       asc02 |   2.395907   .2181625    10.98   0.000     1.968313      2.8235
_Istateid_12 |  -.2338975   .0128001   -18.27   0.000    -.2589854   -.2088097
_Istateid_13 |  -.2183964   .0134181   -16.28   0.000    -.2446955   -.1920972
_Istateid_19 |    -.2124   .0143585   -14.79   0.000    -.2405423   -.1842578
_Istateid_41 |   .2850271   .0369738     7.71   0.000     .2125594    .3574948
_Istateid_49 |   .3295773   .0153489    21.47   0.000     .2994938    .3596607
_Istateid_53 |  -.3034682   .0135153   -22.45   0.000    -.3299579   -.2769786
_Istateid_54 |  -.2110285   .0175525   -12.02   0.000    -.2454309   -.1766261
_Istateid_55 |   .5833153   .0085242    68.43   0.000     .566608    .6000225
       _cons |   6.987729   .0441365   158.32   0.000     6.901223    7.074235
```

Log of Total Cost using CON categories

```
Source |       SS       df       MS              Number of obs =  151668
-------------+------------------------------           F( 28,151639) = 7102.80
       Model |  114852.706    28  4101.88235           Prob > F      =  0.0000
    Residual |  87571.8328151639  .577502047           R-squared     =  0.5674
-------------+------------------------------           Adj R-squared =  0.5673
       Total |  202424.539151667  1.33466435           Root MSE      =  .75994

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0007209   .0002139     3.37   0.001     .0003017    .0011402
      female |   .0514759   .0042984    11.98   0.000      .043051    .0599007
    patshare |  -.2352637   .0043588   -53.97   0.000    -.2438069   -.2267206
        died |   .2392872   .0245823     9.73   0.000     .1911063    .2874681
      spouse |    .041399   .0046006     9.00   0.000      .032382    .0504159
       child |  -.5248467   .0089603   -58.57   0.000    -.5424086   -.5072848
    transfer |   .0714363   .0053435    13.37   0.000     .0609633    .0819094
  ruralurban |    .024423   .0026038     9.38   0.000     .0193197    .0295263
   medianage |  -.0102138   .0010205   -10.01   0.000     -.012214   -.0082136
medianincome |   4.78e-06   5.50e-07     8.69   0.000     3.70e-06    5.86e-06
    surgical |   .9972355   .0105969    94.11   0.000     .9764658    1.018005
     medical |   .2657441   .0102723    25.87   0.000     .2456107    .2858775
   maternity |   .1985973   .0106869    18.58   0.000     .1776512    .2195434
        days |   .0481012    .000342   140.65   0.000     .0474309    .0487715
    diacount |   .0591935   .0007595    77.93   0.000     .0577048    .0606821
   proccount |   .0847908   .0008805    96.29   0.000     .0830649    .0865166
        con1 |   .8158793   .0689637    11.83   0.000      .680712    .9510467
        con2 |   .6974048   .0191751    36.37   0.000     .6598219    .7349876
hhibedssys~m |   9.77e-06   1.08e-06     9.03   0.000     7.65e-06    .0000119
        asc02 |   2.975206   .2635396    11.29   0.000     2.458674    3.491739
_Istateid_12 |  -.5508473   .0690145    -7.98   0.000    -.6861143   -.4155803
_Istateid_13 |  -.3190466   .0183809   -17.36   0.000    -.3550728   -.2830203
_Istateid_19 |  -.3316048   .0190935   -17.37   0.000    -.3690277    -.294182
_Istateid_41 |  -.0833208   .0787051    -1.06   0.290    -.2375812    .0709396
_Istateid_49 |   .3613906   .0172607    20.94   0.000      .32756    .3952212
_Istateid_53 |   -.582163   .0691893    -8.41   0.000    -.7177727   -.4465534
_Istateid_54 |  -.3038442   .0221384   -13.72   0.000     -.347235   -.2604534
_Istateid_55 |   .6570227   .0098651    66.60   0.000     .6376874    .676358
       _cons |   7.051969   .0513923   137.22   0.000     6.951241    7.152697
```

Log of Total Cost Using Index of Scope and Rigor with Interaction Terms

```
Source |       SS       df       MS              Number of obs =  151668
-------------+------------------------------          F( 29,151638) = 6899.74
       Model |  115155.318    29  3970.87304          Prob > F      =  0.0000
    Residual |  87269.2205151638  .575510231          R-squared     =  0.5689
-------------+------------------------------          Adj R-squared =  0.5688
       Total |  202424.539151667  1.33466435          Root MSE      =  .75862

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0007255   .0002135     3.40   0.001      .000307     .001144
      female |   .0518264    .004291    12.08   0.000     .0434161    .0602368
    patshare |  -.2362697   .0043521   -54.29   0.000    -.2447996   -.2277397
        died |   .2369925   .0245399     9.66   0.000     .1888948    .2850902
      spouse |   .0422566   .0045928     9.20   0.000     .0332549    .0512583
       child |  -.5219648   .0089457   -58.35   0.000    -.5394983   -.5044313
    transfer |   .0687952   .0053352    12.89   0.000     .0583384    .0792521
  ruralurban |   .0832717   .0041004    20.31   0.000      .075235    .0913084
   medianage |  -.0137135   .0010299   -13.32   0.000    -.0157321   -.0116949
medianincome |   2.19e-06   5.68e-07     3.86   0.000     1.08e-06    3.30e-06
    surgical |    .997146   .0105789    94.26   0.000     .9764116     1.01788
     medical |   .2657959   .0102545    25.92   0.000     .2456972    .2858945
   maternity |   .1972857   .0106685    18.49   0.000     .1763757    .2181958
        days |    .048008   .0003414   140.62   0.000     .0473388    .0486772
    diacount |   .0601199   .0007592    79.18   0.000     .0586318     .061608
   proccount |   .0847301    .000879    96.39   0.000     .0830072    .086453
scopeandri~r |   .0070925   .0001622    43.73   0.000     .0067747    .0074104
 rigorxrural |  -.0006631   .0000344   -19.27   0.000    -.0007306   -.0005957
   rigorxhhi |  -6.54e-08   2.03e-08    -3.22   0.001    -1.05e-07   -2.56e-08
hhibedssys~m |   .0000172   2.27e-06     7.59   0.000     .0000128    .0000216
       asc02 |   2.773723   .2634367    10.53   0.000     2.257392    3.290053
_Istateid_12 |  -.3112044   .0149068   -20.88   0.000    -.3404215   -.2819874
_Istateid_13 |  -.2702883   .0156888   -17.23   0.000    -.3010381   -.2395385
_Istateid_19 |  -.2135014   .0162462   -13.14   0.000    -.2453437   -.1816592
_Istateid_41 |    .236405   .0402559     5.87   0.000     .1575043    .3153057
_Istateid_49 |   .2540266   .0178909    14.20   0.000     .2189607    .2890924
_Istateid_53 |  -.3406051   .0154508   -22.04   0.000    -.3708884   -.3103218
_Istateid_54 |  -.2304722   .0201496   -11.44   0.000     -.269965   -.1909795
_Istateid_55 |   .6777184    .009886    68.55   0.000     .6583421    .6970948
       _cons |   7.118941   .0516035   137.95   0.000       7.0178    7.220083
```

Log of Total Cost Using CON Categories with Interaction Terms

```
Source |       SS       df       MS              Number of obs =  198535
-------------+------------------------------          F( 29,198505) = 9031.68
       Model |  142412.419    29  4910.77308          Prob > F      =  0.0000
    Residual |  107932.645198505  .543727589          R-squared     =  0.5689
-------------+------------------------------          Adj R-squared =  0.5688
       Total |  250345.064198534  1.26096822          Root MSE      =  .73738

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0005953   .0001823     3.27   0.001      .000238    .0009526
      female |   .0584459   .0036341    16.08   0.000     .0513231    .0655687
        died |   .2285978    .021581    10.59   0.000     .1862996     .270896
      spouse |   .0366874   .0038894     9.43   0.000     .0290642    .0443105
       child |  -.5259289   .0076959   -68.34   0.000    -.5410127   -.5108451
    transfer |   .0696807   .0045652    15.26   0.000     .0607329    .0786284
  ruralurban |    .092414   .0034828    26.53   0.000     .0855877    .0992403
   medianage |  -.0119839   .0009099   -13.17   0.000    -.0137672   -.0102006
medianincome |  3.44e-06   4.82e-07     7.15   0.000     2.50e-06    4.39e-06
    surgical |   1.033211   .0088823   116.32   0.000     1.015802     1.05062
     medical |   .2837302   .0086299    32.88   0.000     .2668157    .3006447
   maternity |   .2411966   .0089639    26.91   0.000     .2236276    .2587655
        days |   .0456311   .0002918   156.40   0.000     .0450593     .046203
    diacount |   .0636004    .000656    96.95   0.000     .0623146    .0648862
   proccount |   .0822739   .0007309   112.56   0.000     .0808412    .0837065
        con1 |   1.001912   .0542774    18.46   0.000     .8955299    1.108295
        con2 |   .9213709   .0196605    46.86   0.000     .8828368    .9599049
   con1xrural |  -.0902494   .0041758   -21.61   0.000     -.098434   -.0820648
   con2xrural |  -.0825313   .0033971   -24.29   0.000    -.0891896   -.0758729
hhibedssys~m |  4.53e-06   8.83e-07     5.13   0.000     2.80e-06    6.26e-06
       asc02 |   2.309154   .2189149    10.55   0.000     1.880086    2.738222
_Istateid_12 |  -.4926335   .0534527    -9.22   0.000    -.5973994   -.3878676
_Istateid_13 |  -.3315643   .0159997   -20.72   0.000    -.3629233   -.3002052
_Istateid_19 |  -.2978565   .0168961   -17.63   0.000    -.3309723   -.2647406
_Istateid_41 |  -.0258249   .0639343    -0.40   0.686    -.1511345    .0994847
_Istateid_49 |   .2265829   .0158949    14.26   0.000     .1954292    .2577366
_Istateid_53 |  -.5395204   .0536539   -10.06   0.000    -.6446808    -.43436
_Istateid_54 |  -.3104785   .0194002   -16.00   0.000    -.3485025   -.2724546
_Istateid_55 |   .6407499   .0087592    73.15   0.000      .623582    .6579178
       _cons |   6.949728   .0453386   153.28   0.000     6.860865    7.03859
```

Cost Regression by MDC

MDC 1

```
Source |       SS       df       MS              Number of obs =    8776
-------------+------------------------------           F( 26,  8749) =  358.02
       Model |  4778.87997    26  183.803076           Prob > F      =  0.0000
    Residual |  4491.66122  8749  .513391385           R-squared     =  0.5155
-------------+------------------------------           Adj R-squared =  0.5141
       Total |  9270.54119  8775  1.05647193           Root MSE      =  .71651

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0022191   .0007571    -2.93   0.003    -.0037031    -.000735
      female |  -.0119773   .0154299    -0.78   0.438    -.0422237     .018269
        died |   .344839   .0561713     6.14   0.000      .23473     .454948
      spouse |  -.0187641   .0178638    -1.05   0.294    -.0537813    .0162531
       child |  -.0035741   .0353149    -0.10   0.919    -.0727995    .0656514
    transfer |   .1315714   .0185451     7.09   0.000     .0952186    .1679242
  ruralurban |   .0353518   .0103432     3.42   0.001     .0150768    .0556268
   medianage |  -.0115467    .00409    -2.82   0.005    -.0195639   -.0035294
medianincome |  5.47e-06   2.21e-06     2.47   0.013     1.13e-06    9.81e-06
    surgical |   .9553753   .2087801     4.58   0.000     .5461173    1.364633
     medical |    .051685   .2084159     0.25   0.804    -.3568591    .4602292
   maternity |  (dropped)
        days |   .0248248   .0007872    31.53   0.000     .0232817     .026368
    diacount |   .0606048    .002557    23.70   0.000     .0555926    .0656171
   proccount |   .0889394   .0033767    26.34   0.000     .0823204    .0955585
        con1 |   .3892961   .2187338     1.78   0.075    -.0394736    .8180658
        con2 |   .4852591   .0789152     6.15   0.000     .3305668    .6399514
hhiadmissi~s |  1.37e-06   4.39e-06     0.31   0.756    -7.24e-06    9.97e-06
       asc02 |   4.175411   1.080343     3.86   0.000     2.057685    6.293137
_Istateid_12 |  -.1748473   .2185886    -0.80   0.424    -.6033323    .2536378
_Istateid_13 |  -.2118332   .0758037    -2.79   0.005    -.3604264   -.0632401
_Istateid_19 |  -.2821982   .0823305    -3.43   0.001    -.4435854    -.120811
_Istateid_41 |   .2176903    .258428     0.84   0.400    -.2888893    .7242698
_Istateid_49 |   .3073259   .0824306     3.73   0.000     .1457425    .4689093
_Istateid_53 |  -.1947925   .2209161    -0.88   0.378      -.62784    .2382551
_Istateid_54 |  -.2213513   .0910535    -2.43   0.015    -.3998375   -.0428651
_Istateid_55 |   .6166537   .0398155    15.49   0.000     .5386059    .6947014
       _cons |   7.472517   .2931994    25.49   0.000     6.897777    8.047256
```

MDC 3

```
Source |       SS       df       MS              Number of obs =    2248
-------------+------------------------------           F( 26,  2221) =   94.07
       Model |  1121.2316    26  43.1242922           Prob > F      =  0.0000
    Residual |  1018.12941  2221   .45841036           R-squared     =  0.5241
-------------+------------------------------           Adj R-squared =  0.5185
       Total |  2139.36101  2247  .952096576           Root MSE      =  .67706

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0025291   .0014573     1.74   0.083    -.0003286    .0053868
      female |  -.0047804   .0292031    -0.16   0.870    -.0620485    .0524878
        died |  -.9126016   .2649856    -3.44   0.001    -1.432247   -.3929561
      spouse |   .0514042   .0394834     1.30   0.193    -.0260241    .1288324
       child |   .0228418   .0647661     0.35   0.724    -.1041666    .1498502
    transfer |  -.0044225   .0429189    -0.10   0.918    -.0885878    .0797428
  ruralurban |   .0065571   .0177385     0.37   0.712    -.0282287    .0413428
   medianage |  -.0096733    .007909    -1.22   0.221    -.0251831    .0058365
medianincome |   .0000105   3.87e-06     2.71   0.007     2.90e-06    .0000181
    surgical |   1.428658   .4851719     2.94   0.003     .4772201    2.380096
     medical |   .6745532   .4847006     1.39   0.164    -.2759605    1.625067
   maternity |  (dropped)
        days |   .0817268   .0042935    19.04   0.000     .0733072    .0901464
    diacount |   .0439047   .0060858     7.21   0.000     .0319702    .0558391
   proccount |   .0683766   .0063172    10.82   0.000     .0559884    .0807648
        con1 |   1.327464   .3436425     3.86   0.000     .6535697    2.001358
        con2 |   .4232776   .1554787     2.72   0.007     .1183788    .7281765
hhiadmissi~s |   .0000114   7.35e-06     1.55   0.121    -3.03e-06    .0000258
       asc02 |  -.5102269   1.726453    -0.30   0.768    -3.895857    2.875403
_Istateid_12 |  -1.007769   .3442653    -2.93   0.003    -1.682885   -.3326541
_Istateid_13 |  -.0664904    .147485    -0.45   0.652    -.3557133    .2227325
_Istateid_19 |  -.0819834   .1567706    -0.52   0.601    -.3894158    .2254489
_Istateid_41 |  -.5092045   .4161855    -1.22   0.221    -1.325358    .3069488
_Istateid_49 |   .3291566   .1433806     2.30   0.022     .0479825    .6103306
_Istateid_53 |   -1.15691   .3476151    -3.33   0.001    -1.838594   -.4752253
_Istateid_54 |  -.0196839   .1709021    -0.12   0.908    -.3548285    .3154607
_Istateid_55 |   .5964195   .0712108     8.38   0.000     .4567728    .7360662
       _cons |   6.273348   .6053216    10.36   0.000     5.086293    7.460403
```

MDC4

```
Source |       SS       df       MS              Number of obs =   12952
-------------+------------------------------           F( 26, 12925) =  701.80
       Model |  7169.48154    26   275.74929           Prob > F      =  0.0000
    Residual |  5078.48393 12925  .392919453           R-squared     =  0.5854
-------------+------------------------------           Adj R-squared =  0.5845
       Total |  12247.9655 12951  .945715812           Root MSE      =  .62683

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0003549   .0005993    -0.59   0.554    -.0015297    .0008198
      female |  -.0252495   .0112173    -2.25   0.024    -.0472371   -.0032619
        died |   .1754221    .040533     4.33   0.000     .0959716    .2548727
      spouse |   .0253102   .0132943     1.90   0.057    -.0007486    .0513691
       child |   -.055668   .0303396    -1.83   0.067    -.1151381    .0038022
    transfer |   .0686812    .015033     4.57   0.000     .0392142    .0981481
  ruralurban |   .0186738   .0066635     2.80   0.005     .0056124    .0317352
   medianage |  -.0152043   .0028177    -5.40   0.000    -.0207275   -.0096811
medianincome |  5.38e-06   1.46e-06     3.69   0.000     2.52e-06    8.24e-06
    surgical |   .8994002   .1386904     6.48   0.000     .6275465    1.171254
     medical |   .3721685   .1376412     2.70   0.007     .1023715    .6419656
   maternity |  (dropped)
        days |   .0507548   .0008737    58.09   0.000     .0490421    .0524674
    diacount |   .0641077   .0020067    31.95   0.000     .0601743    .0680411
   proccount |   .0806676   .0026109    30.90   0.000     .0755499    .0857853
        con1 |    .328608    .169214     1.94   0.052    -.0030764    .6602923
        con2 |   .5440645   .0569481     9.55   0.000     .4324378    .6556911
hhiadmissi~s |   .0000107   2.74e-06     3.93   0.000     5.39e-06    .0000161
       asc02 |   1.708886   .6518609     2.62   0.009      .431142    2.986629
_Istateid_12 |  -.0620245   .1693476    -0.37   0.714    -.3939707    .2699217
_Istateid_13 |  -.2912227   .0539981    -5.39   0.000     -.397067   -.1853784
_Istateid_19 |  -.3000217   .0572603    -5.24   0.000    -.4122604    -.187783
_Istateid_41 |  -.0451384   .2267611    -0.20   0.842    -.4896237    .3993468
_Istateid_49 |   .2282968   .0539821     4.23   0.000      .122484    .3341096
_Istateid_53 |  -.1143992   .1705616    -0.67   0.502    -.4487251    .2199267
_Istateid_54 |  -.2950977   .0622375    -4.74   0.000    -.4170924   -.1731029
_Istateid_55 |   .3945845   .0302848    13.03   0.000     .3352219    .4539471
       _cons |    7.22142   .1924791    37.52   0.000     6.844133    7.598708
```

MDC 5

```
Source |       SS       df       MS              Number of obs =   26408
-------------+------------------------------           F( 26, 26381) = 1434.43
       Model |  17985.5163    26  691.750625           Prob > F      =  0.0000
    Residual |  12722.2051 26381   .48224878           R-squared     =  0.5857
-------------+------------------------------           Adj R-squared =  0.5853
       Total |  30707.7213 26407  1.16286293           Root MSE      =  .69444

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0002185   .0005186     0.42   0.673    -.000798     .001235
      female |  -.0819835   .0088909    -9.22   0.000    -.0994101   -.0645568
        died |   .3395153   .0531626     6.39   0.000     .2353138    .4437168
      spouse |   .0297142   .0090904     3.27   0.001     .0118965    .0475319
       child |   .2764367   .0366068     7.55   0.000     .2046854     .348188
    transfer |   .0164976   .0107394     1.54   0.125    -.0045523    .0375474
  ruralurban |   .0075982   .0056961     1.33   0.182    -.0035666     .018763
  medianage  |  -.0142736   .0021739    -6.57   0.000    -.0185346   -.0100127
medianincome |   1.17e-06   1.23e-06     0.95   0.342    -1.24e-06    3.57e-06
    surgical |   1.374391    .174048     7.90   0.000     1.033248    1.715534
     medical |   .2388629   .1739727     1.37   0.170     -.102133    .5798587
   maternity |  (dropped)
        days |   .0462728   .0010234    45.21   0.000     .0442668    .0482788
    diacount |   .0540432   .0014597    37.02   0.000     .0511821    .0569044
   proccount |   .0740892   .0017719    41.81   0.000     .0706161    .0775623
        con1 |   .3663556   .1284817     2.85   0.004     .1145246    .6181866
        con2 |   .8875139   .0426375    20.82   0.000      .803942    .9710858
hhiadmissi~s |   .0000101   2.40e-06     4.23   0.000     5.43e-06    .0000148
        asc02 |   3.117132   .5580977     5.59   0.000     2.023231    4.211034
_Istateid_12 |   -.089377   .1280707    -0.70   0.485    -.3404025    .1616485
_Istateid_13 |  -.5614451   .0391054   -14.36   0.000    -.6380938   -.4847964
_Istateid_19 |  -.5549476   .0432584   -12.83   0.000    -.6397364   -.4701587
_Istateid_41 |   .1309763   .1559433     0.84   0.401    -.1746809    .4366336
_Istateid_49 |   .4556599    .056832     8.02   0.000     .3442661    .5670537
_Istateid_53 |   -.260367   .1297585    -2.01   0.045    -.5147006   -.0060333
_Istateid_54 |  -.5098962    .046256   -11.02   0.000    -.6005604   -.4192319
_Istateid_55 |   .5820473   .0251662    23.13   0.000     .5327203    .6313743
       _cons |    7.50871   .2078097    36.13   0.000     7.101392    7.916028
```

MDC 6

```
Source |       SS       df       MS              Number of obs =   18539
-------------+------------------------------           F( 26, 18512) =  869.86
       Model |  9078.54662    26   349.17487           Prob > F      =  0.0000
    Residual |  7430.97619 18512  .401414012           R-squared     =  0.5499
-------------+------------------------------           Adj R-squared =  0.5493
       Total |  16509.5228 18538  .890577344           Root MSE      =  .63357

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0028596   .0004533     6.31   0.000     .0019711    .0037481
      female |  -.0037949   .0094655    -0.40   0.688    -.0223481    .0147583
        died |   .1117902   .0692676     1.61   0.107    -.0239807    .2475611
      spouse |   .0139021   .0106274     1.31   0.191    -.0069287    .0347328
       child |   -.009831   .0219747    -0.45   0.655    -.0529034    .0332414
    transfer |   .0571224   .0136936     4.17   0.000     .0302816    .0839631
  ruralurban |   .0096242   .0058256     1.65   0.099    -.0017945    .0210429
   medianage |  -.0041842   .0024256    -1.72   0.085    -.0089386    .0005703
medianincome |  6.28e-06   1.26e-06     4.98   0.000     3.81e-06    8.75e-06
    surgical |    .686387   .1258037     5.46   0.000       .4398    .9329739
     medical |  -.0145438   .1256817    -0.12   0.908    -.2608915    .2318038
   maternity |  (dropped)
        days |   .0587995   .0010393    56.57   0.000     .0567623    .0608367
    diacount |   .0497502   .0017669    28.16   0.000     .0462869    .0532134
   proccount |   .0638535   .0020467    31.20   0.000     .0598417    .0678652
        con1 |   .5857062   .1149445     5.10   0.000     .3604044    .8110079
        con2 |   .6662794   .0440506    15.13   0.000     .5799362    .7526226
hhiadmissi~s |   .0000142   2.38e-06     5.95   0.000     9.49e-06    .0000188
        asc02 |  1.973984   .5752627     3.43   0.001     .8464157    3.101551
_Istateid_12 |  -.3826484   .1150836    -3.32   0.001    -.6082229    -.157074
_Istateid_13 |   -.350321   .0414097    -8.46   0.000    -.4314879   -.2691541
_Istateid_19 |  -.3423787   .0448799    -7.63   0.000    -.4303475   -.2544099
_Istateid_41 |   .1771846   .1536404     1.15   0.249    -.1239647    .478334
_Istateid_49 |   .3689861   .0492958     7.49   0.000     .2723617    .4656105
_Istateid_53 |   -.438706   .1161322    -3.78   0.000    -.6663358   -.2110761
_Istateid_54 |  -.3370856   .0505793    -6.66   0.000    -.4362257   -.2379455
_Istateid_55 |   .5458123   .0247829    22.02   0.000     .4972355    .5943891
       _cons |   7.054603   .1713621    41.17   0.000     6.718717    7.390488
```

MDC 7

```
Source |       SS       df       MS              Number of obs =    5595
-------------+------------------------------           F( 26,  5568) =  189.80
       Model |  2111.75302    26    81.22127           Prob > F      =  0.0000
    Residual |  2382.69266  5568  .427926124           R-squared     =  0.4699
-------------+------------------------------           Adj R-squared =  0.4674
       Total |  4494.44568  5594  .803440414           Root MSE      =  .65416

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0005806   .0008469     0.69   0.493    -.0010797    .0022409
      female |  -.0388532   .0181887    -2.14   0.033    -.0745102   -.0031962
        died |   .1609226   .0706106     2.28   0.023     .0224983     .299347
      spouse |  -.0027285   .0188716    -0.14   0.885    -.0397243    .0342672
       child |   .2252549   .0515212     4.37   0.000     .1242533    .3262565
    transfer |   .0535923   .0239053     2.24   0.025     .0067285     .100456
  ruralurban |   .0352845   .0108678     3.25   0.001     .0139794    .0565895
   medianage |  -.0031708   .0041638    -0.76   0.446    -.0113334    .0049918
medianincome |   6.82e-06   2.30e-06     2.96   0.003     2.30e-06    .0000113
    surgical |   1.541565   .2700368     5.71   0.000     1.012188    2.070942
     medical |   1.117259   .2694945     4.15   0.000     .5889442    1.645573
   maternity |  (dropped)
        days |    .064765   .0016607    39.00   0.000     .0615095    .0680206
    diacount |   .0445469   .0031306    14.23   0.000     .0384097    .0506841
   proccount |   .0594454   .0039622    15.00   0.000      .051678    .0672127
        con1 |    .401199   .2347245     1.71   0.087    -.0589526    .8613507
        con2 |   .4686006   .0911955     5.14   0.000     .2898219    .6473792
hhiadmissi~s |   .0000112   4.37e-06     2.55   0.011     2.58e-06    .0000197
        asc02 |   2.288656   1.023365     2.24   0.025     .2824619     4.29485
_Istateid_12 |  -.0946697   .2349896    -0.40   0.687    -.5553411    .3660016
_Istateid_13 |  -.0978126   .0870251    -1.12   0.261    -.2684159    .0727906
_Istateid_19 |  -.1462269   .0931422    -1.57   0.116     -.328822    .0363682
_Istateid_41 |    .238801   .328469     0.73   0.467    -.4051264    .8827283
_Istateid_49 |      .429   .1044972     4.11   0.000     .2241447    .6338553
_Istateid_53 |  -.2287608   .2370972    -0.96   0.335    -.6935639    .2360422
_Istateid_54 |  -.0905321   .1027047    -0.88   0.378    -.2918734    .1108091
_Istateid_55 |    .653123   .0471009    13.87   0.000     .5607869    .7454591
       _cons |   6.080242   .3378511    18.00   0.000     5.417922    6.742562
```

MDC 8

```
      Source |       SS       df       MS              Number of obs =   16012
-------------+------------------------------           F( 27, 15984) =  374.72
       Model |  5650.04808    27   209.26104           Prob > F      =  0.0000
    Residual |  8926.09113 15984  .558439135           R-squared     =  0.3876
-------------+------------------------------           Adj R-squared =  0.3866
       Total |  14576.1392 16011  .910382813           Root MSE      =  .74729

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0022061   .0006357     3.47   0.001      .00096    .0034522
      female |   .0312234   .0119521     2.61   0.009      .007796    .0546509
        died |  -.0412101   .1425804    -0.29   0.773    -.3206837    .2382635
      spouse |   .0205514   .0130129     1.58   0.114    -.0049553    .0460581
       child |   .0125778   .0319791     0.39   0.694    -.0501048    .0752603
    transfer |   .1192004   .0137986     8.64   0.000     .0921536    .1462472
  ruralurban |   .0069203   .0084867     0.82   0.415    -.0097146    .0235552
   medianage |  -.0149882   .0032429    -4.62   0.000    -.0213446   -.0086318
medianincome |  6.81e-06   1.69e-06     4.02   0.000     3.48e-06    .0000101
    surgical |   .7493697   .2010593     3.73   0.000     .3552709    1.143468
     medical |  -.1708525   .2013951    -0.85   0.396    -.5656095    .2239044
   maternity |  -1.320866   .7741724    -1.71   0.088    -2.838331    .1965992
        days |   .0463824   .0015178    30.56   0.000     .0434073    .0493574
    diacount |   .0267293   .0023227    11.51   0.000     .0221765    .0312821
   proccount |   .0887207   .0024836    35.72   0.000     .0838525    .0935888
        con1 |   .3112701   .1543485     2.02   0.044     .0087297    .6138105
        con2 |    .478623   .0599615     7.98   0.000     .3610918    .5961542
hhiadmissi~s |   .0000117   3.49e-06     3.36   0.001     4.88e-06    .0000186
        asc02 |   5.242533   .8198179     6.39   0.000     3.635598    6.849468
_Istateid_12 |  -.1793717   .1548225    -1.16   0.247    -.4828412    .1240979
_Istateid_13 |  -.2224485   .0572757    -3.88   0.000    -.3347153   -.1101817
_Istateid_19 |  -.1507047   .0619994    -2.43   0.015    -.2722305   -.0291789
_Istateid_41 |   .1444174   .1812507     0.80   0.426    -.2108543    .4996891
_Istateid_49 |   .2615757   .0611066     4.28   0.000     .1417999    .3813516
_Istateid_53 |  -.3405003   .1556153    -2.19   0.029    -.6455237   -.0354768
_Istateid_54 |  -.1382487   .0723462    -1.91   0.056    -.2800553    .0035579
_Istateid_55 |   .5625609   .0291823    19.28   0.000     .5053603    .6197615
       _cons |   7.751689   .2577889    30.07   0.000     7.246394    8.256985
```

MDC 9

```
Source |       SS       df       MS              Number of obs =    3734
-------------+------------------------------           F( 26,  3707) =  123.63
       Model |  1361.14272    26   52.351643           Prob > F      =  0.0000
    Residual |  1569.75269  3707   .42345635           R-squared     =  0.4644
-------------+------------------------------           Adj R-squared =  0.4607
       Total |  2930.89541  3733   .78513137           Root MSE      =  .65074

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0002688   .0010798     0.25   0.803    -.0018483     .002386
      female |   .1551899   .0228007     6.81   0.000     .1104867    .1998931
        died |   .0124092   .2189565     0.06   0.955    -.4168779    .4416963
      spouse |   -.025147   .024206    -1.04   0.299    -.0726054    .0223113
       child |  -.1186753   .0528014    -2.25   0.025    -.222198    -.0151527
    transfer |  -.0523006   .0267986    -1.95   0.051    -.1048421    .0002408
   ruralurban |   .0305054   .013774     2.21   0.027     .0035001    .0575107
   medianage |  -.0087213   .005629    -1.55   0.121    -.0197575    .0023148
medianincome |    .000013   2.94e-06     4.42   0.000     7.24e-06    .0000188
    surgical |   1.305732   .1565059     8.34   0.000     .9988855    1.612578
     medical |   .7641478   .1556222     4.91   0.000     .4590344    1.069261
   maternity |  (dropped)
        days |    .050441   .0021458    23.51   0.000     .046234    .0546479
    diacount |   .0438415   .0040965    10.70   0.000     .0358098    .0518732
   proccount |   .0646123   .0046142    14.00   0.000     .0555657    .0736589
        con1 |   .3576307   .2945636     1.21   0.225    -.2198919    .9351534
        con2 |   .6793764   .1211639     5.61   0.000     .4418219    .9169308
hhiadmissi~s |   6.00e-06   5.61e-06     1.07   0.285    -5.00e-06     .000017
        asc02 |   1.076327   1.361544     0.79   0.429    -1.593122    3.745776
_Istateid_12 |  -.1838979   .2949352    -0.62   0.533    -.7621491    .3943534
_Istateid_13 |  -.4486486   .1148115    -3.91   0.000    -.6737485   -.2235486
_Istateid_19 |  -.6051389   .1224714    -4.94   0.000    -.8452569   -.3650209
_Istateid_41 |   .1401659   .3574964     0.39   0.695    -.560743    .8410748
_Istateid_49 |   .0922393   .1341595     0.69   0.492    -.1707943    .3552729
_Istateid_53 |  -.2095352   .2965716    -0.71   0.480    -.7909947    .3719242
_Istateid_54 |  -.3478428   .1351187    -2.57   0.010    -.6127571   -.0829284
_Istateid_55 |   .3666983   .0579363     6.33   0.000     .2531082    .4802885
       _cons |   6.340579   .3127131    20.28   0.000     5.727472    6.953685
```

MDC 10

```
Source |       SS       df       MS              Number of obs =    6055
-------------+------------------------------           F( 25,  6029) =  258.22
       Model |  3078.83335    25  123.153334           Prob > F      =  0.0000
    Residual |  2875.40762  6029  .476929444           R-squared     =  0.5171
-------------+------------------------------           Adj R-squared =  0.5151
       Total |  5954.24096  6054  .983521798           Root MSE      =   .6906

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0023698   .0008846    -2.68   0.007     -.004104   -.0006357
      female |   .0761075   .0186546     4.08   0.000     .0395377    .1126772
        died |   .0320527   .1294165     0.25   0.804     -.22165    .2857554
      spouse |   .0242636   .0213461     1.14   0.256    -.0175823    .0661095
       child |  -.1724511   .0415441    -4.15   0.000    -.2538923   -.0910098
    transfer |   .0271836   .0255635     1.06   0.288    -.0229299    .0772972
  ruralurban |   .0057652   .0110962     0.52   0.603    -.0159873    .0275178
   medianage |  -.0136135   .0052522    -2.59   0.010    -.0239097   -.0033173
medianincome |   9.67e-06   2.40e-06     4.04   0.000     4.97e-06    .0000144
    surgical |  (dropped)
     medical |  -.9160905   .0220765   -41.50   0.000    -.9593684   -.8728127
   maternity |  (dropped)
        days |   .0806111   .0028693    28.09   0.000     .0749863     .086236
    diacount |   .0327932   .0033801     9.70   0.000     .0261671    .0394193
   proccount |   .0749684   .0039817    18.83   0.000     .0671629    .0827739
        con1 |   .5192466   .4007046     1.30   0.195    -.2662777    1.304771
        con2 |   .5944292   .0917715     6.48   0.000     .4145242    .7743343
hhiadmissi~s |   .000013   4.65e-06     2.80   0.005     3.89e-06    .0000221
       asc02 |   3.407272   1.161328     2.93   0.003     1.130654    5.683889
_Istateid_12 |  -.2764288   .4004094    -0.69   0.490    -1.061374    .5085167
_Istateid_13 |  -.4249252   .0864935    -4.91   0.000    -.5944835    -.255367
_Istateid_19 |   -.325554   .0929629    -3.50   0.000    -.5077945   -.1433136
_Istateid_41 |   .0887862    .423387     0.21   0.834    -.7412037    .9187761
_Istateid_49 |   .3491647   .0808993     4.32   0.000     .1905731    .5077563
_Istateid_53 |  -.3331289   .4017264    -0.83   0.407    -1.120656    .4543984
_Istateid_54 |  -.1274056   .1020641    -1.25   0.212    -.3274877    .0726766
_Istateid_55 |   .4423196   .0480143     9.21   0.000     .3481944    .5364447
       _cons |   8.334955   .2450086    34.02   0.000      7.85465    8.815259
```

MDC 11

```
Source |       SS       df       MS              Number of obs =    5581
-------------+------------------------------           F( 26,  5554) =  188.63
       Model |  2364.63952    26  90.9476737           Prob > F      =  0.0000
    Residual |  2677.80123  5554   .48213922           R-squared     =  0.4689
-------------+------------------------------           Adj R-squared =  0.4665
       Total |  5042.44074  5580  .903663215           Root MSE      =  .69436

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0005047   .0008946     0.56   0.573    -.0012489    .0022584
      female |  -.0053526   .0191226    -0.28   0.780    -.0428404    .0321351
        died |   .4661843    .110153     4.23   0.000     .2502413    .6821273
      spouse |   .0537281    .020898     2.57   0.010     .0127598    .0946964
       child |   .0356574   .0435804     0.82   0.413    -.0497772     .121092
    transfer |   -.004173   .0260301    -0.16   0.873    -.0552021    .0468561
  ruralurban |  -.0100393   .0122848    -0.82   0.414    -.0341223    .0140436
   medianage |  -.0139047   .0049615    -2.80   0.005    -.0236312   -.0041782
medianincome |   1.63e-06   2.60e-06     0.63   0.531    -3.47e-06    6.73e-06
    surgical |  -.2825143   .6964276    -0.41   0.685    -1.647785    1.082756
     medical |  -.9982941   .6961175    -1.43   0.152    -2.362957    .3663686
   maternity |  (dropped)
        days |   .0392207   .0017526    22.38   0.000     .0357849    .0426565
    diacount |   .0630299   .0033204    18.98   0.000     .0565206    .0695392
   proccount |   .0698566   .0040761    17.14   0.000     .0618659    .0778474
        con1 |    .458292   .3131095     1.46   0.143    -.1555251    1.072109
        con2 |   .6590541   .0930015     7.09   0.000     .4767349    .8413734
hhiadmissi~s |    .00001   4.83e-06     2.07   0.038     5.48e-07    .0000195
        asc02 |  2.660513   1.129164     2.36   0.018     .4469096    4.874116
_Istateid_12 |  -.2149233   .3132131    -0.69   0.493    -.8289435    .3990969
_Istateid_13 |  -.3829051   .0868585    -4.41   0.000    -.5531818   -.2126285
_Istateid_19 |  -.3297836   .0923666    -3.57   0.000    -.5108583   -.1487088
_Istateid_41 |   .5094701   .3809237     1.34   0.181    -.2372893    1.256229
_Istateid_49 |   .4646161    .102526     4.53   0.000     .2636249    .6656072
_Istateid_53 |  -.1658712   .3149854    -0.53   0.598    -.7833659    .4516234
_Istateid_54 |  -.2824236   .0994769    -2.84   0.005    -.4774373   -.0874099
_Istateid_55 |   .4882965    .051225     9.53   0.000     .3878755    .5887175
       _cons |   8.682425   .7352514    11.81   0.000     7.241044    10.12381
```

MDC 12

```
Source |       SS       df       MS              Number of obs =    1095
-------------+------------------------------           F( 26,  1068) =   25.23
       Model |  237.668437    26  9.14109374           Prob > F      =  0.0000
    Residual |  386.945507  1068  .362308528           R-squared     =  0.3805
-------------+------------------------------           Adj R-squared =  0.3654
       Total |  624.613945  1094  .570945105           Root MSE      =  .60192

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0035793   .0027933    -1.28   0.200    -.0090603    .0019017
      female |  -.2712768    .391718    -0.69   0.489    -1.039901    .4973474
        died |  -.6150541   .6129844    -1.00   0.316    -1.817845    .5877364
      spouse |   .0925148   .0418499     2.21   0.027     .0103975     .174632
       child |  -.7720194   .1668147    -4.63   0.000    -1.099341   -.4446976
    transfer |  -.1060026   .0618657    -1.71   0.087    -.2273947    .0153896
  ruralurban |  -.0285293   .0241062    -1.18   0.237    -.0758302    .0187717
   medianage |   .0118755   .0095259     1.25   0.213    -.0068162    .0305671
medianincome |   8.08e-07   5.27e-06     0.15   0.878    -9.53e-06    .0000111
    surgical |   .2583291   .4340497     0.60   0.552    -.5933579    1.110016
     medical |  -.4997649   .4375358    -1.14   0.254    -1.358292    .3587624
    maternity |  (dropped)
        days |   .0595232   .0075999     7.83   0.000     .0446107    .0744358
    diacount |  -.0086238   .0079752    -1.08   0.280    -.0242727    .0070251
   proccount |   .0886193   .0079757    11.11   0.000     .0729694    .1042691
        con1 |   .3774729   .4323961     0.87   0.383    -.4709694    1.225915
        con2 |   .7113791   .1550146     4.59   0.000     .4072113    1.015547
hhiadmissi~s |    .000021   9.99e-06     2.10   0.036     1.36e-06    .0000406
       asc02 |   1.013766   2.471497     0.41   0.682    -3.835775    5.863308
_Istateid_12 |  -.2430898   .4339204    -0.56   0.575    -1.094523    .6083435
_Istateid_13 |  -.2562806   .1429202    -1.79   0.073    -.5367168    .0241557
_Istateid_19 |  -.3814033    .159983    -2.38   0.017     -.69532   -.0674867
_Istateid_41 |   .4122725   .7383149     0.56   0.577    -1.03644    1.860985
_Istateid_49 |   .3548311   .2020979     1.76   0.079    -.041723    .7513851
_Istateid_53 |  -.2443002   .4363541    -0.56   0.576    -1.100509    .6119084
_Istateid_54 |  -.3396596   .1959662    -1.73   0.083    -.724182    .0448628
_Istateid_55 |   .6933567    .089442     7.75   0.000     .5178548    .8688586
       _cons |   7.755183   .6449516    12.02   0.000     6.489667    9.020699
```

MDC 13

```
Source |       SS       df       MS              Number of obs =   11970
-------------+------------------------------           F( 26, 11943) =  210.75
       Model |  1469.31641    26  56.5121696           Prob > F      =  0.0000
    Residual |  3202.53453 11943  .268151597           R-squared     =  0.3145
-------------+------------------------------           Adj R-squared =  0.3130
       Total |  4671.85094 11969  .390329262           Root MSE      =  .51783

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0039396   .0005489     7.18   0.000     .0028636    .0050156
      female |  -1.013789   .3221348    -3.15   0.002    -1.645225   -.3823524
        died |   .2820007   .1733059     1.63   0.104    -.057707    .6217084
      spouse |  -.0404145   .0103796    -3.89   0.000    -.0607603   -.0200687
       child |  -.0048091   .0399253    -0.12   0.904    -.0830692    .073451
    transfer |   .0632609   .0165742     3.82   0.000     .0307728    .095749
  ruralurban |   .0019122   .0059229     0.32   0.747    -.0096975    .013522
  medianage |  -.0070888   .0026825    -2.64   0.008    -.012347    -.0018306
medianincome |  -2.45e-06   1.26e-06    -1.94   0.053    -4.92e-06    2.89e-08
    surgical |    1.1206   .1776904     6.31   0.000     .7722983    1.468902
     medical |   .5428999   .1782898     3.05   0.002      .193423    .8923768
   maternity |  (dropped)
        days |   .0736031   .0028021    26.27   0.000     .0681105    .0790956
    diacount |   .0266353   .0022869    11.65   0.000     .0221527    .031118
   proccount |   .0536335   .0023174    23.14   0.000      .049091    .0581759
        con1 |   .8895957   .2596013     3.43   0.001     .3807349    1.398456
        con2 |   .5161625   .0461937    11.17   0.000     .4256153    .6067096
hhiadmissi~s |   .0000213   2.38e-06     8.93   0.000     .0000166     .000026
       asc02 |   3.777261   .5875356     6.43   0.000     2.625596    4.928926
_Istateid_12 |  -.7870431   .2597626    -3.03   0.002    -1.29622    -.2778662
_Istateid_13 |  -.1530349   .0438021    -3.49   0.000    -.2388941   -.0671757
_Istateid_19 |  -.1860028   .0471592    -3.94   0.000    -.2784424   -.0935631
_Istateid_41 |  -.2769877   .2798419    -0.99   0.322    -.8255233    .271548
_Istateid_49 |   .2624014    .051442     5.10   0.000     .1615667    .363236
_Istateid_53 |  -.8256461   .2601451    -3.17   0.002    -1.335573   -.3157194
_Istateid_54 |  -.1100755   .0541071    -2.03   0.042    -.2161341   -.0040169
_Istateid_55 |   .7009564   .0270419    25.92   0.000      .64795    .7539629
       _cons |   8.149285   .3289095    24.78   0.000     7.504568    8.794001
```

MDC 14

```
Source |       SS       df       MS              Number of obs =   36134
-------------+------------------------------           F( 26, 36107) =  848.89
       Model |  4680.14807    26  180.005695           Prob > F      =  0.0000
    Residual |  7656.41929 36107   .21204806           R-squared     =  0.3794
-------------+------------------------------           Adj R-squared =  0.3789
       Total |  12336.5674 36133  .341421065           Root MSE      =  .46049

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |    .000962   .0004935     1.95   0.051    -5.24e-06    .0019292
      female |    .5178472   .0454917    11.38   0.000     .4286821    .6070124
        died |   -.2731423   .1279189    -2.14   0.033    -.5238672   -.0224174
      spouse |   -.0315229   .0050841    -6.20   0.000    -.0414879   -.0215579
       child |   -.0873014   .0138597    -6.30   0.000    -.1144668   -.0601359
    transfer |    .0406818   .0087581     4.65   0.000     .0235158    .0578479
  ruralurban |    .0077705   .0031571     2.46   0.014     .0015826    .0139585
   medianage |   -.0038515   .0014186    -2.71   0.007     -.006632   -.0010709
medianincome |  -2.81e-06   6.76e-07    -4.17   0.000    -4.14e-06   -1.49e-06
    surgical |    1.039711   .0575592    18.06   0.000     .9268931    1.152529
     medical |  (dropped)
   maternity |    1.117698   .0385965    28.96   0.000     1.042048    1.193348
        days |    .0503677    .000852    59.11   0.000     .0486977    .0520377
    diacount |    .0402023   .0012693    31.67   0.000     .0377145     .04269
   proccount |    .0664414    .001195    55.60   0.000     .0640992    .0687836
        con1 |    .2877267   .1459549     1.97   0.049     .0016507    .5738027
        con2 |    .2672336   .0280014     9.54   0.000      .21235    .3221171
hhiadmissi~s |    .0000135   1.28e-06    10.58   0.000      .000011     .000016
       asc02 |    .7977456   .3295833     2.42   0.016     .1517525    1.443739
_Istateid_12 |   -.3156031   .1460158    -2.16   0.031    -.6017985   -.0294078
_Istateid_13 |   -.0861005   .0271834    -3.17   0.002    -.1393807   -.0328203
_Istateid_19 |   -.1479511   .0275617    -5.37   0.000    -.2019729   -.0939294
_Istateid_41 |   -.0683487   .1571651    -0.43   0.664     -.376397    .2396996
_Istateid_49 |    .0421206   .0194718     2.16   0.031     .0039553    .0802859
_Istateid_53 |   -.2426978   .1460648    -1.66   0.097    -.5289891    .0435935
_Istateid_54 |   -.1480172   .0326159    -4.54   0.000    -.2119455    -.084089
_Istateid_55 |    .4295313   .0124454    34.51   0.000     .4051378    .4539247
       _cons |    6.510792   .0733859    88.72   0.000     6.366954    6.654631
------------------------------------------------------------------------------
```

MDC 15

```
Source |       SS       df       MS              Number of obs =   23159
-------------+------------------------------           F( 26, 23132) = 1333.44
       Model |  18932.8173    26   728.18528           Prob > F      =  0.0000
    Residual |  12632.2834 23132  .546095597           R-squared     =  0.5998
-------------+------------------------------           Adj R-squared =  0.5994
       Total |  31565.1006 23158  1.36303224           Root MSE      =  .73898

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0026688   .0046219     0.58   0.564    -.0063904     .011728
      female |   .0350287   .0100548     3.48   0.000     .0153205    .0547368
        died |   .3368494   .1043763     3.23   0.001     .1322649    .5414339
      spouse |   .0514094   .1984296     0.26   0.796    -.3375258    .4403446
       child |  -.0298487   .0271221    -1.10   0.271    -.0830098    .0233123
    transfer |   .1626707   .0172437     9.43   0.000     .128872    .1964695
  ruralurban |    .076272   .0062824    12.14   0.000     .0639581     .088586
   medianage |  -.0044064   .0028716    -1.53   0.125    -.010035    .0012222
medianincome |   .0000102   1.35e-06     7.61   0.000     7.61e-06    .0000129
    surgical |  -4.462199   .4302111   -10.37   0.000    -5.305441   -3.618956
     medical |  (dropped)
   maternity |   .0639463    .180046     0.36   0.722    -.2889558    .4168484
        days |   .0404862   .0007168    56.48   0.000     .0390812    .0418913
    diacount |    .214327   .0030044    71.34   0.000     .2084381    .2202159
   proccount |   .0847384   .0026963    31.43   0.000     .0794535    .0900233
        con1 |   1.834162   .3700683     4.96   0.000     1.108804    2.559521
        con2 |   .9792315   .0527261    18.57   0.000     .8758848    1.082578
hhiadmissi~s |   .0000156   2.54e-06     6.13   0.000     .0000106    .0000206
       asc02 |   4.479682   .6613272     6.77   0.000     3.183437    5.775928
_Istateid_12 |  -1.171316   .3702887    -3.16   0.002    -1.897107   -.4455259
_Istateid_13 |  -.2456854   .0510128    -4.82   0.000    -.3456738   -.1456969
_Istateid_19 |  -.1578216   .0519021    -3.04   0.002    -.2595531    -.05609
_Istateid_41 |  -.3806037    .388181    -0.98   0.327    -1.141464    .3802568
_Istateid_49 |   .7153281   .0368973    19.39   0.000     .6430069    .7876493
_Istateid_53 |  -1.187381   .3702415    -3.21   0.001    -1.913079   -.4616833
_Istateid_54 |  -.3026636   .0659914    -4.59   0.000    -.4320112   -.1733161
_Istateid_55 |   1.046255   .0230347    45.42   0.000     1.001106    1.091405
       _cons |   4.685513   .2247508    20.85   0.000     4.244986    5.126039
```

MDC 16

```
      Source |       SS       df       MS              Number of obs =    1762
-------------+------------------------------           F( 25,  1736) =   57.62
       Model |  741.913765    25  29.6765506           Prob > F      =  0.0000
    Residual |  894.07362  1736  .515019366           R-squared     =  0.4535
-------------+------------------------------           Adj R-squared =  0.4456
       Total |  1635.98738  1761   .92901044           Root MSE      =  .71765

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0034458   .0017258    -2.00   0.046    -.0068307   -.0000608
      female |   -.004396   .0357824    -0.12   0.902    -.0745771    .0657851
        died |   .1279568   .1898339     0.67   0.500    -.2443704    .5002839
      spouse |   -.011877   .0434884    -0.27   0.785    -.0971721    .0734182
       child |  -.0702488   .0770246    -0.91   0.362    -.2213195    .0808218
    transfer |  -.0036568   .0475012    -0.08   0.939    -.0968224    .0895088
  ruralurban |  -.0211898   .0251128    -0.84   0.399    -.0704443    .0280646
   medianage |  -.0144697   .0101569    -1.42   0.154    -.0343908    .0054515
medianincome |   2.50e-06   5.16e-06     0.48   0.629    -7.63e-06    .0000126
    surgical |   .4754943   .0577921     8.23   0.000     .3621449    .5888437
     medical |  (dropped)
    maternity |  (dropped)
        days |   .0648522   .0032103    20.20   0.000     .0585557    .0711488
    diacount |   .0478652   .0067418     7.10   0.000     .0346422    .0610882
   proccount |    .069646   .0075598     9.21   0.000     .0548187    .0844733
        con1 |    1.0113   .4248761     2.38   0.017     .1779768    1.844623
        con2 |   .5679089   .2178384     2.61   0.009     .1406557    .9951622
hhiadmissi~s |   8.74e-06   .0000104     0.84   0.403    -.0000117    .0000292
       asc02 |   5.776345   2.522148     2.29   0.022     .8295771    10.72311
_Istateid_12 |  -1.062722   .4252791    -2.50   0.013    -1.896835   -.2286088
_Istateid_13 |   -.482881   .2091726    -2.31   0.021    -.8931377   -.0726242
_Istateid_19 |  -.4131132   .2200241    -1.88   0.061    -.8446534    .0184269
_Istateid_41 |  -.9793435   .5904172    -1.66   0.097    -2.137347    .1786603
_Istateid_49 |   .1161605   .1830038     0.63   0.526    -.2427706    .4750915
_Istateid_53 |  -.9611293   .4302435    -2.23   0.026    -1.804979   -.1172793
_Istateid_54 |  -.3952808   .2376364    -1.66   0.096    -.8613646    .0708029
_Istateid_55 |   .3509989   .1002293     3.50   0.000      .154416    .5475817
       _cons |    8.22866   .502708     16.37   0.000     7.242683    9.214637
```

MDC 17

```
Source |       SS       df       MS              Number of obs =    1873
-------------+------------------------------           F( 26,  1846) =   80.63
       Model |  1339.00353    26  51.5001359           Prob > F      =  0.0000
    Residual |  1179.05571  1846  .638708399           R-squared     =  0.5318
-------------+------------------------------           Adj R-squared =  0.5252
       Total |  2518.05924  1872  1.34511711           Root MSE      =  .79919

------------------------------------------------------------------------------
     lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          age |  -.0040124   .0020846    -1.92   0.054    -.0081008    .0000761
       female |   .0670659   .0383757     1.75   0.081    -.0081984    .1423301
         died |    .127433   .1100291     1.16   0.247    -.0883615    .3432275
       spouse |  -.0572158   .0476742    -1.20   0.230    -.1507169    .0362853
        child |   .0301263   .0968055     0.31   0.756    -.1597336    .2199861
     transfer |  -.0523966   .0484097    -1.08   0.279    -.1473401    .0425469
   ruralurban |  -.0106137   .0326244    -0.33   0.745    -.0745984     .053371
   medianage |  -.0443558   .0133799    -3.32   0.001    -.0705972   -.0181145
medianincome |   5.22e-06   7.01e-06     0.74   0.457    -8.54e-06     .000019
     surgical |   1.097585   .4099145     2.68   0.007     .2936405     1.90153
      medical |   .9415474   .4070935     2.31   0.021     .1431353     1.73996
    maternity |  (dropped)
         days |    .057016   .0022558    25.28   0.000     .0525919    .0614402
    diacount |   .0511323   .0073706     6.94   0.000     .0366767    .0655879
   proccount |   .0817801   .0082701     9.89   0.000     .0655604    .0979998
        con1 |   1.016241   .2074449     4.90   0.000     .6093895    1.423092
        con2 |   .4623506   .1643948     2.81   0.005     .1399313    .7847698
hhiadmissi~s |    .000025   .0000156     1.60   0.110    -5.62e-06    .0000555
       asc02 |  -1.013273   3.601532    -0.28   0.778    -8.076777     6.05023
_Istateid_12 |  -.7569121   .2047547    -3.70   0.000    -1.158487   -.3553369
_Istateid_13 |  -.2553457   .1528433    -1.67   0.095    -.5551096    .0444182
_Istateid_19 |  -.2650585    .163738    -1.62   0.106    -.5861897    .0560727
_Istateid_41 |   .0214521   .4427562     0.05   0.961    -.8469033    .8898076
_Istateid_49 |  -.0683535   .2895688    -0.24   0.813    -.6362702    .4995632
_Istateid_53 |  -.7571866    .216436    -3.50   0.000    -1.181672   -.3327015
_Istateid_54 |  -.6146936   .1800077    -3.41   0.001    -.9677337   -.2616536
_Istateid_55 |   .4164623   .0951312     4.38   0.000     .2298863    .6030382
       _cons |   8.53858   .7831552    10.90   0.000     7.002617    10.07454
```

MDC 18

```
Source |       SS       df       MS              Number of obs =    3158
-------------+------------------------------           F( 26,  3131) =  174.55
       Model |  2236.87846    26  86.0337869           Prob > F      =  0.0000
    Residual |  1543.21486  3131  .492882421           R-squared     =  0.5918
-------------+------------------------------           Adj R-squared =  0.5884
       Total |  3780.09332  3157  1.19736881           Root MSE      =  .70206

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0009567    .001296     0.74   0.460    -.0015844    .0034977
      female |  -.0087986   .0253524    -0.35   0.729    -.0585077    .0409104
        died |   .4011906   .0750386     5.35   0.000     .2540608    .5483204
      spouse |    .014121   .0297548     0.47   0.635    -.0442199    .0724619
       child |  -.0994178   .0628186    -1.58   0.114    -.2225876     .023752
    transfer |   .1489757   .0298175     5.00   0.000     .0905119    .2074395
  ruralurban |   .0085858    .016238     0.53   0.597    -.0232524    .0404241
  medianage |  -.0139185   .0064052    -2.17   0.030    -.0264773   -.0013597
medianincome |   7.62e-06   3.43e-06     2.23   0.026     9.08e-07    .0000143
    surgical |    2.47443   .3562231     6.95   0.000     1.775976    3.172884
     medical |   2.080122   .3558891     5.84   0.000     1.382323    2.777922
  maternity |  (dropped)
        days |   .0472163    .001784    26.47   0.000     .0437183    .0507143
    diacount |   .0648889   .0044011    14.74   0.000     .0562596    .0735182
   proccount |   .0808927   .0057772    14.00   0.000     .0695652    .0922202
        con1 |   .9246659   .3186936     2.90   0.004     .2997964    1.549535
        con2 |   .8242532   .1263802     6.52   0.000     .5764567     1.07205
hhiadmissi~s |   .0000213   6.50e-06     3.28   0.001     8.59e-06    .0000341
       asc02 |   4.090058    1.56944     2.61   0.009     1.012822    7.167294
_Istateid_12 |  -.5334908   .3183774    -1.68   0.094    -1.15774     .0907587
_Istateid_13 |  -.4963612   .1199071    -4.14   0.000    -.7314657   -.2612567
_Istateid_19 |  -.4419552    .125752    -3.51   0.000    -.6885199   -.1953904
_Istateid_41 |  -.1662766   .4724231    -0.35   0.725    -1.092567    .7600136
_Istateid_49 |    .344613   .125183     2.75   0.006     .0991639    .5900621
_Istateid_53 |  -.6454341   .3214438    -2.01   0.045    -1.275696   -.0151722
_Istateid_54 |  -.4287724   .1439759    -2.98   0.003    -.711069    -.1464757
_Istateid_55 |    .607074   .070251     8.64   0.000     .4693313    .7448168
       _cons |   5.183765   .4876331    10.63   0.000     4.227652    6.139878
```

MDC 19

```
      Source |       SS       df       MS              Number of obs =    6219
-------------+------------------------------           F( 25,  6193) =  117.62
       Model |  1645.08208    25   65.803283           Prob > F      =  0.0000
    Residual |  3464.84762  6193  .559478059           R-squared     =  0.3219
-------------+------------------------------           Adj R-squared =  0.3192
       Total |  5109.92969  6218  .821796348           Root MSE      =  .74798

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0006263   .0010565     0.59   0.553    -.0014449    .0026974
      female |   .0079171   .0196605     0.40   0.687    -.0306243    .0464585
        died |   .5715755   .3751298     1.52   0.128    -.1638092     1.30696
      spouse |   .0317387   .0245742     1.29   0.197    -.0164352    .0799126
       child |    .067679   .0353738     1.91   0.056    -.0016658    .1370239
    transfer |  -.0232446   .0219661    -1.06   0.290    -.0663058    .0198166
  ruralurban |   .0094441   .0145516     0.65   0.516    -.0190822    .0379703
   medianage |  -.0026931   .0051302    -0.52   0.600    -.0127502    .0073639
medianincome |   2.06e-06   2.81e-06     0.73   0.464    -3.45e-06    7.56e-06
    surgical |  (dropped)
     medical |   .5693327   .2010497     2.83   0.005     .1752055     .96346
   maternity |  (dropped)
        days |   .0491853   .0013259    37.10   0.000     .0465862    .0517845
    diacount |   .0326663   .0042623     7.66   0.000     .0243108    .0410219
   proccount |    .095092   .0043747    21.74   0.000     .0865161    .1036678
        con1 |   .6630779   .3382448     1.96   0.050     7.02e-07    1.326155
        con2 |   .5661695   .0794921     7.12   0.000     .4103375    .7220016
hhiadmissi~s |  -.0000156   6.97e-06    -2.24   0.025    -.0000293   -1.96e-06
        asc02 |  3.105593   1.493218     2.08   0.038      .178367    6.032819
_Istateid_12 |  -.7017462   .3368055    -2.08   0.037    -1.362002   -.0414905
_Istateid_13 |  -.5542429   .0714604    -7.76   0.000    -.6943301   -.4141558
_Istateid_19 |  -.6375496   .0757675    -8.41   0.000    -.7860802    -.489019
_Istateid_41 |   .1031229   .4533722     0.23   0.820     -.785644    .9918898
_Istateid_49 |    .382917   .0942934     4.06   0.000     .1980692    .5677649
_Istateid_53 |  -.5938351   .3408052    -1.74   0.081    -1.261931    .0742614
_Istateid_54 |  -.4447953    .098931    -4.50   0.000    -.6387344   -.2508562
_Istateid_55 |   .1395966    .05143     2.71   0.007     .0387759    .2404173
       _cons |   7.249061   .2534508    28.60   0.000     6.752209    7.745912
```

MDC 20

```
Source |       SS       df       MS              Number of obs =    2032
-------------+------------------------------           F( 26,  2005) =   34.62
       Model |  589.490707    26  22.6727195           Prob > F      =  0.0000
    Residual |  1313.04596  2005  .654885767           R-squared     =  0.3098
-------------+------------------------------           Adj R-squared =  0.3009
       Total |  1902.53667  2031   .93674873           Root MSE      =  .80925

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |    .004052   .0019592     2.07   0.039     .0002098    .0078943
      female |   .0184542   .0378603     0.49   0.626    -.0557955    .0927038
        died |  (dropped)
      spouse |   .0127167   .0400966     0.32   0.751    -.0659186     .091352
       child |  -.0492821   .0746951    -0.66   0.509    -.1957703     .097206
    transfer |   .0316126     .03869     0.82   0.414    -.0442641    .1074894
  ruralurban |   .0948256   .0367338     2.58   0.010     .0227853    .166866
   medianage |   .0013799   .0089976     0.15   0.878    -.0162658    .0190255
medianincome | -9.11e-07   5.74e-06    -0.16   0.874    -.0000122    .0000103
    surgical |   .5105704   .2612266     1.95   0.051    -.0017336    1.022874
     medical |  (dropped)
   maternity |  (dropped)
        days |    .048012   .0023075    20.81   0.000     .0434865    .0525374
    diacount |   .0388812   .0082451     4.72   0.000     .0227114     .055051
   proccount |   .1039337   .0085164    12.20   0.000     .0872317    .1206357
        con1 |   -.123397   .8197151    -0.15   0.880    -1.730979    1.484186
        con2 |   .4971132   .1759804     2.82   0.005     .1519896    .8422368
  con1xrural |  -.0684814   .0452975    -1.51   0.131    -.1573165    .0203537
  con2xrural |  -.1242954   .0342274    -3.63   0.000    -.1914204   -.0571705
hhiadmissi~s |  -.0000201   .0000117    -1.72   0.086    -.000043    2.82e-06
       asc02 |   1.006485   3.076824     0.33   0.744    -5.027621    7.040591
_Istateid_12 |   .5147757    .81518     0.63   0.528    -1.083913    2.113464
_Istateid_13 |  -.0446717   .1351988    -0.33   0.741    -.3098164    .2204731
_Istateid_19 |  -.1117753   .1468217    -0.76   0.447    -.3997144    .1761639
_Istateid_41 |   1.050502   .8461693     1.24   0.215    -.6089607    2.709965
_Istateid_49 |   .2836652   .1641563     1.73   0.084    -.0382696    .6056001
_Istateid_53 |   .4148792   .8157244     0.51   0.611    -1.184877    2.014635
_Istateid_54 |  -.1560726   .2208423    -0.71   0.480     -.589177    .2770317
_Istateid_55 |   .0840122   .0854778     0.98   0.326    -.0836224    .2516467
       _cons |   6.700596   .4674614    14.33   0.000     5.783835    7.617357
```

MDC 21

```
Source |       SS       df       MS              Number of obs =    2322
-------------+------------------------------           F( 28,  2293) =   86.77
       Model |  1090.44052    28  38.9443045           Prob > F      =  0.0000
    Residual |  1029.12856  2293  .448813154           R-squared     =  0.5145
-------------+------------------------------           Adj R-squared =  0.5085
       Total |  2119.56909  2321  .913213739           Root MSE      =  .66994

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0001722   .0013468    -0.13   0.898    -.0028132    .0024688
      female |   .0065859   .0283888     0.23   0.817    -.0490845    .0622563
        died |   .6612256   .1883849     3.51   0.000     .291803     1.030648
      spouse |  -.0076647   .0324306    -0.24   0.813    -.071261     .0559316
       child |  -.0015907   .0574553    -0.03   0.978    -.1142606    .1110792
    transfer |  -.0148263    .03151    -0.47   0.638    -.0766174    .0469649
  ruralurban |   .0921113   .028862     3.19   0.001     .0355128    .1487097
   medianage |  -.0041355   .0073907    -0.56   0.576    -.0186288    .0103577
medianincome |   4.94e-06   4.39e-06     1.12   0.261    -3.67e-06    .0000135
    surgical |   .2929774   .3907857     0.75   0.454     -.473353    1.059308
     medical |  -.2583135   .3901617    -0.66   0.508     -1.02342    .5067932
   maternity |  (dropped)
        days |   .0665199   .0034408    19.33   0.000     .0597725    .0732673
    diacount |   .0530678   .0050233    10.56   0.000     .0432172    .0629184
   proccount |   .0707439   .0058709    12.05   0.000     .0592311    .0822568
        con1 |   .8676095   .4844746     1.79   0.073    -.0824448    1.817664
        con2 |   1.199194   .171115     7.01   0.000     .8636373     1.53475
  con1xrural |  -.1471236   .0352206    -4.18   0.000    -.2161912   -.0780559
  con2xrural |   -.120984   .0278392    -4.35   0.000    -.1755766   -.0663913
hhiadmissi~s |    .000022   7.88e-06     2.79   0.005     6.53e-06    .0000375
       asc02 |   4.240445   1.966226     2.16   0.031     .3846775    8.096213
_Istateid_12 |  -.2625321   .4795553    -0.55   0.584    -1.20294     .6778754
_Istateid_13 |  -.5463011   .1439315    -3.80   0.000    -.8285506   -.2640516
_Istateid_19 |  -.4873836   .1530115    -3.19   0.001     -.787439   -.1873282
_Istateid_41 |   .0218404   .5398058     0.04   0.968    -1.036718    1.080399
_Istateid_49 |    .43073    .1323575     3.25   0.001     .1711771    .6902829
_Istateid_53 |   -.362964   .4808627    -0.75   0.450    -1.305935    .5800072
_Istateid_54 |  -.6035904   .1707829    -3.53   0.000    -.9384954   -.2686853
_Istateid_55 |   .5959947    .070089     8.50   0.000     .4585502    .7334392
       _cons |   7.126012   .5399845    13.20   0.000     6.067103    8.184921
```

MDC 23

```
Source |       SS       df       MS              Number of obs =    1858
-------------+------------------------------           F( 28,  1829) =  119.40
       Model |   2099.4114    28  74.9789787           Prob > F      =  0.0000
    Residual |  1148.54521  1829  .627963481           R-squared     =  0.6464
-------------+------------------------------           Adj R-squared =  0.6410
       Total |  3247.95661  1857  1.74903425           Root MSE      =  .79244

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0015159    .002064     0.73   0.463    -.0025322     .005564
      female |  -.0959605   .0380032    -2.53   0.012    -.1704947   -.0214263
        died |   .4814049   .2530427     1.90   0.057    -.0148781    .977688
      spouse |  -.0437967   .0412234    -1.06   0.288    -.1246466    .0370532
       child |  -.0819378   .1188193    -0.69   0.491    -.3149735    .1510979
    transfer |  -.0193313   .0404665    -0.48   0.633    -.0986966    .0600341
  ruralurban |   .1432516   .0469432     3.05   0.002     .0511838    .2353194
   medianage |  -.0033124   .0131664    -0.25   0.801    -.0291352    .0225104
medianincome |   .0000108   6.47e-06     1.67   0.095    -1.87e-06    .0000235
    surgical |   .2785879   .4057291     0.69   0.492    -.5171532    1.074329
     medical |  -.5852774   .4034791    -1.45   0.147    -1.376605    .2060507
   maternity |  (dropped)
        days |   .0246088   .0012414    19.82   0.000     .0221741    .0270434
    diacount |   .0919915   .0061463    14.97   0.000      .079937    .1040461
   proccount |   .0735926   .0086231     8.53   0.000     .0566804    .0905048
        con1 |   1.557892   .8115966     1.92   0.055    -.0338611    3.149646
        con2 |   .9718327   .2556922     3.80   0.000     .4703534    1.473312
  con1xrural |  -.1713657   .0510422    -3.36   0.001    -.2714728   -.0712585
  con2xrural |  -.1507149   .0420366    -3.59   0.000    -.2331597   -.0682701
hhiadmissi~s |   .0000214   .0000126     1.70   0.088    -3.22e-06    .0000461
       asc02 |  -1.037908   2.857544    -0.36   0.716     -6.6423    4.566484
_Istateid_12 |  -.8667432   .8016553    -1.08   0.280    -2.438999    .7055128
_Istateid_13 |  -.2238099   .2122539    -1.05   0.292    -.6400954    .1924756
_Istateid_19 |  -.3198241   .2189684    -1.46   0.144    -.7492784    .1096302
_Istateid_41 |   .1522005   .8455373     0.18   0.857    -1.506119     1.81052
_Istateid_49 |   .1973655    .244547     0.81   0.420    -.2822552    .6769862
_Istateid_53 |  -1.030142   .8031283    -1.28   0.200    -2.605287    .5450026
_Istateid_54 |   .0335892   .2764084     0.12   0.903    -.5085201    .5756986
_Istateid_55 |    .340328    .104208     3.27   0.001     .1359489    .5447071
       _cons |   7.147723   .7623219     9.38   0.000      5.65261    8.642836
```

Cost Equations for ICD-9 groupings of Inpatient Stays

-> DXGroup = 1

```
      Source |       SS       df       MS              Number of obs =    3771
-------------+------------------------------           F( 28,  3742) =  208.67
       Model |   2594.3082    28  92.6538642           Prob > F      =  0.0000
    Residual |  1661.56522  3742  .444031326           R-squared     =  0.6096
-------------+------------------------------           Adj R-squared =  0.6067
       Total |  4255.87342  3770  1.12887889           Root MSE      =  .66636

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0009024   .0010949     0.82   0.410    -.0012442     .003049
      female |  -.0320878    .021915    -1.46   0.143    -.0750543    .0108786
        died |   .3861482   .0660338     5.85   0.000     .2566824    .5156139
      spouse |   .0100596   .0276965     0.36   0.716    -.0442422    .0643614
       child |   -.099668   .0493202    -2.02   0.043     -.196365    -.002971
    transfer |   .1358748   .0293416     4.63   0.000     .0783477    .1934019
  ruralurban |   .0844445   .0260141     3.25   0.001     .0334414    .1354477
   medianage |  -.0012744   .0058007    -0.22   0.826    -.0126472    .0100984
medianincome |  7.40e-06   2.94e-06     2.51   0.012     1.63e-06    .0000132
    surgical |   1.648677   .3895667     4.23   0.000     .8848929     2.41246
     medical |   1.332647    .38783     3.44   0.001     .5722677    2.093025
   maternity |  (dropped)
        days |   .0566048   .0018562    30.49   0.000     .0529655    .0602441
    diacount |   .0663451   .0040316    16.46   0.000     .0584406    .0742495
   proccount |   .0813421   .0049336    16.49   0.000     .0716692    .0910149
        con1 |    .321058   .3454779     0.93   0.353    -.3562854    .9984014
        con2 |   .9330012   .1450324     6.43   0.000      .648651    1.217351
  con1xrural |  -.0356837   .0300073    -1.19   0.234    -.0945159    .0231485
  con2xrural |  -.0871962    .02517    -3.46   0.001    -.1365444    -.037848
hhibedssys~m |   .0000183  5.27e-06     3.46   0.001     7.92e-06    .0000286
       asc02 |   2.558881   1.332326     1.92   0.055    -.053275    5.171037
_Istateid_12 |  -.0182654   .3361744    -0.05   0.957    -.6773683    .6408375
_Istateid_13 |  -.4847719   .1177367    -4.12   0.000    -.7156062   -.2539376
_Istateid_19 |   -.463461   .1226361    -3.78   0.000    -.7039012   -.2230208
_Istateid_41 |   .1374584   .4191495     0.33   0.743    -.6843253    .9592421
_Istateid_49 |   .1980415   .1209106     1.64   0.102    -.0390157    .4350986
_Istateid_53 |  -.0287301   .3388283    -0.08   0.932    -.6930362    .6355759
_Istateid_54 |  -.6128453   .1361901    -4.50   0.000    -.8798594   -.3458313
_Istateid_55 |   .4022267   .0649449     6.19   0.000     .2748958    .5295575
       _cons |   5.395768   .4913517    10.98   0.000     4.432425    6.359111
------------------------------------------------------------------------------
```

-> DXGroup = 2

```
      Source |       SS       df       MS              Number of obs =   12247
-------------+------------------------------           F( 28, 12218) =  337.63
       Model |   4125.8581    28  147.352075           Prob > F      =  0.0000
    Residual |  5332.34972 12218  .436433927           R-squared     =  0.4362
-------------+------------------------------           Adj R-squared =  0.4349
       Total |  9458.20782 12246  .772350794           Root MSE      =  .66063

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0018208   .0007089     2.57   0.010     .0004311    .0032104
      female |  -.1289703   .0141012    -9.15   0.000    -.1566109   -.1013297
        died |   .1346113   .0449573     2.99   0.003     .0464879    .2227346
      spouse |  -.0008926   .0132313    -0.07   0.946    -.0268281    .0250429
       child |    .33293   .0440931     7.55   0.000     .2465004    .4193595
    transfer |   .0928794   .0171727     5.41   0.000     .0592181    .1265407
  ruralurban |   .0789765    .013598     5.81   0.000     .0523223    .1056307
  medianage |  -.0025712    .003497    -0.74   0.462    -.0094258    .0042834
medianincome |  3.56e-06   1.88e-06     1.89   0.058    -1.23e-07    7.25e-06
    surgical |   1.262041   .0971139    13.00   0.000     1.071682    1.452399
     medical |   .7291524   .0971597     7.50   0.000     .5387039    .9196009
  maternity |  (dropped)
        days |   .0330143   .0008662    38.12   0.000     .0313164    .0347121
    diacount |   .0532046    .002254    23.60   0.000     .0487865    .0576228
  proccount |   .0821309   .0026915    30.51   0.000     .0768551    .0874068
        con1 |   1.354415   .1247484    10.86   0.000     1.109889    1.598942
        con2 |    .81727   .0692938    11.79   0.000     .6814432    .9530968
  con1xrural |  -.1047127   .0154139    -6.79   0.000    -.1349264    -.074499
  con2xrural |  -.0574562   .0132072    -4.35   0.000    -.0833444   -.0315681
hhibedssys~m |  7.69e-06   3.48e-06     2.21   0.027     8.67e-07    .0000145
       asc02 |   1.402702   .8632888     1.62   0.104    -.2894809    3.094884
_Istateid_12 |  -.8231129   .1203854    -6.84   0.000    -1.059087   -.5871384
_Istateid_13 |  -.1978594   .0550897    -3.59   0.000    -.3058439   -.0898749
_Istateid_19 |  -.3146741   .0597394    -5.27   0.000    -.4317728   -.1975755
_Istateid_41 |  -.4691987   .1651487    -2.84   0.005    -.7929164   -.1454811
_Istateid_49 |   .2215431   .0822064     2.69   0.007     .0604057    .3826806
_Istateid_53 |  -.8775952   .1219489    -7.20   0.000    -1.116634   -.638556
_Istateid_54 |  -.2374045   .0685982    -3.46   0.001    -.3718679   -.1029411
_Istateid_55 |   .7133121   .0318346    22.41   0.000     .6509112    .7757129
       _cons |   6.431796   .1966057    32.71   0.000     6.046418    6.817174
------------------------------------------------------------------------------
```

-> DXGroup = 3

```
      Source |       SS       df       MS              Number of obs =    6174
```

```
-------------+------------------------------          F( 28,  6145) =  232.32
       Model |  3202.45488    28  114.373388          Prob > F      =  0.0000
    Residual |   3025.2528  6145  .492311278          R-squared     =  0.5142
-------------+------------------------------          Adj R-squared =  0.5120
       Total |  6227.70768  6173  1.00886241          Root MSE      =  .70165

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0020013   .0008931    -2.24   0.025    -.0037522   -.0002504
      female |   .0851701   .0185487     4.59   0.000     .0488082    .1215319
        died |   .0605934   .1272594     0.48   0.634    -.1888797    .3100664
      spouse |   .0466673   .0211902     2.20   0.028     .0051271    .0882075
       child |  -.1508328   .0419383    -3.60   0.000    -.2330465    -.068619
    transfer |   .0342328   .0246939     1.39   0.166    -.0141758    .0826415
  ruralurban |   .0283017   .0228282     1.24   0.215    -.0164496    .0730531
   medianage |  -.0128651   .0053415    -2.41   0.016    -.0233364   -.0023938
medianincome |   6.27e-06   2.48e-06     2.52   0.012     1.40e-06    .0000111
    surgical |  (dropped)
     medical |  -.9030306   .0223651   -40.38   0.000    -.9468741   -.8591872
    maternity |   .5681519   .7039029     0.81   0.420    -.8117442    1.948048
        days |   .0655822    .002548    25.74   0.000     .0605872    .0705771
    diacount |   .0346166   .0033079    10.46   0.000     .0281319    .0411013
   proccount |   .0750275   .0040425    18.56   0.000     .0671028    .0829523
        con1 |    .480283   .4129631     1.16   0.245    -.3292693    1.289835
        con2 |    .539168   .1099024     4.91   0.000     .3237207    .7546152
  con1xrural |   .0088522   .0258681     0.34   0.732    -.0418582    .0595627
  con2xrural |  -.0297307    .022294    -1.33   0.182    -.0734348    .0139734
hhibedssys~m |   2.63e-06   4.66e-06     0.56   0.573    -6.51e-06    .0000118
       asc02 |    2.51398   1.177928     2.13   0.033     .2048293     4.82313
_Istateid_12 |  -.2928666   .4067097    -0.72   0.471    -1.09016     .5044269
_Istateid_13 |  -.3418853   .0837282    -4.08   0.000    -.5060218   -.1777488
_Istateid_19 |  -.2050211    .09115    -2.25   0.025    -.3837071   -.0263352
_Istateid_41 |   .1756328   .4381791     0.40   0.689    -.6833516    1.034617
_Istateid_49 |   .3094101   .0863835     3.58   0.000     .1400682     .478752
_Istateid_53 |  -.3035526   .4085671    -0.74   0.458    -1.104487    .4973818
_Istateid_54 |  -.0774384   .1005969    -0.77   0.441    -.2746436    .1197668
_Istateid_55 |   .4052429   .0511799     7.92   0.000     .3049123    .5055734
       _cons |   8.465529   .2523436    33.55   0.000     7.970847    8.960211
------------------------------------------------------------------------------

_____________________________________________________________________________
-> DXGroup = 4

      Source |       SS       df       MS              Number of obs =    1575
-------------+------------------------------          F( 27,  1547) =   41.37
       Model |  572.995353    27  21.2220501          Prob > F      =  0.0000
    Residual |  793.591695  1547  .512987521          R-squared     =  0.4193
```

```
-------------+------------------------------           Adj R-squared =  0.4092
       Total |  1366.58705  1574   .86822557           Root MSE      =  .71623

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0016797    .001785    -0.94   0.347     -.005181    .0018217
      female |   -.021117    .038171    -0.55   0.580    -.0959894    .0537554
        died |    .412599   .2105986     1.96   0.050    -.0004898    .8256878
      spouse |  -.0327989   .0457117    -0.72   0.473    -.1224623    .0568646
       child |  -.0289912   .0800547    -0.36   0.717    -.1860184     .128036
    transfer |   .0238027   .0504838     0.47   0.637    -.0752212    .1228266
  ruralurban |   .0750893   .0518954     1.45   0.148    -.0267034     .176882
   medianage |  -.0230017   .0106816    -2.15   0.031    -.0439536   -.0020497
medianincome |   4.74e-07   5.64e-06     0.08   0.933    -.0000106    .0000115
    surgical |   .4202851   .0748201     5.62   0.000     .2735256    .5670445
     medical |  (dropped)
   maternity |  (dropped)
        days |   .0729008   .0039076    18.66   0.000      .065236    .0805656
    diacount |   .0441017    .007142     6.17   0.000     .0300926    .0581107
   proccount |   .0664392   .0080097     8.29   0.000     .0507282    .0821501
        con1 |   1.107374   .5380211     2.06   0.040     .0520466    2.162702
        con2 |   .9463485    .279298     3.39   0.001     .3985059    1.494191
  con1xrural |  -.1269779   .0569249    -2.23   0.026    -.2386359   -.0153198
  con2xrural |  -.1027268   .0495436    -2.07   0.038    -.1999065    -.005547
hhibedssys~m |   1.83e-06    .000011     0.17   0.869    -.0000198    .0000235
        asc02 |   5.777609   2.705828     2.14   0.033     .4701301    11.08509
_Istateid_12 |  -.8010766   .5201416    -1.54   0.124    -1.821334    .2191803
_Istateid_13 |  -.5902739   .2268625    -2.60   0.009    -1.035264   -.1452835
_Istateid_19 |   -.450264   .2384582    -1.89   0.059    -.9179995    .0174715
_Istateid_41 |  -.5640137   .7237987    -0.78   0.436    -1.983744    .8557164
_Istateid_49 |  -.0853914   .2098382    -0.41   0.684    -.4969887    .3262058
_Istateid_53 |  -.7234529   .5248209    -1.38   0.168    -1.752888    .3059825
_Istateid_54 |  -.5311763   .2573967    -2.06   0.039     -1.03606    -.026293
_Istateid_55 |   .3964034    .115548     3.43   0.001     .1697562    .6230505
       _cons |   8.317433   .5359444    15.52   0.000     7.266179    9.368687
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-> DXGroup = 5

      Source |       SS       df       MS           Number of obs =    8267
-------------+------------------------------           F( 28,  8238) =  135.37
       Model |  2217.58611    28   79.199504           Prob > F      =  0.0000
    Residual |  4819.87602  8238   .58507842           R-squared     =  0.3151
-------------+------------------------------           Adj R-squared =  0.3128
       Total |  7037.46213  8266  .851374562           Root MSE      =   .7649
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   lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
------------+-----------------------------------------------------------------
        age |   .0010218   .0009295     1.10   0.272    -.0008003     .002844
     female |   .0222933   .0170425     1.31   0.191    -.0111142    .0557009
       died |   .2756477   .4426422     0.62   0.533    -.5920425    1.143338
     spouse |    .021165   .0208602     1.01   0.310    -.0197264    .0620563
      child |   .0669687    .031727     2.11   0.035     .0047757    .1291616
   transfer |  -.0036157   .0189648    -0.19   0.849    -.0407915    .0335601
 ruralurban |   .0391479   .0189011     2.07   0.038      .002097    .0761989
  medianage |  -.0001738   .0045052    -0.04   0.969    -.0090051    .0086575
medianincome |  -2.65e-06   2.66e-06    -1.00   0.320    -7.86e-06    2.57e-06
   surgical |   .7064188    .231799     3.05   0.002     .2520344    1.160803
    medical |    .132993   .1219997     1.09   0.276    -.1061572    .3721432
  maternity |  (dropped)
       days |   .0486445    .001135    42.86   0.000     .0464195    .0508695
   diacount |   .0346353    .003776     9.17   0.000     .0272335    .0420371
  proccount |   .0980522    .003879    25.28   0.000     .0904483     .105656
       con1 |   .5055103   .3194579     1.58   0.114    -.1207076    1.131728
       con2 |   .6812406   .0860192     7.92   0.000     .5126213    .8498599
 con1xrural |   .0160091   .0224475     0.71   0.476    -.0279935    .0600118
 con2xrural |  -.0801686   .0176266    -4.55   0.000    -.1147213   -.0456159
hhibedssys~m |  -.0000146   6.32e-06    -2.30   0.021    -.000027   -2.17e-06
      asc02 |   1.598849   1.336707     1.20   0.232    -1.021432    4.219131
_Istateid_12 |   -.521699   .3144459    -1.66   0.097    -1.138092    .0946942
_Istateid_13 |  -.4437945   .0634334    -7.00   0.000    -.5681399   -.3194492
_Istateid_19 |   -.463737   .0682087    -6.80   0.000    -.5974433   -.3300308
_Istateid_41 |    .128956   .3643257     0.35   0.723    -.5852142    .8431262
_Istateid_49 |   .3435688   .0828614     4.15   0.000     .1811395    .5059981
_Istateid_53 |  -.4880354   .3165546    -1.54   0.123    -1.108562    .1324914
_Istateid_54 |  -.3855078   .0899576    -4.29   0.000    -.5618473   -.2091682
_Istateid_55 |   .1413646   .0438476     3.22   0.001     .0554124    .2273169
       _cons |   7.248119   .2278257    31.81   0.000     6.801524    7.694715
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-> DXGroup = 6

      Source |       SS       df       MS              Number of obs =    2503
-------------+------------------------------           F( 28,  2474) =   85.01
       Model |  1276.05318    28  45.5733279           Prob > F      =  0.0000
    Residual |  1326.31364  2474  .536100904           R-squared     =  0.4903
-------------+------------------------------           Adj R-squared =  0.4846
       Total |  2602.36682  2502  1.04011463           Root MSE      =  .73219

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   lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
------------+-----------------------------------------------------------------
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       age |   .0002634   .0014234     0.19   0.853    -.0025278    .0030546
    female |  -.0453309   .0305998    -1.48   0.139    -.1053347    .0146729
      died |   .5008355   .1913085     2.62   0.009     .1256942    .8759768
    spouse |   -.035444   .0353873    -1.00   0.317    -.1048359    .0339478
     child |   .0844665   .0635005     1.33   0.184    -.0400531    .2089861
  transfer |   .0706651    .037006     1.91   0.056    -.0019008     .143231
 ruralurban |   .1310183   .0370599     3.54   0.000     .0583467    .2036899
 medianage |  -.0236799   .0078282    -3.02   0.003    -.0390305   -.0083294
medianincome |  3.82e-06   4.46e-06     0.86   0.392    -4.94e-06    .0000126
  surgical |   .6814968   .5228193     1.30   0.193    -.3437117    1.706705
   medical |   -.270747   .5220136    -0.52   0.604    -1.294376    .7528816
 maternity |  (dropped)
      days |   .0242237   .0014167    17.10   0.000     .0214456    .0270017
  diacount |   .0589756   .0053856    10.95   0.000     .0484148    .0695363
 proccount |   .0906637   .0062971    14.40   0.000     .0783156    .1030118
      con1 |    .027161   .5353458     0.05   0.960    -1.022611    1.076933
      con2 |   .4838902   .1845582     2.62   0.009     .1219857    .8457947
 con1xrural |  -.0606615   .0412355    -1.47   0.141    -.1415211    .0201981
 con2xrural |  -.1290447   .0361583    -3.57   0.000    -.1999484   -.0581409
hhibedssys~m |  5.04e-06   8.15e-06     0.62   0.537    -.000011     .000021
     asc02 |   4.605371   2.080141     2.21   0.027     .5263744    8.684367
_Istateid_12 |   .3658598   .5214716     0.70   0.483     -.656706    1.388426
_Istateid_13 |   .0872281   .1457579     0.60   0.550    -.1985918    .3730481
_Istateid_19 |   .0392017   .1552787     0.25   0.801    -.2652879    .3436913
_Istateid_41 |   .7992191   .5990576     1.33   0.182    -.3754868    1.973925
_Istateid_49 |  -.0340638   .1669416    -0.20   0.838    -.3614235    .2932959
_Istateid_53 |   .4133761   .5252517     0.79   0.431    -.6166023    1.443354
_Istateid_54 |   .0592972   .1715954     0.35   0.730    -.2771882    .3957827
_Istateid_55 |    .709733   .0772592     9.19   0.000     .5582335    .8612324
     _cons |   7.943919   .6544108    12.14   0.000      6.66067    9.227169
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-> DXGroup = 7

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      Source |       SS       df       MS              Number of obs =   22768
-------------+------------------------------           F( 28, 22739) = 1005.67
       Model |  13681.6056    28   488.62877           Prob > F      =  0.0000
    Residual |  11048.2824 22739  .485873714           R-squared     =  0.5532
-------------+------------------------------           Adj R-squared =  0.5527
       Total |  24729.888 22767  1.08621636           Root MSE      =  .69705

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    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       age |  -.0016323   .0005782    -2.82   0.005    -.0027656    -.000499
    female |  -.0876854    .009684    -9.05   0.000    -.1066668    -.068704
      died |    .310029   .0435898     7.11   0.000       .22459    .3954681
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      spouse |   .0306821   .0098022     3.13   0.002      .011469    .0498952
       child |   .1189884    .045296     2.63   0.009     .0302052    .2077716
    transfer |   .0379267   .0115107     3.29   0.001      .015365    .0604885
  ruralurban |   .0816813   .0114704     7.12   0.000     .0591985    .1041642
   medianage |  -.0151297   .0023767    -6.37   0.000    -.0197883   -.0104711
medianincome |   2.17e-06   1.40e-06     1.55   0.120    -5.68e-07    4.91e-06
    surgical |   1.607372   .1807007     8.90   0.000     1.253186    1.961557
     medical |   .5474572   .1805921     3.03   0.002     .1934844      .90143
   maternity |  (dropped)
        days |   .0410717   .0009368    43.84   0.000     .0392355     .042908
    diacount |   .0557449   .0015391    36.22   0.000     .0527282    .0587617
   proccount |   .0727925   .0019898    36.58   0.000     .0688924    .0766926
        con1 |   .5629899   .1351629     4.17   0.000     .2980613    .8279184
        con2 |   1.132481   .0559847    20.23   0.000     1.022747    1.242215
  con1xrural |  -.1072254   .0130221    -8.23   0.000    -.1327496   -.0817012
  con2xrural |  -.0702987   .0110142    -6.38   0.000    -.0918873   -.0487101
hhibedssys~m |  -3.85e-07   2.66e-06    -0.14   0.885    -5.59e-06    4.82e-06
       asc02 |   3.330809   .6220035     5.35   0.000      2.11164    4.549979
_Istateid_12 |    .000607   .1310455     0.00   0.996    -.2562511    .2574652
_Istateid_13 |  -.6287585   .0424641   -14.81   0.000     -.711991   -.5455259
_Istateid_19 |  -.6012459   .0469769   -12.80   0.000    -.6933237    -.509168
_Istateid_41 |   .2941049   .1658523     1.77   0.076    -.0309769    .6191867
_Istateid_49 |   .3585311   .0627003     5.72   0.000     .2356343     .481428
_Istateid_53 |   -.138906   .1330366    -1.04   0.296    -.3996668    .1218548
_Istateid_54 |  -.5439859   .0511758   -10.63   0.000    -.6442939   -.4436779
_Istateid_55 |    .645279   .0273161    23.62   0.000     .5917376    .6988203
       _cons |   7.198032    .220825    32.60   0.000     6.765199    7.630864
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-> DXGroup = 8

      Source |       SS       df       MS              Number of obs =   11189
-------------+------------------------------           F( 28, 11160) =  556.19
       Model |  5829.8835     28  208.210125           Prob > F      =  0.0000
    Residual |  4177.77154 11160  .374352289           R-squared     =  0.5825
-------------+------------------------------           Adj R-squared =  0.5815
       Total |  10007.655 11188   .89449902           Root MSE      =  .61184

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    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0005736   .0006261     0.92   0.360    -.0006536    .0018008
      female |  -.0129919   .0118206    -1.10   0.272    -.0361623    .0101785
        died |   .2271679   .0492372     4.61   0.000     .1306542    .3236815
      spouse |   .0408032   .0145211     2.81   0.005     .0123392    .0692671
       child |  -.0252417   .0311482    -0.81   0.418    -.0862977    .0358143
    transfer |   .0849258   .0163481     5.19   0.000     .0528807    .1169709
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  ruralurban |   .0676638   .0125196     5.40   0.000     .0431231    .0922045
   medianage |  -.0201545   .0030682    -6.57   0.000    -.0261687   -.0141404
medianincome |   2.90e-06   1.54e-06     1.89   0.059    -1.06e-07    5.92e-06
    surgical |   .5993196   .1713757     3.50   0.000     .2633929    .9352462
     medical |   .1625654   .1702826     0.95   0.340    -.1712186    .4963495
   maternity |  (dropped)
        days |    .054463   .0009795    55.60   0.000     .0525429    .0563831
    diacount |   .0655541      .0022    29.80   0.000     .0612418    .0698664
   proccount |   .0775541   .0027493    28.21   0.000     .0721651    .0829431
        con1 |   .3806966   .1896471     2.01   0.045     .0089548    .7524384
        con2 |   .8081189   .0727395    11.11   0.000     .6655367    .9507012
  con1xrural |  -.0533105   .0152512    -3.50   0.000    -.0832055   -.0234156
  con2xrural |  -.0679646   .0119844    -5.67   0.000    -.0914561   -.0444731
hhibedssys~m |   .0000114   2.74e-06     4.17   0.000     6.06e-06    .0000168
       asc02 |   1.352328   .6700704     2.02   0.044     .0388716    2.665784
_Istateid_12 |   .0255358   .1865912     0.14   0.891    -.3402159    .3912875
_Istateid_13 |  -.3758909   .0595484    -6.31   0.000    -.4926163   -.2591654
_Istateid_19 |  -.3262184   .0625294    -5.22   0.000    -.4487871   -.2036497
_Istateid_41 |   .2285717   .2519889     0.91   0.364    -.2653711    .7225145
_Istateid_49 |   .1222427   .0578904     2.11   0.035     .0087673     .235718
_Istateid_53 |  -.0266522    .18792    -0.14   0.887    -.3950087    .3417042
_Istateid_54 |  -.3944791   .0675677    -5.84   0.000    -.5269238   -.2620345
_Istateid_55 |    .410732   .0333155    12.33   0.000     .3454277    .4760363
       _cons |   7.513537   .2259747    33.25   0.000     7.070587    7.956487
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-> DXGroup = 9

      Source |       SS       df       MS              Number of obs =   18226
-------------+------------------------------           F( 28, 18197) =  632.07
       Model |  7224.81793    28  258.029212           Prob > F      =  0.0000
    Residual |  7428.48473 18197  .408225792           R-squared     =  0.4931
-------------+------------------------------           Adj R-squared =  0.4923
       Total |  14653.3027 18225  .804022094           Root MSE      =  .63893

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    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0019737   .0004593     4.30   0.000     .0010735    .0028739
      female |   -.003306   .0095995    -0.34   0.731    -.0221219     .01551
        died |   .1892885   .0622563     3.04   0.002     .0672604    .3113167
      spouse |   .0060965   .0106036     0.57   0.565    -.0146877    .0268806
       child |   .0164792   .0224299     0.73   0.463    -.0274855    .0604439
    transfer |   .0502724     .01382     3.64   0.000      .023184    .0773609
  ruralurban |    .093496   .0100889     9.27   0.000     .0737209    .1132711
   medianage |  -.0065339   .0023888    -2.74   0.006    -.0112162   -.0018516
medianincome |   5.43e-06   1.30e-06     4.16   0.000     2.87e-06    7.99e-06
```

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   surgical |   .3571183   .1604405     2.23   0.026     .0426398    .6715967
    medical |  -.2257563   .1603982    -1.41   0.159    -.5401519    .0886392
  maternity |  (dropped)
       days |   .0652852   .0010748    60.74   0.000     .0631785    .0673918
   diacount |   .0458195   .0017819    25.71   0.000     .0423267    .0493122
  proccount |   .0571469   .0020961    27.26   0.000     .0530383    .0612556
       con1 |   1.002306   .1469956     6.82   0.000     .7141803    1.290431
       con2 |    .868325   .0549951    15.79   0.000     .7605295    .9761206
 con1xrural |  -.0868856   .0119195    -7.29   0.000    -.1102489   -.0635223
 con2xrural |  -.0842228   .0096641    -8.72   0.000    -.1031653   -.0652803
hhibedssys~m |   .0000126   2.38e-06     5.28   0.000     7.90e-06    .0000172
      asc02 |   2.253612   .5768898     3.91   0.000     1.122854    3.384371
_Istateid_12 |   -.544171   .1444721    -3.77   0.000    -.8273499   -.2609921
_Istateid_13 |  -.3045427   .0439611    -6.93   0.000    -.3907106   -.2183748
_Istateid_19 |  -.2675696   .0474944    -5.63   0.000    -.3606632   -.1744761
_Istateid_41 |   .0212817   .1840277     0.12   0.908    -.3394299    .3819932
_Istateid_49 |   .2604622   .0511151     5.10   0.000     .1602718    .3606526
_Istateid_53 |  -.6103402   .1452978    -4.20   0.000    -.8951376   -.3255428
_Istateid_54 |  -.2604281   .0530313    -4.91   0.000    -.3643746   -.1564817
_Istateid_55 |   .6378709   .0256827    24.84   0.000     .5875304    .6882115
       _cons |   7.281732   .1998059    36.44   0.000     6.890093    7.67337
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-> DXGroup = 10

      Source |       SS       df       MS              Number of obs =   11913
-------------+------------------------------           F( 28, 11884) =  275.15
       Model |  2602.96578    28  92.9630636           Prob > F      =  0.0000
    Residual |  4015.12702 11884  .337859897           R-squared     =  0.3933
-------------+------------------------------           Adj R-squared =  0.3919
       Total |  6618.0928 11912  .555582001           Root MSE      =  .58126

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    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0011112   .0005409     2.05   0.040      .000051    .0021713
      female |   .0723636   .0150051     4.82   0.000     .0429511    .1017761
        died |   .3961009   .1024448     3.87   0.000     .1952924    .5969095
      spouse |  -.0259976   .0116151    -2.24   0.025    -.0487651   -.0032301
       child |  -.0152125   .0285047    -0.53   0.594    -.0710865    .0406614
    transfer |   .0210674   .0168125     1.25   0.210    -.0118878    .0540226
  ruralurban |    .104374   .011476      9.10   0.000     .0818793    .1268688
  medianage  |  -.0148264   .0028838    -5.14   0.000    -.0204791   -.0091738
medianincome |  -3.78e-06   1.44e-06    -2.62   0.009    -6.60e-06   -9.56e-07
    surgical |  -.2741619   .3362928    -0.82   0.415    -.9333509    .3850271
     medical |  -.8924067   .3363035    -2.65   0.008    -1.551617   -.2331969
   maternity |  (dropped)
```

```
       days |   .0570917   .0018002    31.71   0.000      .053563    .0606204
   diacount |   .0442371   .0022934    19.29   0.000     .0397416    .0487325
  proccount |   .0584588   .0024432    23.93   0.000     .0536697     .063248
       con1 |   1.217362   .2932691     4.15   0.000      .642507    1.792218
       con2 |   .9556108   .0615919    15.52   0.000     .8348805    1.076341
 con1xrural |  -.1174792   .0136415    -8.61   0.000    -.1442188   -.0907396
 con2xrural |  -.1266371   .0109214   -11.60   0.000    -.1480449   -.1052294
hhibedssys~m |   .0000168   2.57e-06     6.56   0.000     .0000118    .0000219
      asc02 |   3.365857   .6259569     5.38   0.000     2.138879    4.592835
_Istateid_12 |  -.7866006   .2917566    -2.70   0.007    -1.358491   -.2147099
_Istateid_13 |  -.2790704   .0478307    -5.83   0.000    -.3728263   -.1853144
_Istateid_19 |  -.2538052   .0512279    -4.95   0.000    -.3542203   -.1533901
_Istateid_41 |  -.2061146   .3203049    -0.64   0.520    -.8339645    .4217353
_Istateid_49 |   .1264395   .0553455     2.28   0.022     .0179532    .2349258
_Istateid_53 |  -.7921012   .2922116    -2.71   0.007    -1.364884   -.2193186
_Istateid_54 |  -.2396164   .0564063    -4.25   0.000    -.3501819   -.1290509
_Istateid_55 |   .6369304    .030718    20.73   0.000     .5767181    .6971427
       _cons |   8.580613   .3613644    23.75   0.000      7.87228    9.288947
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-> DXGroup = 11

      Source |       SS       df       MS              Number of obs =   35740
-------------+------------------------------           F( 28, 35711) =  784.62
       Model |  4598.03492    28  164.215533           Prob > F      =  0.0000
    Residual |  7474.05168 35711  .209292702           R-squared     =  0.3809
-------------+------------------------------           Adj R-squared =  0.3804
       Total |  12072.0866 35739  .337784678           Root MSE      =  .45749

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    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0008968   .0004932     1.82   0.069    -.0000699    .0018636
      female |   .3430764   .0480821     7.14   0.000     .248834    .4373188
        died |  -.2650268   .1270877    -2.09   0.037    -.5141226    -.015931
      spouse |  -.0283142   .0050828    -5.57   0.000    -.0382767   -.0183518
       child |  -.0827755   .0138535    -5.98   0.000    -.1099287   -.0556223
    transfer |   .0423977   .0087566     4.84   0.000     .0252345    .059561
  ruralurban |   .0381397   .0046735     8.16   0.000     .0289795    .0472999
   medianage |  -.0059764   .0014367    -4.16   0.000    -.0087924   -.0031604
medianincome |  -2.72e-06   7.16e-07    -3.80   0.000    -4.13e-06   -1.32e-06
    surgical |   1.152896   .0581547    19.82   0.000     1.038911    1.266881
     medical |  (dropped)
   maternity |   1.233086   .0397827    31.00   0.000     1.155111    1.311061
        days |   .0502287    .000849    59.17   0.000     .0485647    .0518926
    diacount |   .0396529   .0012669    31.30   0.000     .0371698    .0421361
   proccount |   .0659858   .0011965    55.15   0.000     .0636405    .068331
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       con1 |   .4051242   .1456478     2.78   0.005     .1196501    .6905984
       con2 |   .3328093   .0316125    10.53   0.000     .2708478    .3947708
  con1xrural |  -.0574079   .0059034    -9.72   0.000    -.0689788    -.045837
  con2xrural |  -.0249259   .0047179    -5.28   0.000    -.0341732   -.0156787
hhibedssys~m |   .0000104   1.28e-06     8.14   0.000     7.89e-06    .0000129
      asc02 |    .872979   .3311555     2.64   0.008     .2239042    1.522054
_Istateid_12 |  -.2991688   .1451045    -2.06   0.039    -.5835781   -.0147596
_Istateid_13 |  -.0820641    .027312    -3.00   0.003    -.1355965   -.0285318
_Istateid_19 |   -.146904    .027677    -5.31   0.000    -.2011518   -.0926561
_Istateid_41 |  -.0202634    .156785    -0.13   0.897    -.3275668    .2870401
_Istateid_49 |  -.0247173   .0201724    -1.23   0.220    -.0642557    .0148212
_Istateid_53 |  -.2206238   .1451347    -1.52   0.128    -.5050922    .0638446
_Istateid_54 |  -.1445093   .0327038    -4.42   0.000    -.2086098   -.0804088
_Istateid_55 |   .4402683   .0127308    34.58   0.000     .4153156    .465221
       _cons |   6.570972   .0744922    88.21   0.000     6.424965    6.716979
------------------------------------------------------------------------------


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-> DXGroup = 12

      Source |       SS       df       MS              Number of obs =    2373
-------------+------------------------------           F( 27,  2345) =   98.80
       Model |  903.998356    27  33.4814206           Prob > F      =  0.0000
    Residual |  794.708113  2345  .338894718           R-squared     =  0.5322
-------------+------------------------------           Adj R-squared =  0.5268
       Total |  1698.70647  2372  .716149439           Root MSE      =  .58215

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    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0012597   .0011997    -1.05   0.294    -.0036123    .0010929
      female |   .0233261   .0241781     0.96   0.335    -.0240866    .0707389
        died |   .1700181   .3384757     0.50   0.615    -.4937247    .8337609
      spouse |   .0591634   .0277795     2.13   0.033     .0046885    .1136384
       child |   -.088623    .056655    -1.56   0.118    -.1997222    .0224762
    transfer |   .0450948   .0285221     1.58   0.114    -.0108363    .1010259
  ruralurban |   .0550382   .0278164     1.98   0.048      .000491    .1095855
  medianage  |  -.0107941   .0061094    -1.77   0.077    -.0227746    .0011863
medianincome |   7.54e-06   3.31e-06     2.28   0.023     1.05e-06     .000014
    surgical |   .3315406   .0290272    11.42   0.000     .2746191    .3884621
     medical |  (dropped)
   maternity |  (dropped)
        days |    .050872   .0020836    24.42   0.000     .0467861    .0549579
    diacount |   .0536508   .0043343    12.38   0.000     .0451513    .0621504
   proccount |   .0679261   .0053886    12.61   0.000     .0573592    .0784929
       con1 |   .4970617   .3057459     1.63   0.104    -.1024987    1.096622
       con2 |   .6962331   .1613536     4.31   0.000     .3798224    1.012644
  con1xrural |  -.0452722   .0318392    -1.42   0.155    -.1077081    .0171636
```

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  con2xrural |  -.0492379   .0257752    -1.91   0.056    -.0997825    .0013067
hhibedssys~m |   9.84e-06   5.97e-06     1.65   0.099    -1.87e-06    .0000216
       asc02 |  -.3326612    1.50246    -0.22   0.825    -3.278949    2.613626
_Istateid_12 |  -.2400889   .2963443    -0.81   0.418    -.8212131    .3410353
_Istateid_13 |  -.4112047    .13242    -3.11   0.002    -.6708772   -.1515321
_Istateid_19 |  -.4952308   .1400532    -3.54   0.000    -.7698719   -.2205898
_Istateid_41 |  -.0072428   .3671762    -0.02   0.984    -.7272666    .7127809
_Istateid_49 |  -.0479226   .1562401    -0.31   0.759    -.3543058    .2584606
_Istateid_53 |  -.1875219   .2985489    -0.63   0.530    -.7729692    .3979253
_Istateid_54 |  -.4815159   .1535309    -3.14   0.002    -.7825863   -.1804455
_Istateid_55 |   .3047795   .0689866     4.42   0.000     .1694985    .4400605
       _cons |   7.410117    .309391    23.95   0.000     6.803408    8.016825
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-> DXGroup = 13

      Source |       SS       df       MS              Number of obs =   11648
-------------+------------------------------           F( 28, 11619) =  304.39
       Model |  4278.38523    28  152.799472           Prob > F      =  0.0000
    Residual |  5832.59327 11619  .501987543           R-squared     =  0.4231
-------------+------------------------------           Adj R-squared =  0.4218
       Total |  10110.9785 11647  .868118699           Root MSE      =  .70851

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    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0010522    .000739     1.42   0.155    -.0003963    .0025008
      female |   .0429108   .0133199     3.22   0.001     .0168016    .0690201
        died |  -.1562787   .2057157    -0.76   0.447     -.559516    .2469585
      spouse |   .0240719   .0141632     1.70   0.089    -.0036903    .0518341
       child |   .1069258   .0424196     2.52   0.012     .0237763    .1900753
    transfer |    .129058   .015337     8.41   0.000     .0989948    .1591212
  ruralurban |   .0986831   .0143696     6.87   0.000     .0705162    .1268499
   medianage |  -.0176575   .0035487    -4.98   0.000    -.0246135   -.0107015
medianincome |   3.68e-06   2.13e-06     1.72   0.085    -5.04e-07    7.86e-06
    surgical |   .8645293   .2904766     2.98   0.003     .2951464    1.433912
     medical |  -.2051997   .2908102    -0.71   0.480    -.7752367    .3648372
   maternity |  (dropped)
        days |   .0488768   .0021553    22.68   0.000     .044652    .0531016
    diacount |   .0336106   .0026743    12.57   0.000     .0283684    .0388527
   proccount |   .0919772   .0027535    33.40   0.000     .0865798    .0973745
        con1 |   .4006815   .2408875     1.66   0.096    -.0714985    .8728615
        con2 |   .8407927   .0783093    10.74   0.000     .6872933    .9942921
  con1xrural |  -.1351924   .0168646    -8.02   0.000    -.1682498   -.1021349
  con2xrural |   -.110786   .0141448    -7.83   0.000    -.1385122   -.0830598
hhibedssys~m |   .0000184   4.19e-06     4.39   0.000     .0000102    .0000266
       asc02 |   6.169204   .9270077     6.65   0.000     4.352113    7.986295
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_Istateid_12 |   .006484   .2384045     0.03   0.978    -.4608289    .4737969
_Istateid_13 |  -.2847775   .0644297    -4.42   0.000    -.4110705   -.1584844
_Istateid_19 |  -.1593895   .0702831    -2.27   0.023    -.2971562   -.0216227
_Istateid_41 |   .3709188   .2600569     1.43   0.154    -.1388365    .880674
_Istateid_49 |   .1203952   .0698848     1.72   0.085    -.0165908    .2573812
_Istateid_53 |  -.1267623   .2389403    -0.53   0.596    -.5951254    .3416009
_Istateid_54 |  -.1234722   .0829601    -1.49   0.137     -.286088    .0391437
_Istateid_55 |   .6668282   .0334027    19.96   0.000     .6013533    .7323032
       _cons |   7.649363   .3442363    22.22   0.000     6.974602    8.324124
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-> DXGroup = 14

      Source |       SS       df       MS              Number of obs =    1007
-------------+------------------------------           F( 29,   977) =   45.61
       Model |  764.054095    29  26.3466929           Prob > F      =  0.0000
    Residual |  564.340827   977   .57762623           R-squared     =  0.5752
-------------+------------------------------           Adj R-squared =  0.5626
       Total |  1328.39492  1006  1.32047209           Root MSE      =  .76002

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    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0037281   .0028943     1.29   0.198    -.0019517    .0094079
      female |   .0680817    .049094     1.39   0.166    -.0282601    .1644234
        died |   .4504059   .2427464     1.86   0.064    -.0259583    .9267702
      spouse |   .0559632   .0924225     0.61   0.545    -.1254063    .2373327
       child |   .1585606    .134556     1.18   0.239    -.1054914    .4226126
    transfer |   .1555913   .0683398     2.28   0.023     .0214817    .2897009
  ruralurban |   .0801173   .0766114     1.05   0.296    -.0702246    .2304591
   medianage |  -.0469705   .0175892    -2.67   0.008    -.0814875   -.0124535
medianincome |    .000017   .0000102     1.66   0.096    -3.04e-06    .000037
    surgical |   .4455491    .32326     1.38   0.168    -.1888149    1.079913
     medical |  -.3544248   .3269831    -1.08   0.279    -.9960948    .2872453
   maternity |  -.6219035    .453028    -1.37   0.170    -1.510923    .2671163
        days |   .0315168   .0024343    12.95   0.000     .0267397    .036294
    diacount |   .0697201   .0089633     7.78   0.000     .0521306    .0873097
   proccount |   .1248771   .0107764    11.59   0.000     .1037295    .1460247
        con1 |   .5236622   .3658533     1.43   0.153    -.1942864    1.241611
        con2 |   .7444699   .3164468     2.35   0.019     .1234762    1.365464
  con1xrural |  -.1380935   .0803655    -1.72   0.086    -.2958024    .0196153
  con2xrural |  -.0334558   .0809249    -0.41   0.679    -.1922624    .1253507
hhibedssys~m |   -.000017   .0000209    -0.82   0.415    -.0000579    .0000239
       asc02 |   4.245132   4.922652     0.86   0.389    -5.415056    13.90532
_Istateid_12 |   .2096809   .3236205     0.65   0.517    -.4253903    .8447522
_Istateid_13 |  -.4307144   .2354091    -1.83   0.068    -.8926801    .0312513
_Istateid_19 |  -.2552371   .2471834    -1.03   0.302    -.7403085    .2298343
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_Istateid_41 |   .1692516   .4845216     0.35   0.727    -.7815712    1.120075
_Istateid_49 |  -.1722459   .2214324    -0.78   0.437    -.6067836    .2622919
_Istateid_53 |  -.0435019    .326714    -0.13   0.894    -.6846438    .5976401
_Istateid_54 |  -.2173825   .2706679    -0.80   0.422    -.7485398    .3137749
_Istateid_55 |   .5418345   .1321558     4.10   0.000     .2824927    .8011764
       _cons |   8.124138   .9993935     8.13   0.000     6.162933    10.08534
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-> DXGroup = 15

      Source |       SS       df       MS              Number of obs =     847
-------------+------------------------------           F( 28,   818) =   54.94
       Model |  1449.29705    28   51.760609           Prob > F      =  0.0000
    Residual |   770.71689   818  .942196687           R-squared     =  0.6528
-------------+------------------------------           Adj R-squared =  0.6409
       Total |  2220.01394   846  2.62412996           Root MSE      =  .97067

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    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0235774   .0096984    -2.43   0.015    -.0426141   -.0045407
      female |   .0290497    .069263     0.42   0.675    -.1069043    .1650037
        died |   1.752735   .4918267     3.56   0.000     .7873445    2.718126
      spouse |   .6990555   .3817637     1.83   0.067    -.0502964    1.448407
       child |   .1226943    .207138     0.59   0.554    -.2838903    .5292788
    transfer |   .3780671   .0915881     4.13   0.000     .1982917    .5578425
  ruralurban |   .0552375   .0736609     0.75   0.454    -.0893491    .1998241
   medianage |   .0111045   .0197027     0.56   0.573    -.0275694    .0497784
medianincome |   .0000222   .0000107     2.07   0.039     1.14e-06    .0000433
    surgical |  -1.107269   1.099549    -1.01   0.314    -3.265537       1.051
     medical |   -.592241   1.147254    -0.52   0.606     -2.84415    1.659668
   maternity |  -.6772157   1.001607    -0.68   0.499    -2.643237    1.288806
        days |   .0167814   .0016779    10.00   0.000      .013488    .0200749
    diacount |   .1788263   .0125955    14.20   0.000     .1541029    .2035497
   proccount |   .1184782   .0154778     7.65   0.000     .0880973     .148859
        con1 |   .9174792    .448475     2.05   0.041     .0371819    1.797777
        con2 |   .6913668   .4631883     1.49   0.136    -.2178108    1.600544
  con1xrural |   .0018869   .0804228     0.02   0.981    -.1559724    .1597463
  con2xrural |   .0142814   .0702099     0.20   0.839    -.1235314    .1520942
hhibedssys~m |   -.000032    .000019    -1.69   0.092    -.0000692    5.23e-06
      asc02 |   6.024692   5.023295     1.20   0.231    -3.835374    15.88476
_Istateid_12 |  -.8219962   .3608074    -2.28   0.023    -1.530214   -.1137787
_Istateid_13 |  -.4658009   .3967937    -1.17   0.241    -1.244655    .3130529
_Istateid_19 |  -.4341126   .3992746    -1.09   0.277    -1.217836    .3496108
_Istateid_41 |  (dropped)
_Istateid_49 |   .6489512   .2735421     2.37   0.018     .1120241    1.185878
_Istateid_53 |  -.8806133   .3762629    -2.34   0.020    -1.619168   -.1420588
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_Istateid_54 |  -.6414359   .4825457    -1.33   0.184     -1.58861    .3057379
_Istateid_55 |   .2526146   .1609097     1.57   0.117      -.06323    .5684591
       _cons |   5.643958   1.470839     3.84   0.000     2.756895    8.531022
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-> DXGroup = 16

      Source |       SS       df       MS              Number of obs =   10845
-------------+------------------------------           F( 29, 10815) =  231.43
       Model |  2591.55411    29  89.3639347           Prob > F      =  0.0000
    Residual |  4176.11785 10815  .386141271           R-squared     =  0.3829
-------------+------------------------------           Adj R-squared =  0.3813
       Total |  6767.67195 10844  .624093688           Root MSE      =   .6214

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    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0011475   .0006171    -1.86   0.063    -.0023572    .0000621
      female |  -.0053855   .0121159    -0.44   0.657    -.0291348    .0183639
        died |   .3222956    .16203     1.99   0.047     .0046871     .639904
      spouse |   .0175263   .0131983     1.33   0.184    -.0083447    .0433973
       child |  -.0028009   .0323688    -0.09   0.931    -.0662497    .0606479
    transfer |  -.0226574   .0159653    -1.42   0.156    -.0539523    .0086376
  ruralurban |   .1017707    .013475     7.55   0.000     .0753572    .1281843
   medianage |  -.0145169   .0030387    -4.78   0.000    -.0204733   -.0085606
medianincome |   2.26e-06   1.68e-06     1.35   0.178    -1.03e-06    5.56e-06
    surgical |   .2781523   .1669419     1.67   0.096    -.0490844     .605389
     medical |  -.2973861   .1650802    -1.80   0.072    -.6209736    .0262014
   maternity |  -.0194473    .395574    -0.05   0.961     -.794845    .7559503
        days |    .058112   .0018545    31.34   0.000     .0544768    .0617472
    diacount |   .0565328   .0022033    25.66   0.000      .052214    .0608516
   proccount |   .0865242    .002306    37.52   0.000     .0820041    .0910443
        con1 |   .3651614   .1803564     2.02   0.043     .0116299     .718693
        con2 |   .8472112   .0726223    11.67   0.000     .7048582    .9895643
  con1xrural |  -.1049388   .0151601    -6.92   0.000    -.1346553   -.0752223
  con2xrural |  -.0884619   .0129419    -6.84   0.000    -.1138305   -.0630934
hhibedssys~m |   .0000141   3.04e-06     4.65   0.000     8.18e-06    .0000201
       asc02 |    3.14417   .7258711     4.33   0.000      1.72133    4.567011
_Istateid_12 |   .1777239   .1755087     1.01   0.311    -.1663052    .5217531
_Istateid_13 |  -.2265426   .0569316    -3.98   0.000     -.338139   -.1149462
_Istateid_19 |  -.2300549   .0613834    -3.75   0.000    -.3503775   -.1097322
_Istateid_41 |   .3967518   .2131608     1.86   0.063    -.0210824     .814586
_Istateid_49 |   .3122407   .0781196     4.00   0.000     .1591121    .4653694
_Istateid_53 |   .1948995   .1777573     1.10   0.273    -.1535374    .5433365
_Istateid_54 |  -.1551507   .0646422    -2.40   0.016    -.2818612   -.0284402
_Istateid_55 |   .6096581   .0335599    18.17   0.000     .5438746    .6754417
       _cons |   7.514308    .227467    33.03   0.000     7.068431    7.960185
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-> DXGroup = 17

      Source |       SS       df       MS              Number of obs =   11399
-------------+------------------------------           F( 28, 11370) =  400.72
       Model |  6587.39165    28  235.263987            Prob > F      =  0.0000
    Residual |  6675.3175 11370  .587099165            R-squared     =  0.4967
-------------+------------------------------           Adj R-squared =  0.4954
       Total |  13262.7091 11398  1.16359968           Root MSE      =  .76622

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    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0016191   .0007031    -2.30   0.021    -.0029972   -.0002409
      female |  -.0235131    .014496    -1.62   0.105    -.0519277    .0049015
        died |   .4821459   .0796949     6.05   0.000     .3259301    .6383617
      spouse |   .0059907    .016916     0.35   0.723    -.0271676    .0391491
       child |   -.000873   .0305461    -0.03   0.977    -.0607486    .0590027
    transfer |    .064721   .0167519     3.86   0.000     .0318843    .0975577
  ruralurban |   .1082514   .0146489     7.39   0.000     .0795369    .1369658
   medianage |  -.0135846   .0041963    -3.24   0.001      -.02181   -.0053592
medianincome |  3.97e-06   2.27e-06     1.75   0.080    -4.78e-07    8.42e-06
    surgical |   .9114939   .1994925     4.57   0.000     .5204542    1.302534
     medical |   .2679307   .1995082     1.34   0.179    -.1231399    .6590013
   maternity |  (dropped)
        days |   .0474648    .001123    42.26   0.000     .0452634    .0496661
    diacount |   .0578587   .0025526    22.67   0.000     .0528551    .0628624
   proccount |   .0725905   .0031051    23.38   0.000     .0665039    .0786772
        con1 |   .9929985   .1870618     5.31   0.000     .6263252    1.359672
        con2 |   .8650596   .0814856    10.62   0.000     .7053336    1.024785
  con1xrural |  -.1236488   .0175282    -7.05   0.000    -.1580071   -.0892905
  con2xrural |  -.1115463   .0142222    -7.84   0.000    -.1394243   -.0836684
hhibedssys~m |  3.82e-06   4.23e-06     0.90   0.366    -4.47e-06    .0000121
       asc02 |   2.689959   1.027276     2.62   0.009     .6763213    4.703597
_Istateid_12 |   -.456751   .1838071    -2.48   0.013    -.8170447   -.0964574
_Istateid_13 |  -.3356674   .0671176    -5.00   0.000    -.4672294   -.2041054
_Istateid_19 |  -.3034769   .0727979    -4.17   0.000    -.4461733   -.1607805
_Istateid_41 |  -.0823716   .2159096    -0.38   0.703    -.5055916    .3408484
_Istateid_49 |   .1775169   .0696621     2.55   0.011     .0409672    .3140666
_Istateid_53 |  -.5998975   .1849673    -3.24   0.001    -.9624653   -.2373297
_Istateid_54 |  -.2799567   .0825745    -3.39   0.001    -.4418169   -.1180965
_Istateid_55 |   .5169657   .0358303    14.43   0.000     .4467322    .5871993
       _cons |   7.247852   .2912229    24.89   0.000     6.677005    7.818699
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-> DXGroup = 18

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      Source |       SS       df       MS              Number of obs =   15405
-------------+------------------------------           F( 27, 15377) =  589.57
       Model |  6970.58584    27  258.169846           Prob > F      =  0.0000
    Residual |  6733.54323 15377  .437897069           R-squared     =  0.5086
-------------+------------------------------           Adj R-squared =  0.5078
       Total |  13704.1291 15404  .889647434           Root MSE      =  .66174

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |   .0261568   .0024541    10.66   0.000     .0213466    .0309671
      female |  -.0137636   .0111995    -1.23   0.219    -.0357159    .0081888
        died |   .2476352   .1422093     1.74   0.082    -.0311119    .5263823
      spouse |   .1154995   .0833624     1.39   0.166    -.0479006    .2788996
       child |  -.0546756   .0289911    -1.89   0.059    -.1115015    .0021504
    transfer |   .0965292    .019628     4.92   0.000     .0580561    .1350024
  ruralurban |   .1721943    .009363    18.39   0.000     .1538417    .1905468
   medianage |  -.0127485   .0032714    -3.90   0.000    -.0191608   -.0063361
medianincome |   3.68e-06   1.56e-06     2.37   0.018     6.33e-07    6.74e-06
    surgical |  (dropped)
     medical |  (dropped)
   maternity |  -.0289568   .2101076    -0.14   0.890    -.4407926    .3828789
        days |   .0595886   .0013951    42.71   0.000     .0568541    .0623231
    diacount |   .1867251   .0041109    45.42   0.000     .1786673    .1947829
   proccount |   .0708721    .003074    23.06   0.000     .0648466    .0768975
        con1 |   2.579279   .6626059     3.89   0.000     1.280494    3.878065
        con2 |   1.419194   .0633863    22.39   0.000      1.29495    1.543439
  con1xrural |  -.1167262   .0129247    -9.03   0.000    -.1420602   -.0913922
  con2xrural |   -.14906   .0096749   -15.41   0.000    -.1680239   -.1300962
hhibedssys~m |   .0000142   2.82e-06     5.03   0.000     8.64e-06    .0000197
       asc02 |   3.019162   .7427041     4.07   0.000     1.563374    4.47495
_Istateid_12 |  -1.592828   .6623073    -2.40   0.016    -2.891029   -.2946275
_Istateid_13 |   -.286525   .0539351    -5.31   0.000    -.3922442   -.1808058
_Istateid_19 |  -.0196089   .0547338    -0.36   0.720    -.1268936    .0876757
_Istateid_41 |  -1.098215   .6751313    -1.63   0.104    -2.421553    .2251217
_Istateid_49 |   .5076159   .0402652    12.61   0.000     .4286914    .5865405
_Istateid_53 |  -1.599961   .6622138    -2.42   0.016    -2.897978   -.3019434
_Istateid_54 |  -.3248113   .0712384    -4.56   0.000    -.4644471   -.1851756
_Istateid_55 |   1.139764   .0253376    44.98   0.000     1.090099    1.189428
       _cons |    5.19867   .2590871    20.07   0.000     4.690829    5.706511
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-> DXGroup = .

```
      Source |       SS       df       MS              Number of obs =   10638
```

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-------------+------------------------------           F( 29, 10608) =  817.81
       Model |   16497.274    29  568.871516           Prob > F      =  0.0000
    Residual |  7378.97706 10608  .695604926           R-squared     =  0.6909
-------------+------------------------------           Adj R-squared =  0.6901
       Total |   23876.251 10637  2.24464144           Root MSE      =  .83403

------------------------------------------------------------------------------
    lntotpay |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0071298   .0011569    -6.16   0.000    -.0093976    -.004862
      female |   .0541064   .0165231     3.27   0.001     .0217181    .0864947
        died |   .3827567   .1347594     2.84   0.005      .118603    .6469104
      spouse |   .0718673   .0327312     2.20   0.028     .0077081    .1360265
       child |  -.0843525   .0452767    -1.86   0.062    -.1731034    .0043983
    transfer |  -.0009196   .0238606    -0.04   0.969    -.0476909    .0458516
  ruralurban |   .1582663   .0170485     9.28   0.000     .1248479    .1916846
   medianage |  -.0212518   .0049506    -4.29   0.000    -.0309559   -.0115477
medianincome |   7.94e-06   2.56e-06     3.09   0.002     2.91e-06    .000013
    surgical |   .8246616   .1518786     5.43   0.000     .5269511    1.122372
     medical |   .4506163   .1498817     3.01   0.003      .15682    .7444125
   maternity |   -.730705   .1507187    -4.85   0.000    -1.026142   -.4352682
        days |   .0367122   .0008064    45.53   0.000     .0351315    .0382928
    diacount |   .1267947   .0035921    35.30   0.000     .1197535    .1338358
   proccount |   .0959735   .0040375    23.77   0.000     .0880593    .1038876
        con1 |   1.949021    .223136     8.73   0.000     1.511632    2.386409
        con2 |   1.439758   .1027485    14.01   0.000     1.238352    1.641164
  con1xrural |  -.1232647   .0207273    -5.95   0.000    -.1638942   -.0826352
  con2xrural |  -.1521729   .0167846    -9.07   0.000    -.1850738   -.1192719
hhibedssys~m |   .0000101   4.60e-06     2.21   0.027     1.13e-06    .0000192
        asc02 |   2.853018   1.158187     2.46   0.014     .5827541    5.123282
_Istateid_12 |  -1.046341   .2191996    -4.77   0.000    -1.476013   -.6166683
_Istateid_13 |  -.4252917   .0869888    -4.89   0.000     -.595806   -.2547773
_Istateid_19 |  -.2891513   .0891852    -3.24   0.001     -.463971   -.1143316
_Istateid_41 |  -.2604531   .2783442    -0.94   0.349    -.8060599    .2851538
_Istateid_49 |    .298235   .0795113     3.75   0.000     .1423779    .4540922
_Istateid_53 |  -1.023182   .2192694    -4.67   0.000    -1.452992   -.5933734
_Istateid_54 |  -.3494542   .1079059    -3.24   0.001    -.5609701   -.1379383
_Istateid_55 |   .9319328   .0415375    22.44   0.000     .8505115    1.013354
       _cons |   6.667521   .2819395    23.65   0.000     6.114867    7.220176
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APPENDIX D: LONG-TERM CARE

Nursing Facility

		Market Characteristics								
State	**Market Number**	**Elderly Population**	**Total population**	**Long Term Care Facilities**	**Certified Beds**	**Beds per 1000 over 65**	**Nursing Home Beds- Market Herfindahl**	**Indicator if Market is Competitive**	**Market Counties**	**Share of Market Counties that are Metropolitan**
		8,145,850	60,416,629	3,282	323,888	39.8				
CO	1	4,532	35,900	6	308	68.0	1780	1	3	0%
CO	3	21,707	278,917	10	1230	56.7	1190.5	1	1	100%
CO	4	2,880	16,936	1	112	38.9	10000	0	1	0%
CO	6	201,975	2,269,775	83	8765	43.4	146.9	1	8	75%
CO	7	49,673	576,251	21	1937	39.0	562.1	1	2	100%
CO	9	4,253	48,503	4	307	72.2	2647.1	0	1	0%
CO	11	5,748	58,083	2	226	39.3	5792.9	0	2	0%
CO	13	25,698	268,872	14	1234	48.0	807	1	1	100%
CO	15	3,024	20,909	2	187	61.8	5051.6	0	1	0%
CO	16	32,416	213,938	16	1291	39.8	686.8	1	5	20%
CO	18	3,433	24,795	2	180	52.4	5246.9	0	1	0%
CO	20	4,515	32,785	4	371	82.2	2921	0	2	0%
CO	21	4,965	32,145	7	407	82.0	1919.7	1	4	0%
CO	22	886	4,576	1	51	57.6	10000	0	1	0%
CO	23			1			10000	0	1	100%
CO	24	1,779	14,062	2	107	60.2	5073.8	0	1	0%
CO	25	33,769	220,704	20	1888	55.9	629.8	1	4	25%
CO	26	2,318	34,480	2	117	50.5	5000.4	0	2	0%
CO	27	21,276	229,036	10	963	45.3	1300.6	1	2	50%
CO	99	1,823	8,690	4	156	85.6	2672.6	0	3	0%

		Market Characteristics								
State	**Market Number**	**Elderly Population**	**Total population**	**Long Term Care Facilities**	**Certified Beds**	**Beds per 1000 over 65**	**Nursing Home Beds- Market Herfindahl**	**Indicator if Market is Competitive**	**Market Counties**	**Share of Market Counties that are Metropolitan**
FL	1	67,260	512,107	27	2771	41.2	443	1	10	20%
FL	2	31,454	225,901	15	1734	55.1	762.6	1	5	20%
FL	3	103,261	519,387	20	2612	25.3	518	1	1	100%
FL	4	282,325	1,754,893	37	4382	15.5	345.7	1	1	100%
FL	5	54,550	157,134	9	1144	21.0	1253.9	1	1	100%
FL	6	41,995	130,465	9	1081	25.7	1121.8	1	1	0%
FL	8	72,598	296,678	10	908	12.5	1119.9	1	1	100%
FL	10	326,712	2,441,884	55	8451	25.9	223.8	1	2	50%
FL	11	136,703	1,225,381	53	6142	44.9	218.5	1	5	100%
FL	12	54,995	437,135	17	2094	38.1	643.3	1	2	100%
FL	13	46,390	150,370	5	630	13.6	2018.1	0	1	100%
FL	14	34,630	121,114	7	700	20.2	1700	1	2	0%
FL	15	131,930	1,101,261	31	3851	29.2	379.2	1	1	100%
FL	16	36,232	124,114	5	590	16.3	2340.2	0	1	100%
FL	17	6,940	47,692	4	456	65.7	2728.5	0	1	0%
FL	19	134,615	552,458	20	2401	17.8	549.1	1	2	50%
FL	20	36,250	370,039	15	1623	44.8	738.3	1	6	67%
FL	21	73,699	296,385	13	1562	21.2	906.1	1	1	100%
FL	22	71,434	291,322	9	1368	19.2	1145.4	1	1	100%
FL	23	38,956	137,956	7	833	21.4	1534.3	1	1	100%
FL	25	29,663	229,937	10	1116	37.6	1085.3	1	2	50%
FL	26	6,367	38,988	1	173	27.2	10000	0	1	0%
FL	27	251,594	1,922,412	66	8095	32.2	184	1	5	80%
FL	29	288,035	1,243,230	56	6545	22.7	209.4	1	1	100%
FL	30	109,297	407,799	16	1938	17.7	636.2	1	1	100%
FL	31	209,152	928,537	74	8026	38.4	165.5	1	1	100%
FL	32	96,158	524,389	23	2854	29.7	508.8	1	1	100%
FL	34	111,873	355,477	26	2690	24.0	453.3	1	1	100%
FL	36	51,500	226,816	9	1051	20.4	1257.7	1	1	100%
FL	38	125,364	547,675	31	3569	28.5	359.7	1	2	50%

		Market Characteristics								
State	**Market Number**	**Elderly Population**	**Total population**	**Long Term Care Facilities**	**Certified Beds**	**Beds per 1000 over 65**	**Nursing Home Beds- Market Herfindahl**	**Indicator if Market is Competitive**	**Market Counties**	**Share of Market Counties that are Metropolitan**
GA	1	1,322	10,330	1	88	66.6	10000	0	1	0%
GA	3	8,201	86,972	3	316	38.5	3482.6	0	1	100%
GA	4	56,591	501,103	38	3916	69.2	314.6	1	15	40%
GA	7	13,796	129,646	8	685	49.7	1580.8	1	2	100%
GA	8	17,782	139,216	8	775	43.6	1413.4	1	3	100%
GA	9	66,797	635,512	35	3496	52.3	362.3	1	13	54%
GA	10	34,992	321,860	19	1851	52.9	687.2	1	9	33%
GA	12	3,885	39,379	1	168	43.2	10000	0	1	0%
GA	13	5,625	43,763	4	287	51.0	2635.1	0	1	0%
GA	14	4,228	33,632	3	345	81.6	3432.3	0	2	0%
GA	15	3,793	28,615	2	207	54.6	5005.7	0	1	0%
GA	16	2,583	19,501	2	200	77.4	5000	0	1	0%
GA	17	25,428	217,396	11	1333	52.4	1194.5	1	10	40%
GA	19	4,111	21,613	1	101	24.6	10000	0	1	0%
GA	20	27,400	209,907	13	1357	49.5	788.9	1	4	25%
GA	21	308,892	4,203,365	85	11685	37.8	138.8	1	17	94%
GA	25	30,800	279,119	11	1199	38.9	1190.2	1	6	17%
GA	27	9,474	69,927	6	590	62.3	1876.1	1	4	0%
GA	28	16,862	159,501	9	912	54.1	1229.8	1	6	50%
GA	29	26,285	221,731	9	1321	50.3	1289	1	4	75%
GA	31	43,814	407,652	26	2525	57.6	445.1	1	10	40%
GA	33	1,461	9,268	1	75	51.3	10000	0	1	0%
GA	34	13,186	115,408	6	727	55.1	1902.5	1	4	100%
GA	35	3,901	24,988	1	181	46.4	10000	0	1	0%
GA	36	4,055	32,873	2	338	83.4	5833.5	0	1	0%
GA	37	9,252	68,269	6	430	46.5	2104.8	0	2	0%
GA	38	9,628	76,857	8	707	73.4	1663.8	1	4	0%
GA	39	3,264	26,775	3	347	106.3	4167.9	0	1	0%
GA	40	10,803	83,951	5	596	55.2	2083.5	0	2	50%
GA	41	4,228	19,607	1	150	35.5	10000	0	1	0%
GA	42	4,199	28,105	3	302	71.9	3463.7	0	1	0%
GA	43	6,525	46,313	4	612	93.8	2982.8	0	2	0%
GA	45	3,202	28,198	3	224	69.9	3413.6	0	1	0%
GA	46	12,432	130,017	5	524	42.2	2036.9	0	2	100%
GA	99	22,257	191,289	16	1347	60.5	681.1	1	8	25%

		Market Characteristics								
State	Market Number	Elderly Population	Total population	Long Term Care Facilities	Certified Beds	Beds per 1000 over 65	Nursing Home Beds- Market Herfindahl	Indicator if Market is Competitive	Market Counties	Share of Market Counties that are Metropolitan
IA	1	925	4,320	1	57	61.6	10000	0	1	0%
IA	2	2,715	14,759	4	269	99.1	2615.4	0	1	0%
IA	5	36,143	231,832	38	2731	75.6	338.3	1	7	43%
IA	7	3,398	20,156	5	318	93.6	2380.6	0	1	0%
IA	8	3,907	20,898	5	370	94.7	2226	0	1	0%
IA	9	2,966	14,266	5	246	82.9	2530.9	0	1	0%
IA	10	27,670	144,198	33	2340	84.6	397.8	1	9	0%
IA	11	3,034	16,869	2	222	73.2	5058.4	0	1	0%
IA	12	7,890	49,872	6	592	75.0	1889.3	1	1	0%
IA	13	6,818	40,857	7	460	67.5	1794.4	1	1	0%
IA	14	3,440	16,672	3	228	66.3	4083.9	0	1	0%
IA	15	20,269	129,555	21	1528	75.4	574	1	3	33%
IA	16	2,053	10,604	3	210	102.3	3650.8	0	1	0%
IA	18	2,933	16,276	3	238	81.2	3381.8	0	1	0%
IA	25	6,078	36,726	6	474	78.0	1809.4	1	1	0%
IA	26	67,060	536,540	64	4471	66.7	190.9	1	13	38%
IA	27	2,209	11,752	4	178	80.6	2520.5	0	1	0%
IA	29	9,845	57,451	11	1363	138.4	2923.1	0	2	0%
IA	32	2,309	11,398	4	266	115.2	2594.6	0	1	0%
IA	34	1,286	6,791	2	113	87.9	5047.4	0	1	0%
IA	35	3,220	16,249	5	322	100.0	2109.3	0	1	0%
IA	36	2,084	9,778	5	289	138.7	2065.2	0	1	0%
IA	38	92,969	698,496	81	5843	62.8	147.4	1	19	26%
IA	39	18,407	127,830	16	1296	70.4	721.9	1	4	75%
IA	40	3,356	19,036	5	326	97.1	2052.6	0	1	0%
IA	41	18,850	160,141	11	1120	59.4	1114	1	1	100%
IA	42	2,605	12,764	3	226	86.8	3445.5	0	1	0%
IA	43	4,842	32,180	6	385	79.5	1879.5	1	1	0%
IA	44	14,420	116,931	14	1090	75.6	946.4	1	3	33%
IA	46	7,884	44,501	7	535	67.9	1812.1	1	2	0%
IA	47	13,033	68,015	18	1284	98.5	805.4	1	4	0%
IA	48	5,305	31,022	8	463	87.3	1436.8	1	2	0%
IA	49	24,239	157,675	28	1939	80.0	442.9	1	5	20%
IA	99	13,626	68,041	21	1371	100.6	512.8	1	5	0%

		Market Characteristics								
State	**Market Number**	**Elderly Population**	**Total population**	**Long Term Care Facilities**	**Certified Beds**	**Beds per 1000 over 65**	**Nursing Home Beds- Market Herfindahl**	**Indicator if Market is Competitive**	**Market Counties**	**Share of Market Counties that are Metropolitan**
ME	1	15,427	107,022	6	627	40.6	2715	0	1	100%
ME	3	90,766	643,649	48	3311	36.5	255.6	1	6	50%
ME	4	33,940	240,357	21	1278	37.7	596.2	1	4	0%
ME	6	49,208	326,225	38	2128	43.2	309.2	1	5	20%
MA	1	221,341	1,599,947	122	13862	62.6	95.4	1	5	100%
MA	2	493,565	3,848,891	258	28262	57.3	48	1	7	71%
MA	99	155,218	967,667	76	7808	50.3	159.1	1	2	100%
OR	1	3,133	16,470	1	120	38.3	10000	0	1	0%
OR	2	23,733	186,767	7	653	27.5	1540.7	1	2	50%
OR	3	5,656	36,340	2	87	15.4	6221.4	0	1	0%
OR	4	18,088	85,839	5	388	21.5	2225.4	0	2	0%
OR	5	24,443	183,151	7	463	18.9	1564	1	4	25%
OR	6	18,379	103,152	3	349	19.0	4319.9	0	1	0%
OR	9	30,866	192,992	5	596	19.3	2161.8	0	1	100%
OR	10	16,081	79,920	4	511	31.8	3029.1	0	1	0%
OR	11	9,717	65,098	2	180	18.5	5417.3	0	1	0%
OR	12	1,307	7,382	1	47	36.0	10000	0	1	0%
OR	13	44,102	331,594	12	1229	27.9	878.6	1	1	100%
OR	14	8,842	45,277	2	160	18.1	5000	0	1	0%
OR	16	4,295	31,425	2	129	30.0	6192.5	0	1	0%
OR	17	47,319	369,406	12	1176	24.9	999.1	1	2	100%
OR	18	170,354	1,615,485	61	5516	32.4	193.9	1	6	67%
OR	19	4,927	24,922	1	50	10.1	10000	0	1	0%
OR	20	9,036	73,436	3	318	35.2	3433.6	0	1	0%
OR	21	3,597	24,406	2	154	42.8	5000.8	0	1	0%
OR	22	1,317	6,976	1	32	24.3	10000	0	1	0%
OR	25	10,650	90,723	6	467	43.9	1984.1	1	1	100%

		Market Characteristics								
State	**Market Number**	**Elderly Population**	**Total population**	**Long Term Care Facilities**	**Certified Beds**	**Beds per 1000 over 65**	**Nursing Home Beds- Market Herfindahl**	**Indicator if Market is Competitive**	**Market Counties**	**Share of Market Counties that are Metropolitan**
UT	1	11,631	142,277	6	498	42.8	2314	0	2	50%
UT	2	158,772	1,982,408	75	6265	39.5	177.9	1	12	50%
UT	4	21,772	146,209	8	705	32.4	1574.8	1	2	50%
UT	99	4,870	44,427	4	317	65.1	2707.3	0	3	0%
WA	3	21,107	215,463	6	498	23.6	1938.2	1	2	100%
WA	4	13,940	103,414	6	440	31.6	1989.4	1	2	100%
WA	6	37,290	392,403	8	718	19.3	1314.1	1	1	100%
WA	7	13,493	99,944	7	464	34.4	1779.4	1	2	50%
WA	8	9,228	79,981	6	252	27.3	2544.7	0	1	0%
WA	11	301,871	2,835,825	97	10039	33.3	122.7	1	6	50%
WA	16	5,540	39,444	4	218	39.3	2578.1	0	1	0%
WA	17	76,177	745,411	22	2504	32.9	483.8	1	1	100%
WA	18	19,095	126,254	7	562	29.4	1698.9	1	2	50%
WA	20	72,624	579,724	33	2527	34.8	376.7	1	8	25%
WA	21	56,377	420,187	18	1578	28.0	701.9	1	4	25%
WA	22	9,272	61,541	5	330	35.6	2633.4	0	2	0%
WA	23	20,953	180,167	9	761	36.3	1266.8	1	1	100%
WA	25	29,795	264,815	16	1377	46.2	676.7	1	2	50%
WA	99	4,794	21,246	2	140	29.2	5102	0	1	0%
WV	1	21,057	174,377	11	718	34.1	1251	1	4	100%
WV	3	5,135	32,643	4	271	52.8	3279	0	3	0%
WV	4	11,018	62,263	7	537	48.7	1589.8	1	3	0%
WV	6	103,196	675,381	41	3679	35.7	319.9	1	13	54%
WV	7	56,014	373,316	31	2468	44.1	374.1	1	13	23%
WV	8	24,531	136,424	11	1089	44.4	1162.4	1	4	100%
WV	9	20,184	130,433	10	797	39.5	1261.2	1	4	50%
WV	99	33,803	217,264	16	1351	40.0	701.1	1	9	0%

		Market Characteristics								
State	**Market Number**	**Elderly Population**	**Total population**	**Long Term Care Facilities**	**Certified Beds**	**Beds per 1000 over 65**	**Nursing Home Beds- Market Herfindahl**	**Indicator if Market is Competitive**	**Market Counties**	**Share of Market Counties that are Metropolitan**
WI	1	5,151	31,892	4	364	70.7	2893.5	0	2	0%
WI	2	10,555	62,226	10	652	61.8	1130.5	1	2	0%
WI	3	54,905	413,380	35	3108	56.6	336.3	1	7	43%
WI	5	72,531	658,261	41	3582	49.4	290.4	1	7	43%
WI	7	6,401	44,045	4	432	67.5	2781.6	0	1	100%
WI	9	14,138	98,663	10	925	65.4	1142.8	1	1	100%
WI	10	7,593	49,647	9	638	84.0	1242.6	1	1	0%
WI	14	18,186	158,435	9	1104	60.7	1170.5	1	1	100%
WI	15	62,895	459,787	46	3921	62.3	262.9	1	11	27%
WI	17	12,843	81,864	6	844	65.7	1781.6	1	1	0%
WI	20	226,757	1,808,260	85	10000	44.1	159.8	1	6	83%
WI	21	15,493	76,050	8	636	41.1	1446.4	1	4	0%
WI	22	32,001	265,848	26	2664	83.2	491.6	1	3	67%
WI	24	3,687	38,342	7	412	111.7	1445.1	1	1	100%
WI	25	9,994	60,451	8	586	58.6	1371.6	1	2	0%
WI	26	7,373	67,358	2	199	27.0	5106.2	0	1	0%
WI	30	19,930	156,512	9	832	41.7	1342.7	1	1	100%
WI	32	3,032	16,911	2	135	44.5	5079.3	0	1	0%
WI	34	15,915	113,958	9	968	60.8	1494.5	1	1	100%
WI	35	7,323	74,339	7	434	59.3	1475.3	1	1	100%
WI	38	28,141	202,036	13	1362	48.4	925.8	1	3	33%
WI	39	52,661	343,872	28	3071	58.3	463.7	1	8	13%
WI	99	32,051	222,330	20	1708	53.3	567.67	1	5	0%

		Quality Indicators									
State	Market Number	Average Number of RN hrs per Resident per Day	Average Number of LPN/LVN hrs per Resident Per Day	Total Licensed staff hours per resident per day	Average Number of CNA hrs per Resident per Day	% Whose Need for Help With Daily Activities Has Increased	Share reporting measure 1	% Who Have Moderate to Severe Pain	Share reporting measure 2	Percent of High-Risk Residents Who Have Pressure Sores	Share reporting measure 3
CO	1	0.77	0.84	1.61	2.46	13.3	0.5	6.0	0.5	14.5	0.3
CO	3	0.84	0.95	1.79	2.00	21.3	0.8	6.1	0.8	6.2	0.6
CO	4	0.50	0.51	1.01	2.64	18.0	1.0	15.0	1.0	5.0	1.0
CO	6	0.74	0.76	1.50	2.18	14.8	0.9	6.0	0.9	9.0	0.6
CO	7	0.68	0.79	1.48	2.01	17.7	0.9	5.8	0.9	7.4	0.6
CO	9	0.70	0.66	1.36	2.38	14.7	0.8	7.5	1.0	11.5	0.5
CO	11	0.59	0.78	1.37	1.67	24.0	1.0	13.0	1.0	12.0	0.5
CO	13	0.80	0.66	1.46	2.22	20.9	0.9	3.8	0.9	6.9	0.7
CO	15	0.44	0.88	1.32	1.71	19.5	1.0	8.0	1.0	27.0	0.5
CO	16	0.78	0.59	1.37	2.58	20.4	0.8	6.4	0.8	11.0	0.4
CO	18	0.52	0.57	1.09	1.89	23.0	1.0	4.5	1.0		0.0
CO	20	0.42	0.84	1.26	2.34	18.0	0.8	6.0	0.8	13.0	0.8
CO	21	0.63	0.70	1.32	2.61	22.8	0.6	4.8	0.6	7.5	0.3
CO	22	0.75	0.82	1.57	2.40		0.0		0.0		0.0
CO	23			0.00							
CO	24	0.55	0.63	1.18	2.62	16.0	1.0	7.0	1.0		0.0
CO	25	1.02	0.79	1.81	2.38	18.8	0.8	5.5	0.9	7.8	0.6
CO	26	0.94	0.43	1.37	2.24	19.0	0.5	10.0	1.0		0.0
CO	27	0.89	0.84	1.73	2.29	24.4	0.8	7.1	0.8	7.3	0.6
CO	99	0.60	0.76	1.36	2.85	10.0	0.3	2.0	0.3		0.0

		Quality Indicators									
State	Market Number	Average Number of RN hrs per Resident per Day	Average Number of LPN/LVN hrs per Resident Per Day	Total Licensed staff hours per resident per day	Average Number of CNA hrs per Resident per Day	% Whose Need for Help With Daily Activities Has Increased	Share reporting measure 1	% Who Have Moderate to Severe Pain	Share reporting measure 2	Percent of High-Risk Residents Who Have Pressure Sores	Share reporting measure 3
FL	1	0.73	1.06	1.79	2.85	12.0	0.9	4.9	0.9	12.2	0.7
FL	2	0.45	0.92	1.37	2.64	15.2	0.9	6.0	0.9	12.7	0.8
FL	3	0.58	0.91	1.49	2.85	16.6	1.0	5.1	1.0	11.6	1.0
FL	4	0.56	0.96	1.53	2.77	12.1	0.8	4.4	0.8	18.0	0.7
FL	5	0.94	0.98	1.92	2.74	20.3	0.9	4.9	0.9	17.0	0.9
FL	6	0.50	0.92	1.43	2.76	16.1	1.0	6.9	1.0	12.4	1.0
FL	8	0.74	0.97	1.71	3.00	14.0	0.7	3.6	0.7	7.7	0.7
FL	10	0.54	0.99	1.53	2.85	13.8	1.0	2.9	0.9	17.7	0.9
FL	11	0.59	0.96	1.55	2.85	16.4	0.9	6.1	0.9	14.1	0.8
FL	12	0.74	1.03	1.77	2.71	18.1	0.9	7.0	0.9	15.3	0.9
FL	13	0.47	0.98	1.45	2.82	18.0	1.0	6.0	1.0	11.8	1.0
FL	14	0.92	1.30	2.22	3.10	20.5	0.9	5.7	0.9	14.2	0.9
FL	15	0.46	1.03	1.49	2.79	15.1	0.9	5.1	0.9	14.3	0.9
FL	16	0.65	1.48	2.13	2.62	18.3	0.8	3.8	0.8	12.5	0.8
FL	17	0.39	1.03	1.42	2.86	14.3	1.0	6.8	1.0	9.3	1.0
FL	19	0.57	0.96	1.53	2.86	16.7	0.9	5.8	1.0	13.6	0.9
FL	20	0.58	1.01	1.59	2.83	16.8	0.9	5.6	0.9	12.3	0.7
FL	21	0.53	0.89	1.43	2.69	14.5	0.9	6.2	1.0	9.2	0.8
FL	22	0.53	0.89	1.42	2.73	15.1	1.0	6.6	1.0	14.9	1.0
FL	23	0.50	0.92	1.42	2.89	12.0	1.0	3.3	1.0	12.7	0.9
FL	25	0.54	0.84	1.38	2.71	17.0	1.0	8.0	1.0	9.0	0.8
FL	26	0.27	1.12	1.39	3.31	12.0	1.0	4.0	1.0	0.0	1.0
FL	27	0.65	0.99	1.64	2.90	15.3	0.9	5.6	0.9	14.8	0.9
FL	29	0.59	1.02	1.61	2.94	13.5	0.8	4.7	0.8	14.3	0.7
FL	30	0.47	0.90	1.37	2.70	16.3	1.0	5.4	1.0	13.3	1.0
FL	31	0.58	1.03	1.61	2.82	14.7	0.8	6.0	0.9	14.0	0.8
FL	32	0.56	0.94	1.50	2.84	19.9	0.9	6.4	0.9	12.4	0.8
FL	34	0.69	0.91	1.60	2.72	16.8	0.9	5.4	0.9	10.8	0.8
FL	36	0.68	0.89	1.57	2.94	15.8	0.9	4.0	0.9	14.0	0.8
FL	38	0.59	0.89	1.48	2.77	14.8	1.0	4.9	1.0	14.7	0.8

		Quality Indicators									
State	Market Number	Average Number of RN hrs per Resident per Day	Average Number of LPN/LVN hrs per Resident Per Day	Total Licensed staff hours per resident per day	Average Number of CNA hrs per Resident per Day	% Whose Need for Help With Daily Activities Has Increased	Share reporting measure 1	% Who Have Moderate to Severe Pain	Share reporting measure 2	Percent of High-Risk Residents Who Have Pressure Sores	Share reporting measure 3
GA	1	0.32	0.88	1.20	2.54	11.0	1.0	9.0	1.0	9.0	1.0
GA	3	0.42	0.68	1.10	2.19	22.3	1.0	6.3	1.0	17.0	1.0
GA	4	0.40	0.94	1.34	2.28	13.3	0.9	6.7	0.9	14.5	0.8
GA	7	0.37	0.93	1.30	1.98	15.8	0.8	7.1	0.9	12.4	0.6
GA	8	0.50	0.83	1.33	2.11	10.3	0.9	4.1	0.9	14.1	0.9
GA	9	0.49	1.03	1.52	2.06	16.6	0.9	8.5	0.9	15.7	0.7
GA	10	0.38	0.89	1.27	2.35	17.8	0.9	6.5	0.9	14.6	0.8
GA	12	0.30	0.90	1.20	1.99	16.0	1.0	15.0	1.0	27.0	1.0
GA	13	0.28	0.87	1.14	2.31	16.0	1.0	7.0	1.0	15.0	0.3
GA	14	0.43	1.00	1.43	2.68	6.0	1.0	2.7	1.0	10.5	0.7
GA	15	0.19	0.80	0.99	2.08	22.5	1.0	10.5	1.0	14.5	1.0
GA	16	0.21	0.81	1.01	2.06	18.0	1.0	19.5	1.0	19.5	1.0
GA	17	0.26	0.74	1.00	2.27	10.2	1.0	7.5	1.0	14.6	0.8
GA	19	0.64	0.54	1.18	1.92	18.0	1.0	8.0	1.0	10.0	1.0
GA	20	0.30	0.78	1.08	2.06	13.0	1.0	7.8	1.0	11.3	0.9
GA	21	0.41	0.96	1.37	2.16	16.1	0.9	5.8	1.0	14.6	0.9
GA	25	0.48	0.84	1.31	2.10	15.6	0.9	5.1	0.9	11.4	0.7
GA	27	0.24	0.92	1.16	2.17	14.2	0.8	8.8	0.8	15.0	0.8
GA	28	0.39	0.75	1.14	2.12	13.8	1.0	9.1	1.0	16.4	0.8
GA	29	0.31	0.92	1.22	2.34	15.4	1.0	6.4	1.0	16.4	0.9
GA	31	0.31	0.96	1.27	2.26	12.9	0.9	4.4	1.0	14.3	0.8
GA	33	0.35	1.12	1.47	2.12	69.0	1.0	18.0	1.0	9.0	1.0
GA	34	0.30	0.92	1.21	2.01	18.0	1.0	6.8	1.0	16.0	0.7
GA	35	0.13	0.79	0.92	2.09	16.0	1.0	4.0	1.0	12.0	1.0
GA	36	0.23	1.00	1.23	2.40	13.5	1.0	5.0	1.0	10.0	1.0
GA	37	0.42	1.00	1.42	2.14	16.3	0.7	4.8	0.7	11.3	0.5
GA	38	0.32	0.96	1.28	2.20	14.3	0.8	7.3	0.8	15.5	0.8
GA	39	0.66	1.34	2.00	2.52	11.0	0.7	11.0	0.7	11.0	0.7
GA	40	0.35	0.93	1.29	1.87	17.2	1.0	4.4	1.0	20.6	1.0
GA	41	0.55	0.84	1.39	2.51	12.0	1.0	9.0	1.0	18.0	1.0
GA	42	0.35	1.02	1.37	1.82	17.0	1.0	5.7	1.0	10.3	1.0
GA	43	0.30	1.00	1.30	2.29	15.3	1.0	8.3	1.0	5.5	0.5
GA	45	0.23	0.75	0.98	1.90	32.0	1.0	11.7	1.0	10.5	0.7
GA	46	0.38	0.94	1.31	2.16	12.2	1.0	13.0	1.0	19.6	1.0
GA	99	0.33	0.91	1.24	2.17	15.0	1.0	7.4	1.0	14.3	0.6

		Quality Indicators									
State	Market Number	Average Number of RN hrs per Resident per Day	Average Number of LPN/LVN hrs per Resident Per Day	Total Licensed staff hours per resident per day	Average Number of CNA hrs per Resident per Day	% Whose Need for Help With Daily Activities Has Increased	Share reporting measure 1	% Who Have Moderate to Severe Pain	Share reporting measure 2	Percent of High-Risk Residents Who Have Pressure Sores	Share reporting measure 3
IA	1	0.51	0.65	1.16	1.61		0.0		0.0		0.0
IA	2	0.61	0.54	1.14	2.20	13.8	1.0	4.5	1.0	7.0	0.8
IA	5	0.44	0.59	1.03	2.07	13.2	0.8	4.7	0.8	11.1	0.4
IA	7	0.85	0.32	1.17	2.07	18.7	0.6	2.3	0.6	0.0	0.2
IA	8	0.51	0.48	0.99	2.14	21.0	1.0	6.2	1.0	7.5	0.4
IA	9	0.48	0.66	1.14	1.99	19.5	0.8	3.5	0.8		0.0
IA	10	0.72	0.54	1.26	2.18	15.6	0.7	4.4	0.8	3.7	0.3
IA	11	0.54	0.61	1.15	2.27	16.5	1.0	2.0	1.0	5.0	1.0
IA	12	0.70	0.47	1.17	2.04	12.0	1.0	3.7	1.0	4.0	0.7
IA	13	0.51	0.57	1.08	2.09	21.6	0.7	8.0	0.9	5.0	0.1
IA	14	0.49	0.54	1.03	1.86	18.0	1.0	3.3	1.0	4.0	0.3
IA	15	0.53	0.51	1.04	2.08	18.3	0.9	6.7	0.9	5.7	0.5
IA	16	0.61	0.42	1.03	2.31	14.0	1.0	1.7	1.0	10.0	0.3
IA	18	0.45	0.46	0.91	1.95	9.7	1.0	6.3	1.0	1.5	0.7
IA	25	0.43	0.72	1.15	2.32	29.2	0.8	6.0	0.8	7.7	0.5
IA	26	0.56	0.47	1.03	2.19	12.9	0.8	5.7	0.9	9.6	0.4
IA	27	0.55	0.57	1.11	2.19	19.0	1.0	5.0	1.0		0.0
IA	29	0.44	0.56	1.00	1.98	13.8	0.7	3.9	0.8	5.6	0.5
IA	32	0.42	0.66	1.08	2.71	20.0	1.0	8.0	1.0	8.5	0.5
IA	34	0.57	0.26	0.82	1.80	13.5	1.0	2.5	1.0		0.0
IA	35	0.74	0.88	1.62	2.14	14.5	0.8	2.5	0.8	18.0	0.2
IA	36	0.72	0.44	1.16	2.27	16.0	0.8	5.0	0.8		0.0
IA	38	0.67	0.60	1.27	2.11	15.6	0.8	7.1	0.9	8.4	0.4
IA	39	0.42	0.70	1.12	2.35	19.1	0.9	6.4	0.9	8.2	0.4
IA	40	0.56	0.40	0.96	2.13	14.6	1.0	3.8	1.0	9.3	0.6
IA	41	0.97	0.66	1.63	2.33	17.4	0.9	7.9	0.9	8.9	0.6
IA	42	0.46	0.67	1.13	2.29	21.3	1.0	2.0	1.0	8.5	0.7
IA	43	0.54	0.40	0.94	2.03	11.6	0.8	4.8	0.8	0.0	0.2
IA	44	0.54	0.52	1.06	2.06	12.4	0.8	4.0	0.8	7.0	0.4
IA	46	0.57	0.54	1.11	2.16	16.4	0.7	2.6	0.7	5.5	0.3
IA	47	0.63	0.53	1.16	2.00	12.6	0.6	5.9	0.8	6.5	0.2
IA	48	0.65	0.44	1.09	2.25	11.0	0.8	4.0	0.8	16.0	0.1
IA	49	0.62	0.55	1.16	2.01	15.9	0.8	4.3	0.9	6.0	0.3
IA	99	0.65	0.50	1.15	1.96	17.4	0.8	5.1	0.8	6.7	0.3

		Quality Indicators									
State	Market Number	Average Number of RN hrs per Resident per Day	Average Number of LPN/LVN hrs per Resident Per Day	Total Licensed staff hours per resident per day	Average Number of CNA hrs per Resident per Day	% Whose Need for Help With Daily Activities Has Increased	Share reporting measure 1	% Who Have Moderate to Severe Pain	Share reporting measure 2	Percent of High-Risk Residents Who Have Pressure Sores	Share reporting measure 3
ME	1	0.90	0.54	1.44	3.03	13.0	0.8	4.0	0.8	6.2	0.8
ME	3	0.99	0.46	1.45	2.91	19.5	0.8	4.1	0.8	10.4	0.7
ME	4	0.84	0.38	1.22	3.10	16.6	0.7	4.0	0.7	9.8	0.7
ME	6	0.92	0.42	1.34	3.20	17.3	0.7	3.9	0.8	7.7	0.7
MA	1	0.77	0.73	1.50	2.30	17.2	0.9	3.5	0.9	12.7	0.9
MA	2	0.88	0.74	1.62	2.35	16.1	0.8	3.2	0.8	12.4	0.8
MA	99	0.89	0.73	1.63	2.28	17.3	0.9	3.7	0.9	12.7	0.8
OR	1	0.48	0.44	0.92	3.76	3.0	1.0	1.0	1.0		0.0
OR	2	0.75	0.54	1.28	2.82	12.8	0.9	5.7	0.9	15.0	0.7
OR	3	0.95	0.39	1.34	3.08	19.0	0.5	0.0	0.5		0.0
OR	4	0.81	0.50	1.31	2.74	15.0	0.4	6.3	0.6	6.0	0.2
OR	5	0.91	0.44	1.35	2.34		0.0		0.0		0.0
OR	6	1.00	0.33	1.33	2.97	13.0	0.7	6.0	0.7	18.0	0.7
OR	9	0.51	0.63	1.14	2.51	21.2	1.0	9.3	0.8	11.8	0.8
OR	10	0.63	0.50	1.13	2.95	14.0	0.8	11.0	0.8	6.3	0.8
OR	11	0.60	0.81	1.41	2.39	14.0	0.5	17.0	0.5	18.0	0.5
OR	12	0.88	0.18	1.06	3.15	10.0	1.0	6.0	1.0		0.0
OR	13	0.69	0.60	1.29	2.62	10.6	0.8	9.0	0.8	7.8	0.5
OR	14	0.80	0.49	1.29	2.71		0.0	7.0	1.0		0.0
OR	16	0.72	0.50	1.21	1.90		0.0	11.0	0.5		0.0
OR	17	0.57	0.57	1.14	2.52	10.7	0.8	6.4	0.8	11.4	0.8
OR	18	0.76	0.47	1.23	2.61	11.1	0.6	7.7	0.7	10.5	0.4
OR	19	0.45	0.41	0.86	2.04	3.0	1.0	0.0	1.0		0.0
OR	20	0.59	0.59	1.18	2.59	27.0	0.3	9.0	1.0		0.0
OR	21	0.67	0.59	1.25	2.31	3.0	0.5	5.0	0.5		0.0
OR	22	1.04	0.11	1.15	2.84		0.0		0.0		0.0
OR	25	0.92	0.66	1.59	2.54	9.0	0.7	1.5	0.7	0.0	0.2

		Quality Indicators									
State	Market Number	Average Number of RN hrs per Resident per Day	Average Number of LPN/LVN hrs per Resident Per Day	Total Licensed staff hours per resident per day	Average Number of CNA hrs per Resident per Day	% Whose Need for Help With Daily Activities Has Increased	Share reporting measure 1	% Who Have Moderate to Severe Pain	Share reporting measure 2	Percent of High-Risk Residents Who Have Pressure Sores	Share reporting measure 3
UT	1	0.86	0.55	1.41	2.42	14.7	0.5	9.0	0.7	10.0	0.3
UT	2	1.05	0.67	1.72	2.53	14.5	0.7	11.0	0.7	9.9	0.3
UT	4	0.93	0.58	1.50	2.23	23.8	0.5	13.5	0.5	5.5	0.5
UT	99	0.71	0.51	1.23	2.57	17.0	1.0	9.3	0.8	7.0	0.3
WA	3	0.87	0.37	1.24	2.49	11.5	1.0	10.2	1.0	19.4	0.8
WA	4	1.70	0.42	2.12	2.57	17.0	0.8	14.0	0.8	14.3	0.7
WA	6	0.90	0.58	1.48	2.40	12.5	1.0	12.3	1.0	21.2	0.8
WA	7	0.63	0.77	1.40	2.27	9.0	0.6	5.8	0.7	12.3	0.4
WA	8	0.58	0.71	1.30	2.82	19.3	0.5	5.0	0.5	12.0	0.3
WA	11	0.81	0.72	1.53	2.58	14.5	0.8	6.9	0.8	11.1	0.7
WA	16	0.88	0.52	1.40	2.72	13.5	1.0	10.5	1.0	20.0	0.5
WA	17	0.54	0.91	1.44	2.36	16.2	1.0	9.0	1.0	13.5	1.0
WA	18	0.71	0.63	1.34	2.22	10.7	0.9	5.3	0.9	9.8	0.7
WA	20	0.85	0.61	1.46	2.66	16.8	0.7	5.9	0.8	11.3	0.6
WA	21	0.93	0.68	1.61	2.38	22.4	0.7	11.3	0.8	15.0	0.7
WA	22	1.18	0.35	1.53	2.47	10.5	0.8	9.0	0.8	10.0	0.6
WA	23	0.73	0.79	1.53	2.35	15.8	0.9	6.6	0.9	7.0	0.6
WA	25	0.84	0.45	1.29	2.48	15.0	1.0	5.6	1.0	10.6	0.9
WA	99	0.84	0.59	1.43	1.61	12.5	1.0	13.5	1.0	11.5	1.0
WV	1	1.15	0.92	2.07	2.24	26.6	0.6	7.1	0.6	17.6	0.6
WV	3	0.69	0.47	1.16	2.59	21.7	0.8	2.7	0.8	17.5	0.5
WV	4	0.42	1.57	1.99	1.94	16.8	0.9	2.3	1.0	19.3	0.6
WV	6	0.73	1.05	1.79	2.07	24.0	0.8	6.0	0.8	15.3	0.8
WV	7	0.69	0.76	1.45	2.15	20.3	0.9	3.8	0.9	13.3	0.6
WV	8	0.99	0.85	1.85	1.86	20.9	0.8	7.9	0.8	13.6	0.8
WV	9	0.75	0.86	1.61	2.28	23.3	0.7	4.7	0.7	13.3	0.7
WV	99	0.41	1.00	1.41	2.17	14.3	0.9	3.4	0.9	11.4	0.8

		Quality Indicators									
State	Market Number	Average Number of RN hrs per Resident per Day	Average Number of LPN/LVN hrs per Resident Per Day	Total Licensed staff hours per resident per day	Average Number of CNA hrs per Resident per Day	% Whose Need for Help With Daily Activities Has Increased	Share reporting measure 1	% Who Have Moderate to Severe Pain	Share reporting measure 2	Percent of High-Risk Residents Who Have Pressure Sores	Share reporting measure 3
WI	1	0.71	0.47	1.18	2.03	22.0	0.8	2.3	1.0	5.5	0.5
WI	2	0.69	0.40	1.09	2.58	16.4	0.9	6.0	0.9	10.3	0.3
WI	3	0.59	0.58	1.17	2.35	15.5	0.8	5.5	0.9	9.3	0.5
WI	5	0.67	0.55	1.22	2.50	15.0	0.9	5.3	0.9	10.2	0.6
WI	7	0.54	0.51	1.05	2.01	16.5	1.0	3.0	1.0	9.0	1.0
WI	9	0.88	0.67	1.55	2.46	13.7	0.9	4.0	0.9	9.3	0.6
WI	10	0.63	0.56	1.20	2.19	16.8	0.9	5.5	0.9	8.3	0.4
WI	14	0.60	0.50	1.10	2.12	19.6	1.0	6.2	1.0	14.5	0.9
WI	15	0.70	0.51	1.21	2.44	15.8	1.0	4.4	0.9	10.4	0.5
WI	17	0.58	0.39	0.97	2.53	20.7	1.0	3.3	1.0	12.6	0.8
WI	20	0.76	0.65	1.41	2.38	16.0	0.9	4.1	0.9	12.8	0.7
WI	21	0.66	0.39	1.05	1.92	14.6	0.9	4.7	0.9	8.3	0.4
WI	22	0.87	0.41	1.28	2.42	14.5	0.9	4.8	0.9	8.5	0.7
WI	24	0.41	0.87	1.28	2.41	11.8	0.9	6.8	0.9	7.0	0.1
WI	25	0.60	0.51	1.11	2.55	18.9	0.9	4.9	1.0	16.3	0.4
WI	26	0.73	0.54	1.27	3.69	11.0	1.0	2.0	1.0	8.5	1.0
WI	30	0.80	0.60	1.40	2.71	11.6	0.9	5.4	0.9	11.8	0.6
WI	32	0.68	0.46	1.14	2.30	13.5	1.0	0.5	1.0	9.0	0.5
WI	34	0.70	0.40	1.10	2.41	14.7	1.0	5.3	1.0	8.6	0.8
WI	35	0.57	0.60	1.17	2.32	13.3	0.9	3.5	0.9	11.3	0.4
WI	38	0.92	0.45	1.38	2.46	11.8	0.9	4.4	0.9	7.1	0.8
WI	39	0.72	0.43	1.15	2.44	14.9	0.9	3.8	0.9	5.2	0.6
WI	99	0.68	0.56	1.24	2.55	15.2	1.0	3.9	1.0	8.7	0.6

		Quality Indicators											
State	Market Number	Percent of Low-Risk Residents Who Have Pressure Sores	Share reporting measure 4	Percent of Residents who were physically restrained	Share reporting measure 5	% Who are More Depressed or Anxious	Share reporting measure 6	Percent of Low-Risk Residents Who Lose Control of Their Bowels or Bladder	Share reporting measure 7	% Who Have/Had a Catheter Inserted and Left in Their Bladder	Share reporting measure 8	% Who Spent Most of Their Time in Bed or in a Chair	Share reporting measure 9
CO	1		0.0	3.0	0.5	21.7	0.5	28.3	0.5	3.7	0.5	0.0	0.5
CO	3	1.4	0.7	8.9	0.8	13.9	0.8	48.9	0.8	8.4	0.8	1.9	0.8
CO	4		0.0	2.0	1.0	28.0	1.0	40.0	1.0	5.0	1.0	0.0	1.0
CO	6	1.9	0.6	5.5	0.9	15.3	0.9	43.3	0.8	7.2	0.9	1.3	0.9
CO	7	2.0	0.4	6.2	1.0	14.4	0.9	41.6	0.9	6.9	0.9	1.6	1.0
CO	9	0.0	0.3	2.8	1.0	15.5	1.0	32.0	0.5	7.0	1.0	1.8	1.0
CO	11	3.0	0.5	9.5	1.0	17.0	1.0	45.0	0.5	5.5	1.0	0.0	1.0
CO	13	1.4	0.4	7.0	0.9	20.2	0.9	50.3	0.9	4.9	0.9	2.2	0.9
CO	15		0.0	1.5	1.0	28.5	1.0	43.0	1.0	7.0	1.0	1.5	1.0
CO	16	3.2	0.4	8.0	0.8	17.1	0.8	50.6	0.6	7.5	0.8	1.9	0.8
CO	18	0.0	1.0	8.0	1.0	18.0	1.0	39.5	1.0	2.5	1.0	0.0	1.0
CO	20	3.0	0.3	9.0	0.8	12.7	0.8	47.3	0.8	6.3	0.8	2.0	0.8
CO	21	5.0	0.1	6.3	0.6	16.3	0.6	30.7	0.4	6.5	0.6	0.8	0.6
CO	22		0.0		0.0		0.0		0.0		0.0		0.0
CO	23												
CO	24		0.0	15.5	1.0	30.0	1.0	36.0	1.0	6.5	1.0	2.5	1.0
CO	25	1.1	0.5	6.5	0.9	13.1	0.9	39.7	0.8	8.5	0.9	1.6	0.9
CO	26		0.0	4.0	1.0	32.0	1.0	28.0	0.5	9.0	1.0	1.0	1.0
CO	27	1.4	0.5	5.4	0.8	21.5	0.8	44.9	0.7	8.6	0.8	2.4	0.8
CO	99	12.0	0.3	6.0	0.3	10.0	0.3	50.0	0.3	7.0	0.3	0.0	0.3

		Quality Indicators											
State	Market Number	Percent of Low-Risk Residents Who Have Pressure Sores	Share reporting measure 4	Percent of Residents who were physically restrained	Share reporting measure 5	% Who are More Depressed or Anxious	Share reporting measure 6	Percent of Low-Risk Residents Who Lose Control of Their Bowels or Bladder	Share reporting measure 7	% Who Have/Had a Catheter Inserted and Left in Their Bladder	Share reporting measure 8	% Who Spent Most of Their Time in Bed or in a Chair	Share reporting measure 9
FL	1	2.8	0.5	7.8	0.9	9.1	0.9	41.4	0.9	7.5	0.9	4.1	0.9
FL	2	1.8	0.7	7.2	0.9	14.3	0.9	38.8	0.9	7.7	0.9	5.6	0.9
FL	3	2.0	0.7	10.8	1.0	9.1	1.0	49.3	1.0	6.8	1.0	5.3	1.0
FL	4	5.7	0.4	8.5	0.8	9.4	0.8	57.4	0.7	5.8	0.8	3.2	0.8
FL	5	1.3	0.3	8.6	0.9	9.1	0.9	58.5	0.9	6.4	0.9	3.8	0.9
FL	6	1.2	0.7	11.4	1.0	11.9	1.0	46.1	0.9	6.0	1.0	2.2	1.0
FL	8	4.3	0.3	5.0	0.8	11.3	0.8	44.6	0.7	3.1	0.7	2.5	0.8
FL	10	3.5	0.5	5.3	0.9	8.9	1.0	51.0	0.8	4.3	0.9	3.8	0.9
FL	11	2.1	0.6	9.3	0.9	8.9	0.9	43.6	0.8	5.7	0.9	3.8	0.9
FL	12	2.8	0.7	7.0	0.9	12.3	0.9	43.4	0.9	6.4	0.9	5.0	0.9
FL	13	7.0	0.4	10.0	1.0	4.8	1.0	52.6	1.0	6.6	1.0	7.0	1.0
FL	14	6.0	0.1	11.2	0.9	8.8	0.9	54.2	0.9	8.0	0.9	5.8	0.9
FL	15	2.2	0.5	9.1	0.9	10.4	0.9	52.0	0.8	5.7	0.9	4.0	0.9
FL	16	5.7	0.6	7.0	0.8	9.5	0.8	56.0	0.8	3.5	0.8	2.8	0.8
FL	17	2.0	0.8	9.5	1.0	12.8	1.0	35.8	1.0	6.8	1.0	2.5	1.0
FL	19	4.6	0.5	10.3	1.0	10.1	1.0	52.4	0.9	4.5	1.0	2.8	1.0
FL	20	3.6	0.7	7.6	0.9	7.9	0.9	46.1	0.9	5.9	0.9	4.7	0.9
FL	21	3.9	0.6	8.3	1.0	12.8	1.0	49.8	0.8	7.3	1.0	3.3	1.0
FL	22	0.6	0.6	8.0	1.0	10.1	1.0	44.9	1.0	7.6	1.0	4.1	1.0
FL	23	2.3	0.9	10.3	1.0	11.1	1.0	39.9	1.0	3.1	1.0	3.0	1.0
FL	25	2.1	0.7	11.3	1.0	13.4	1.0	48.1	0.9	6.7	1.0	6.4	1.0
FL	26	0.0	1.0	4.0	1.0	11.0	1.0	42.0	1.0	5.0	1.0	1.0	1.0
FL	27	2.2	0.5	7.4	0.9	10.1	0.9	51.6	0.9	6.1	0.9	5.1	0.9
FL	29	3.5	0.5	8.1	0.9	11.2	0.9	51.8	0.8	4.5	0.9	2.0	0.9
FL	30	2.0	0.2	16.4	1.0	11.9	1.0	49.5	0.9	6.6	1.0	2.8	1.0
FL	31	2.4	0.4	9.9	0.9	11.4	0.9	51.1	0.8	6.5	0.9	5.1	0.9
FL	32	1.5	0.5	16.0	0.9	10.1	0.9	51.0	0.8	7.4	0.9	5.9	0.9
FL	34	2.4	0.4	8.2	0.9	9.8	0.9	55.3	0.7	7.0	0.9	2.5	0.9
FL	36	4.0	0.6	9.0	0.9	10.5	0.9	47.7	0.8	6.8	0.9	3.4	0.9
FL	38	2.2	0.6	8.4	1.0	9.9	1.0	47.6	0.9	5.8	1.0	3.6	1.0

		Quality Indicators											
State	Market Number	Percent of Low-Risk Residents Who Have Pressure Sores	Share reporting measure 4	Percent of Residents who were physically restrained	Share reporting measure 5	% Who are More Depressed or Anxious	Share reporting measure 6	Percent of Low-Risk Residents Who Lose Control of Their Bowels or Bladder	Share reporting measure 7	% Who Have/Had a Catheter Inserted and Left in Their Bladder	Share reporting measure 8	% Who Spent Most of Their Time in Bed or in a Chair	Share reporting measure 9
GA	1	5.0	1.0	5.0	1.0	8.0	1.0	52.0	1.0	2.0	1.0	3.0	1.0
GA	3	3.7	1.0	9.7	1.0	16.7	1.0	40.3	1.0	4.3	1.0	5.0	1.0
GA	4	1.8	0.7	5.1	0.9	16.4	0.9	46.4	0.9	3.4	0.9	9.1	0.9
GA	7	0.7	0.4	9.1	0.9	16.0	0.9	35.0	0.8	7.0	0.9	6.9	0.9
GA	8	2.5	0.8	6.1	0.9	12.1	0.9	50.3	0.9	4.3	0.9	13.3	0.9
GA	9	2.8	0.6	7.9	0.9	17.8	0.9	46.8	0.9	4.0	0.9	8.8	0.9
GA	10	1.6	0.5	7.0	0.9	14.8	0.9	45.5	0.8	5.0	0.9	7.6	0.9
GA	12	1.0	1.0	8.0	1.0	35.0	1.0	31.0	1.0	10.0	1.0	14.0	1.0
GA	13	3.0	0.5	4.8	1.0	14.8	1.0	43.3	1.0	2.8	1.0	5.5	1.0
GA	14	2.3	1.0	5.3	1.0	14.7	1.0	44.3	1.0	3.7	1.0	5.7	1.0
GA	15	4.5	1.0	8.5	1.0	33.5	1.0	41.0	1.0	3.0	1.0	3.5	1.0
GA	16	0.0	1.0	9.0	1.0	13.0	1.0	38.0	1.0	3.0	1.0	13.0	1.0
GA	17	2.0	0.5	5.4	1.0	10.6	1.0	50.3	1.0	4.3	1.0	12.3	1.0
GA	19	0.0	1.0	6.0	1.0	31.0	1.0	43.0	1.0	3.0	1.0	20.0	1.0
GA	20	2.3	0.7	6.0	1.0	14.1	1.0	45.5	1.0	4.1	1.0	7.2	1.0
GA	21	3.1	0.7	9.3	1.0	16.0	1.0	56.1	0.9	3.7	1.0	5.5	1.0
GA	25	2.0	0.7	15.4	0.9	18.3	0.9	44.0	0.9	3.7	0.9	4.5	0.9
GA	27	1.5	0.7	6.8	1.0	15.6	0.8	54.3	0.7	4.6	0.8	11.8	1.0
GA	28	1.9	0.8	5.7	1.0	24.0	1.0	41.0	0.9	7.4	1.0	6.6	1.0
GA	29	2.4	0.8	5.9	1.0	17.7	1.0	48.1	1.0	4.1	1.0	13.7	1.0
GA	31	3.3	0.5	8.8	1.0	14.2	1.0	51.4	0.8	3.9	1.0	6.4	1.0
GA	33		0.0	0.0	1.0	31.0	1.0	68.0	1.0	6.0	1.0	20.0	1.0
GA	34	2.2	0.8	7.7	1.0	20.2	1.0	47.7	1.0	7.5	1.0	9.0	1.0
GA	35	2.0	1.0	4.0	1.0	20.0	1.0	54.0	1.0	3.0	1.0	23.0	1.0
GA	36	1.0	1.0	13.5	1.0	8.5	1.0	43.0	1.0	7.0	1.0	10.5	1.0
GA	37	0.0	0.2	5.8	0.7	25.5	0.7	52.0	0.7	3.8	0.7	3.5	0.7
GA	38	1.6	0.6	6.0	0.8	13.3	0.8	42.3	0.8	5.7	0.8	14.0	0.8
GA	39	3.5	0.7	4.0	0.7	12.0	0.7	41.5	0.7	5.0	0.7	17.0	0.7
GA	40	4.0	0.8	8.0	1.0	14.6	1.0	48.6	1.0	6.4	1.0	7.8	1.0
GA	41	2.0	1.0	1.0	1.0	10.0	1.0	52.0	1.0	9.0	1.0	13.0	1.0
GA	42	0.0	0.7	5.7	1.0	18.0	1.0	50.3	1.0	4.3	1.0	4.7	1.0
GA	43	1.5	1.0	2.0	1.0	17.8	1.0	47.5	1.0	2.5	1.0	10.0	1.0
GA	45		0.0	5.0	1.0	20.3	1.0	40.7	1.0	3.0	1.0	1.7	1.0
GA	46	1.3	0.8	5.6	1.0	17.6	1.0	44.8	0.8	6.8	1.0	7.4	1.0
GA	99	3.6	0.5	6.3	1.0	16.4	1.0	42.3	0.8	3.4	1.0	9.8	1.0

		Quality Indicators											
State	Market Number	Percent of Low-Risk Residents Who Have Pressure Sores	Share reporting measure 4	Percent of Residents who were physically restrained	Share reporting measure 5	% Who are More Depressed or Anxious	Share reporting measure 6	Percent of Low-Risk Residents Who Lose Control of Their Bowels or Bladder	Share reporting measure 7	% Who Have/Had a Catheter Inserted and Left in Their Bladder	Share reporting measure 8	% Who Spent Most of Their Time in Bed or in a Chair	Share reporting measure 9
IA	1		0.0		0.0		0.0		0.0		0.0		0.0
IA	2	1.0	0.5	0.5	1.0	18.5	1.0	44.8	1.0	3.5	1.0	0.5	1.0
IA	5	4.4	0.3	2.3	0.8	14.6	0.8	41.2	0.7	6.9	0.8	2.3	0.8
IA	7	7.0	0.2	0.7	0.6	11.0	0.6	32.0	0.4	5.7	0.6	0.0	0.6
IA	8	5.0	0.4	0.4	1.0	16.0	1.0	57.0	0.6	5.8	1.0	0.4	1.0
IA	9	0.0	0.4	0.0	0.8	12.3	0.8	27.0	0.4	10.8	0.8	2.0	0.8
IA	10	1.7	0.3	1.5	0.8	14.0	0.8	44.3	0.7	4.9	0.8	1.1	0.8
IA	11	5.0	1.0	1.5	1.0	23.5	1.0	35.5	1.0	5.5	1.0	1.0	1.0
IA	12	0.0	0.7	0.5	1.0	15.3	1.0	41.8	0.8	7.3	1.0	1.2	1.0
IA	13	0.0	0.3	2.2	0.9	22.2	0.9	38.7	0.4	14.5	0.9	1.7	0.9
IA	14		0.0	2.0	1.0	17.0	1.0	54.0	0.7	4.3	1.0	3.0	1.0
IA	15	2.0	0.3	1.7	0.9	18.1	0.9	44.7	0.6	5.4	0.9	1.9	0.9
IA	16		0.0	4.3	1.0	20.0	1.0	38.0	0.7	6.3	1.0	0.0	1.0
IA	18	0.0	0.3	2.0	1.0	12.3	1.0	31.5	0.7	6.0	1.0	0.3	1.0
IA	25	4.0	0.5	1.4	0.8	32.4	0.8	40.0	0.5	5.2	0.8	1.6	0.8
IA	26	2.6	0.2	1.7	0.9	16.5	0.9	41.1	0.7	6.5	0.9	0.8	0.9
IA	27		0.0	2.8	1.0	22.0	1.0	42.0	0.3	7.3	1.0	1.5	1.0
IA	29	1.4	0.5	3.6	0.8	15.6	0.8	49.4	0.6	5.9	0.8	0.3	0.8
IA	32	3.0	0.3	0.3	1.0	24.0	1.0	50.0	0.8	7.0	1.0	0.0	1.0
IA	34	3.0	0.5	1.0	1.0	25.0	1.0	22.0	1.0	2.0	1.0	0.0	1.0
IA	35		0.0	0.0	1.0	17.0	0.8	41.5	0.4	12.0	0.8	2.0	1.0
IA	36	0.0	0.2	0.0	0.8	18.3	0.8	54.0	0.8	2.8	0.8	0.0	0.8
IA	38	2.9	0.3	3.2	0.9	15.6	0.9	42.3	0.7	7.0	0.9	1.1	0.9
IA	39	3.3	0.4	1.5	0.9	19.9	0.9	35.0	0.7	8.9	0.9	1.4	0.9
IA	40	6.0	0.2	1.6	1.0	16.2	1.0	53.4	1.0	3.4	1.0	1.4	1.0
IA	41	4.3	0.3	3.3	0.9	15.9	0.9	41.2	0.8	8.6	0.9	0.2	0.9
IA	42	3.0	0.3	2.0	1.0	13.0	1.0	43.7	1.0	7.7	1.0	2.0	1.0
IA	43	6.0	0.2	1.4	0.8	23.2	0.8	35.2	0.8	6.0	0.8	1.2	0.8
IA	44	3.2	0.4	1.7	0.8	10.5	0.8	42.1	0.6	6.9	0.8	1.8	0.8
IA	46	4.5	0.6	4.0	0.7	17.4	0.7	44.8	0.7	8.4	0.7	1.0	0.7
IA	47	0.8	0.2	1.8	0.8	16.6	0.8	32.7	0.5	4.9	0.8	0.9	0.8
IA	48	2.0	0.3	1.7	0.8	13.8	0.8	28.7	0.8	3.2	0.8	0.3	0.8
IA	49	1.8	0.3	1.8	0.9	18.6	0.9	38.4	0.6	8.5	0.9	0.8	0.9
IA	99	0.6	0.2	0.9	0.8	16.8	0.8	43.6	0.7	5.1	0.8	0.8	0.8

		Quality Indicators											
State	Market Number	Percent of Low-Risk Residents Who Have Pressure Sores	Share reporting measure 4	Percent of Residents who were physically restrained	Share reporting measure 5	% Who are More Depressed or Anxious	Share reporting measure 6	Percent of Low-Risk Residents Who Lose Control of Their Bowels or Bladder	Share reporting measure 7	% Who Have/Had a Catheter Inserted and Left in Their Bladder	Share reporting measure 8	% Who Spent Most of Their Time in Bed or in a Chair	Share reporting measure 9
ME	1		0.0	1.6	0.8	27.4	0.8	69.5	0.7	5.6	0.8	6.6	0.8
ME	3	3.0	0.0	5.3	0.8	32.6	0.8	67.2	0.4	7.7	0.8	4.3	0.8
ME	4		0.0	3.9	0.7	30.7	0.7	69.7	0.5	4.5	0.7	2.3	0.7
ME	6		0.0	1.4	0.8	26.8	0.7	65.1	0.4	6.1	0.8	4.5	0.8
MA	1	3.2	0.5	6.5	0.9	18.8	0.9	59.6	0.9	5.9	0.9	2.3	0.9
MA	2	2.0	0.5	5.4	0.8	14.0	0.9	57.8	0.8	4.7	0.8	2.2	0.8
MA	99	2.3	0.4	5.1	0.9	15.7	0.9	58.6	0.8	4.9	0.9	2.0	0.9
OR	1		0.0	9.0	1.0	11.0	1.0	75.0	1.0	6.0	1.0	3.0	1.0
OR	2		0.0	4.7	0.9	14.8	0.9	66.8	0.7	8.3	0.9	6.5	0.9
OR	3		0.0	9.0	0.5	19.0	0.5		0.0	2.0	0.5	0.0	0.5
OR	4		0.0	5.3	0.6	19.7	0.6	64.0	0.2	7.3	0.6	8.7	0.6
OR	5		0.0	7.0	0.1	13.0	0.1		0.0		0.0	3.0	0.1
OR	6	13.0	0.3	4.5	0.7	15.5	0.7	60.0	0.7	8.5	0.7	12.5	0.7
OR	9	3.0	0.2	5.4	1.0	14.8	1.0	51.6	1.0	7.8	0.8	5.4	1.0
OR	10	2.5	0.5	8.8	1.0	17.0	1.0	47.3	0.8	7.0	0.8	7.8	1.0
OR	11		0.0	0.0	0.5	12.0	0.5	47.0	0.5	4.0	0.5	6.0	0.5
OR	12		0.0	0.0	1.0	25.0	1.0		0.0	7.0	1.0	24.0	1.0
OR	13	2.0	0.1	5.7	0.8	14.0	0.9	46.3	0.5	9.3	0.8	4.9	0.8
OR	14		0.0	5.0	1.0	19.0	1.0		0.0	10.5	1.0	8.0	1.0
OR	16		0.0	3.0	0.5	14.0	0.5		0.0	2.0	0.5	18.0	0.5
OR	17	4.5	0.2	4.3	0.8	15.6	0.8	60.6	0.4	7.8	0.8	5.6	0.8
OR	18	2.8	0.1	6.5	0.8	16.1	0.8	54.6	0.4	8.0	0.7	6.4	0.8
OR	19		0.0	8.0	1.0	11.0	1.0		0.0	2.0	1.0	3.0	1.0
OR	20		0.0	3.7	1.0	16.3	1.0		0.0	9.3	1.0	10.3	1.0
OR	21		0.0	26.0	0.5	26.0	0.5		0.0	2.0	0.5	0.0	0.5
OR	22		0.0		0.0		0.0		0.0		0.0		0.0
OR	25		0.0	7.5	0.7	12.0	0.7	67.0	0.3	6.5	0.7	4.8	0.7

		Quality Indicators											
State	Market Number	Percent of Low-Risk Residents Who Have Pressure Sores	Share reporting measure 4	Percent of Residents who were physically restrained	Share reporting measure 5	% Who are More Depressed or Anxious	Share reporting measure 6	Percent of Low-Risk Residents Who Lose Control of Their Bowels or Bladder	Share reporting measure 7	% Who Have/Had a Catheter Inserted and Left in Their Bladder	Share reporting measure 8	% Who Spent Most of Their Time in Bed or in a Chair	Share reporting measure 9
UT	1	4.5	0.3	7.6	0.8	16.0	0.7	60.5	0.3	9.5	0.7	3.0	0.8
UT	2	2.8	0.2	9.1	0.7	17.9	0.7	47.7	0.5	6.1	0.7	3.2	0.7
UT	4	0.0	0.4	9.0	0.6	13.8	0.5	45.5	0.5	6.5	0.5	5.6	0.6
UT	99		0.0	21.8	1.0	23.3	1.0	44.0	0.5	12.0	0.8	0.8	1.0
WA	3		0.0	2.8	1.0	21.3	1.0	62.8	0.8	10.8	1.0	3.5	1.0
WA	4		0.0	2.6	0.8	27.0	0.8	55.3	0.7	10.4	0.8	3.4	0.8
WA	6	10.0	0.1	1.1	1.0	21.0	1.0	58.6	0.9	10.5	1.0	7.3	1.0
WA	7		0.0	2.5	0.9	20.8	0.7	61.0	0.6	9.6	0.7	8.0	0.9
WA	8		0.0	3.3	0.5	23.3	0.5	31.0	0.2	5.7	0.5	1.3	0.5
WA	11	2.3	0.2	2.6	0.9	21.5	0.9	54.8	0.8	8.6	0.8	4.9	0.9
WA	16		0.0	1.3	1.0	29.3	1.0	69.0	0.3	5.0	1.0	5.0	1.0
WA	17	3.0	0.3	2.5	1.0	19.7	1.0	55.2	1.0	9.9	1.0	7.5	1.0
WA	18		0.0	2.3	0.9	16.7	0.9	61.3	0.6	10.2	0.9	5.0	0.9
WA	20	10.3	0.1	3.8	0.8	23.7	0.8	60.4	0.6	8.5	0.8	3.4	0.8
WA	21	5.3	0.2	5.6	0.8	25.6	0.8	49.8	0.7	9.9	0.8	5.4	0.8
WA	22	0.0	0.2	2.8	0.8	19.5	0.8	53.8	0.8	9.0	0.8	6.0	0.8
WA	23	2.7	0.3	1.4	0.9	23.9	0.9	50.5	0.9	7.0	0.9	2.8	0.9
WA	25	4.0	0.2	2.6	1.0	21.6	1.0	52.0	0.8	5.9	1.0	2.8	1.0
WA	99		0.0	0.0	1.0	20.0	1.0	62.0	1.0	10.0	1.0	3.0	1.0
WV	1	8.0	0.1	5.9	0.6	15.4	0.6	53.9	0.6	7.4	0.6	7.6	0.6
WV	3	0.0	0.3	1.3	0.8	14.7	0.8	50.7	0.8	3.3	0.8	1.0	0.8
WV	4		0.0	2.0	1.0	15.1	1.0	48.2	0.9	6.6	1.0	10.1	1.0
WV	6	1.8	0.3	4.1	0.8	15.2	0.9	52.1	0.8	7.6	0.8	8.8	0.8
WV	7	1.4	0.3	5.0	0.9	12.7	0.9	48.1	0.7	6.5	0.9	4.9	0.9
WV	8	2.0	0.5	3.0	0.8	14.6	0.8	51.9	0.8	7.4	0.8	2.3	0.8
WV	9	2.0	0.3	3.4	0.7	18.0	0.7	50.0	0.7	8.0	0.7	6.7	0.7
WV	99	1.9	0.4	3.7	0.9	11.7	0.9	44.5	0.8	7.1	0.9	5.6	0.9

		Quality Indicators											
State	Market Number	Percent of Low-Risk Residents Who Have Pressure Sores	Share reporting measure 4	Percent of Residents who were physically restrained	Share reporting measure 5	% Who are More Depressed or Anxious	Share reporting measure 6	Percent of Low-Risk Residents Who Lose Control of Their Bowels or Bladder	Share reporting measure 7	% Who Have/Had a Catheter Inserted and Left in Their Bladder	Share reporting measure 8	% Who Spent Most of Their Time in Bed or in a Chair	Share reporting measure 9
WI	1	3.0	0.3	1.5	1.0	19.8	1.0	35.3	0.8	4.3	1.0	1.5	1.0
WI	2	4.7	0.3	1.7	0.9	13.1	0.9	42.6	0.7	6.1	0.9	1.8	0.9
WI	3	3.2	0.4	4.1	0.9	13.8	0.9	43.7	0.7	7.1	0.9	1.7	0.9
WI	5	3.6	0.4	3.3	0.9	13.6	0.9	45.4	0.7	7.5	0.9	1.3	0.9
WI	7	2.5	0.5	6.0	1.0	11.3	1.0	38.0	1.0	5.3	1.0	0.5	1.0
WI	9	0.3	0.4	1.4	0.9	16.2	0.9	46.0	0.9	6.6	0.9	1.1	0.9
WI	10	6.3	0.3	1.0	0.9	15.9	0.9	40.9	0.9	5.8	0.9	1.5	0.9
WI	14	2.0	0.4	2.9	1.0	11.3	1.0	46.0	1.0	7.2	1.0	1.9	1.0
WI	15	3.0	0.5	3.3	0.9	13.8	1.0	40.5	0.8	6.1	0.9	1.5	0.9
WI	17	4.0	0.8	1.8	1.0	12.7	1.0	35.8	1.0	9.5	1.0	0.8	1.0
WI	20	3.5	0.5	0.8	0.9	11.5	0.9	44.3	0.8	7.6	0.9	2.1	0.9
WI	21	2.0	0.6	3.0	0.9	12.1	1.0	37.1	0.9	5.4	0.9	1.6	0.9
WI	22	2.7	0.5	2.4	0.9	15.2	0.9	40.6	0.8	6.1	0.9	2.0	0.9
WI	24	0.0	0.1	3.5	0.9	20.5	0.9	49.8	0.6	6.8	0.9	1.7	0.9
WI	25	3.3	0.5	4.8	1.0	12.1	1.0	40.8	0.8	6.6	1.0	3.1	1.0
WI	26		0.0	1.5	1.0	12.0	1.0	33.0	1.0	8.0	1.0	1.0	1.0
WI	30	3.7	0.7	0.8	0.9	14.1	0.9	43.6	0.9	8.5	0.9	0.8	0.9
WI	32	7.0	0.5	0.0	1.0	12.5	1.0	24.0	0.5	3.5	1.0	1.0	1.0
WI	34	1.3	0.3	0.6	1.0	21.0	1.0	48.2	1.0	5.6	1.0	1.9	1.0
WI	35		0.0	5.8	0.9	15.7	0.9	41.4	0.7	6.2	0.9	1.7	0.9
WI	38	1.6	0.6	3.3	0.9	13.3	0.9	41.2	0.8	7.3	0.9	0.8	0.9
WI	39	2.6	0.8	1.6	0.9	15.2	0.9	39.8	0.9	8.3	0.9	1.8	0.9
WI	99	1.0	0.5	3.5	1.0	15.3	1.0	42.1	0.8	7.6	1.0	1.4	1.0

		Quality Indicators											
State	Market Number	% Whose Ability to Move About in and Around Their Room Got Worse	Share reporting measure 10	% with a Urinary Tract Infection	Share reporting measure 11	% Who Lose Too Much Weight Looks	Share reporting measure 12	Percent of Short-Stay Residents With Delirium	Share reporting measure 21	Percent of Short-Stay Residents Who Had Moderate to Severe Pain	Share reporting measure 22	Percent of Short-Stay Residents With Pressure Sores	Share reporting measure 23
CO	1	11.0	0.5	12.3	0.5	8.3	0.5		0.0		0.0		0.0
CO	3	15.3	0.8	11.5	0.8	8.1	0.8	1.6	0.9	27.0	0.9	13.2	0.9
CO	4	19.0	1.0	14.0	1.0	6.0	1.0	2.0	1.0	18.0	1.0	16.0	1.0
CO	6	12.1	0.9	10.3	0.9	8.3	0.9	3.3	0.6	27.3	0.6	14.4	0.5
CO	7	14.8	0.9	7.8	1.0	9.6	0.9	3.7	0.7	27.8	0.7	11.8	0.7
CO	9	10.0	0.5	6.5	1.0	8.8	1.0	0.0	0.5	31.0	0.5	13.5	0.5
CO	11	14.5	1.0	4.5	1.0	7.5	1.0	0.5	1.0	23.0	1.0	13.0	0.5
CO	13	14.8	0.9	10.2	0.9	9.2	0.9	1.7	0.8	25.5	0.8	8.5	0.7
CO	15	22.5	1.0	5.0	1.0	6.5	1.0	0.0	1.0	25.0	1.0	16.0	1.0
CO	16	13.9	0.6	9.4	0.8	11.2	0.8	2.2	0.6	29.3	0.6	19.7	0.6
CO	18	9.0	1.0	8.0	1.0	18.0	1.0	0.0	1.0	27.5	1.0	10.5	1.0
CO	20	17.7	0.8	5.7	0.8	12.3	0.8	5.5	0.5	23.0	0.5	6.0	0.3
CO	21	18.8	0.6	10.3	0.6	17.8	0.6	1.5	0.3	26.0	0.3	21.0	0.1
CO	22		0.0		0.0		0.0		0.0		0.0		0.0
CO	23												
CO	24	14.0	1.0	15.5	1.0	6.0	1.0		0.0		0.0		0.0
CO	25	12.8	0.8	10.3	0.9	9.2	0.9	4.8	0.6	28.7	0.6	17.3	0.5
CO	26	12.0	0.5	4.5	1.0	9.5	1.0	0.0	0.5	5.0	0.5		0.0
CO	27	21.4	0.8	8.9	0.8	9.1	0.8	2.9	0.7	26.6	0.7	17.5	0.6
CO	99	6.0	0.3	16.0	0.3	12.0	0.3		0.0		0.0		0.0

		Quality Indicators											
State	Market Number	% Whose Ability to Move About in and Around Their Room Got Worse	Share reporting measure 10	% with a Urinary Tract Infection	Share reporting measure 11	% Who Lose Too Much Weight Looks	Share reporting measure 12	Percent of Short-Stay Residents With Delirium	Share reporting measure 21	Percent of Short-Stay Residents Who Had Moderate to Severe Pain	Share reporting measure 22	Percent of Short-Stay Residents With Pressure Sores	Share reporting measure 23
FL	1	10.0	0.9	8.7	0.9	9.2	0.9	1.8	0.9	19.5	0.9	17.1	0.9
FL	2	12.1	0.9	9.4	0.9	11.8	0.9	2.6	0.8	19.5	0.9	16.7	0.9
FL	3	12.3	1.0	11.5	1.0	9.9	1.0	1.5	1.0	20.8	1.0	16.0	1.0
FL	4	12.0	0.6	9.8	0.8	9.3	0.8	1.5	0.9	21.4	0.9	25.3	0.9
FL	5	17.7	0.8	10.8	0.9	7.4	0.9	2.4	0.8	18.7	0.8	21.4	0.8
FL	6	15.1	1.0	9.6	1.0	10.4	1.0	1.3	1.0	31.1	1.0	14.3	1.0
FL	8	13.3	0.7	9.0	0.8	11.1	0.8	1.1	1.0	21.3	1.0	13.2	1.0
FL	10	12.3	0.7	7.6	0.9	9.1	0.9	1.7	0.8	10.0	0.8	23.7	0.8
FL	11	12.5	0.9	11.1	0.9	9.6	0.9	1.9	0.9	22.8	0.9	17.5	0.9
FL	12	15.2	0.9	12.6	0.9	11.5	0.9	2.7	0.9	22.2	0.9	21.6	0.9
FL	13	7.6	1.0	12.8	1.0	9.2	1.0	0.4	1.0	17.0	1.0	19.2	1.0
FL	14	18.0	0.9	9.2	0.9	12.5	0.9	1.3	0.9	21.3	0.9	15.2	0.9
FL	15	12.7	0.8	10.9	0.9	10.1	0.9	2.8	1.0	24.1	1.0	16.9	1.0
FL	16	15.3	0.8	8.3	0.8	10.0	0.8	1.0	1.0	25.8	1.0	18.2	1.0
FL	17	14.5	1.0	8.3	1.0	6.3	1.0	0.0	1.0	24.8	1.0	15.5	0.5
FL	19	13.2	0.9	9.7	1.0	10.2	0.9	2.2	1.0	28.1	1.0	20.9	1.0
FL	20	14.1	0.9	8.1	0.9	8.8	0.9	6.8	0.7	23.3	0.7	13.7	0.7
FL	21	12.3	0.8	7.4	1.0	11.1	1.0	1.4	1.0	28.6	1.0	14.8	1.0
FL	22	15.6	1.0	12.3	1.0	13.3	1.0	2.0	0.9	30.5	0.9	19.1	0.9
FL	23	9.8	0.9	6.0	1.0	11.3	1.0	1.6	1.0	26.6	1.0	14.9	1.0
FL	25	12.6	0.9	10.8	1.0	10.4	1.0	1.9	1.0	22.3	1.0	10.5	1.0
FL	26	11.0	1.0	2.0	1.0	7.0	1.0	1.0	1.0	20.0	1.0	19.0	1.0
FL	27	12.3	0.8	11.1	0.9	11.1	0.9	2.0	0.9	21.9	0.9	18.2	0.9
FL	29	11.8	0.8	11.1	0.9	8.0	0.8	1.7	0.9	20.4	0.9	24.1	0.9
FL	30	10.6	1.0	11.1	1.0	11.1	1.0	1.7	0.9	25.1	0.9	21.3	0.9
FL	31	10.8	0.7	12.5	0.9	11.3	0.9	1.7	0.9	24.4	0.9	18.8	0.9
FL	32	11.7	0.8	9.1	0.9	9.4	0.9	1.6	0.9	26.8	0.9	13.6	0.9
FL	34	11.9	0.7	9.3	0.9	10.2	0.9	1.9	0.9	22.6	0.9	16.3	0.8
FL	36	12.9	0.9	10.1	0.9	8.4	0.9	0.8	1.0	14.8	1.0	16.2	1.0
FL	38	12.2	0.8	11.4	1.0	10.8	1.0	2.4	0.9	21.9	0.9	17.8	0.8

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GA	1	10.0	1.0	7.0	1.0	3.0	1.0	3.0	1.0	36.0	1.0	29.0	1.0
GA	3	14.7	1.0	12.0	1.0	18.7	1.0	5.0	1.0	17.3	1.0	14.7	1.0
GA	4	11.1	0.9	7.4	0.9	8.6	0.9	3.7	0.6	20.1	0.6	18.2	0.4
GA	7	8.5	0.8	9.3	0.9	9.6	0.9	1.6	0.6	13.6	0.6	17.3	0.5
GA	8	10.3	0.9	5.4	0.9	9.1	0.9	2.2	0.8	28.3	0.8	24.0	0.6
GA	9	12.1	0.9	7.8	0.9	10.0	0.9	5.0	0.7	27.3	0.7	23.7	0.6
GA	10	16.3	0.8	9.3	0.9	10.4	0.9	3.9	0.7	20.9	0.7	14.3	0.6
GA	12	14.0	1.0	3.0	1.0	9.0	1.0	3.0	1.0	18.0	1.0	34.0	1.0
GA	13	15.3	0.8	14.0	1.0	3.3	1.0	4.8	1.0	25.8	1.0	14.0	0.8
GA	14	4.0	1.0	9.0	1.0	8.0	1.0	1.5	0.7	11.0	0.7	10.5	0.7
GA	15	16.0	1.0	5.0	1.0	13.0	1.0	0.0	0.5	14.0	0.5	31.0	0.5
GA	16	12.5	1.0	11.5	1.0	13.5	1.0	1.5	1.0	36.0	1.0	15.0	1.0
GA	17	7.3	1.0	7.5	1.0	13.9	1.0	7.0	0.5	31.4	0.5	21.7	0.3
GA	19	26.0	1.0	12.0	1.0	3.0	1.0	0.0	1.0	23.0	1.0	20.0	1.0
GA	20	11.7	1.0	8.0	1.0	8.5	1.0	4.3	1.0	19.5	1.0	14.5	0.9
GA	21	13.0	0.9	9.4	1.0	10.0	1.0	3.2	0.9	20.2	0.9	18.2	0.9
GA	25	12.6	0.9	9.2	0.9	10.3	0.9	3.0	0.7	18.9	0.7	14.3	0.5
GA	27	11.3	0.7	7.8	1.0	11.7	1.0	1.3	0.5	33.0	0.5	32.0	0.3
GA	28	11.1	0.9	10.1	1.0	9.3	1.0	8.3	0.7	22.7	0.7	21.4	0.6
GA	29	10.2	1.0	9.7	1.0	10.6	1.0	8.4	0.6	25.6	0.6	22.2	0.6
GA	31	9.5	0.8	8.0	1.0	9.8	1.0	2.6	0.5	13.7	0.5	22.3	0.4
GA	33	40.0	1.0	20.0	1.0	17.0	1.0		0.0		0.0		0.0
GA	34	14.8	1.0	5.7	1.0	10.0	1.0	4.4	0.8	16.0	0.8	20.8	0.8
GA	35	12.0	1.0	10.0	1.0	17.0	1.0	1.0	1.0	10.0	1.0	27.0	1.0
GA	36	8.5	1.0	4.5	1.0	6.5	1.0	1.0	0.5	20.0	0.5	13.0	0.5
GA	37	9.0	0.5	7.5	0.7	8.8	0.7	0.7	0.5	20.7	0.5	20.3	0.5
GA	38	11.3	0.8	8.0	0.8	12.3	0.8	1.0	0.5	21.3	0.5	24.5	0.3
GA	39	13.5	0.7	5.5	0.7	8.0	0.7	3.0	0.7	43.0	0.7	29.0	0.7
GA	40	14.4	1.0	5.2	1.0	10.2	1.0	2.8	1.0	17.6	1.0	17.0	0.6
GA	41	8.0	1.0	8.0	1.0	10.0	1.0	3.0	1.0	28.0	1.0	10.0	1.0
GA	42	16.3	1.0	8.0	1.0	6.7	1.0	0.7	1.0	23.0	1.0	21.7	1.0
GA	43	9.0	1.0	9.3	1.0	13.5	1.0	3.8	1.0	31.5	1.0	15.3	1.0
GA	45	16.7	1.0	9.3	1.0	7.3	1.0	1.3	1.0	25.3	1.0	15.5	0.7
GA	46	8.8	1.0	6.6	1.0	12.8	1.0	2.6	1.0	33.0	1.0	23.6	1.0
GA	99	10.4	0.8	5.6	1.0	9.1	1.0	3.0	0.5	23.8	0.5	19.0	0.3

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IA	1		0.0		0.0		0.0		0.0		0.0		0.0
IA	2	12.0	1.0	5.3	1.0	8.3	1.0		0.0		0.0		0.0
IA	5	8.9	0.7	6.4	0.8	6.1	0.8	3.5	0.3	22.9	0.3	14.9	0.3
IA	7	6.0	0.4	6.3	0.6	11.7	0.6	0.0	0.2	12.0	0.2	13.0	0.2
IA	8	19.0	0.8	5.0	1.0	2.8	1.0	9.0	0.2	15.0	0.2	8.0	0.2
IA	9	16.5	0.4	10.5	0.8	5.3	0.8		0.0		0.0		0.0
IA	10	11.5	0.7	6.4	0.8	4.3	0.8	3.3	0.1	32.0	0.1	8.7	0.1
IA	11	13.0	1.0	4.0	1.0	2.5	1.0		0.0		0.0		0.0
IA	12	13.2	0.8	6.7	1.0	5.2	1.0	1.0	0.5	26.7	0.5	7.3	0.5
IA	13	13.7	0.4	8.7	0.9	5.2	0.9	5.0	0.3	40.5	0.3	19.5	0.3
IA	14	19.0	0.3	4.7	1.0	5.3	1.0		0.0		0.0		0.0
IA	15	11.3	0.7	6.6	0.9	5.7	0.9	5.5	0.3	22.2	0.3	13.8	0.2
IA	16	10.0	0.7	10.7	1.0	6.7	1.0		0.0		0.0		0.0
IA	18	9.0	1.0	8.7	1.0	9.0	1.0	5.0	0.3	23.0	0.3	36.0	0.3
IA	25	24.6	0.8	9.8	0.8	11.0	0.8	13.0	0.3	22.5	0.3	17.5	0.3
IA	26	11.3	0.6	8.1	0.9	7.2	0.9	2.9	0.2	23.5	0.2	15.0	0.2
IA	27	15.0	0.3	4.8	1.0	6.3	1.0		0.0		0.0		0.0
IA	29	9.3	0.6	6.1	0.8	6.2	0.8	6.0	0.2	23.0	0.2	9.5	0.2
IA	32	16.3	0.8	9.3	1.0	5.5	1.0		0.0		0.0		0.0
IA	34	13.0	1.0	1.0	1.0	6.5	1.0		0.0		0.0		0.0
IA	35	18.5	0.4	11.0	1.0	6.2	1.0	9.0	0.2	8.0	0.2	23.0	0.2
IA	36	6.8	0.8	3.3	0.8	11.3	0.8		0.0		0.0		0.0
IA	38	12.2	0.6	8.3	0.9	6.9	0.8	3.8	0.2	33.3	0.2	13.5	0.2
IA	39	16.1	0.9	8.2	0.9	9.7	0.9	1.3	0.5	21.4	0.5	15.7	0.4
IA	40	12.5	0.8	7.4	1.0	8.0	1.0	0.0	0.2	18.0	0.2	6.0	0.2
IA	41	16.3	0.8	8.1	0.9	9.4	0.9	1.8	0.5	30.6	0.6	16.0	0.5
IA	42	25.5	0.7	5.3	1.0	7.3	1.0	5.0	0.7	25.5	0.7	5.0	0.3
IA	43	10.8	0.8	6.0	0.8	7.2	0.8		0.0		0.0		0.0
IA	44	12.2	0.7	6.1	0.8	8.7	0.8	4.5	0.1	15.5	0.1	23.7	0.2
IA	46	14.4	0.7	7.6	0.7	5.8	0.7	7.0	0.1	30.0	0.1	0.0	0.1
IA	47	11.8	0.5	6.9	0.8	7.3	0.7	6.0	0.2	30.3	0.2	10.3	0.2
IA	48	9.5	0.8	4.3	0.8	9.3	0.8	2.0	0.1	36.0	0.1	22.0	0.1
IA	49	13.7	0.6	8.0	0.9	7.8	0.8	2.8	0.3	21.7	0.3	10.0	0.3
IA	99	14.8	0.7	5.7	0.8	4.9	0.8	4.8	0.2	23.0	0.2	7.0	0.1

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ME	1	13.8	0.7	9.0	0.8	8.8	0.7	3.2	0.8	24.4	0.8	16.6	0.8
ME	3	20.2	0.5	8.9	0.8	9.5	0.8	3.3	0.7	23.4	0.7	16.3	0.7
ME	4	14.8	0.5	7.8	0.7	9.5	0.7	2.7	0.7	23.7	0.7	15.5	0.6
ME	6	16.6	0.4	10.4	0.8	9.9	0.8	3.2	0.5	21.4	0.5	14.9	0.5
MA	1	16.0	0.9	9.4	0.9	8.4	0.9	3.2	0.7	22.6	0.7	20.3	0.7
MA	2	15.4	0.8	9.5	0.8	7.9	0.8	2.1	0.8	20.6	0.8	18.4	0.8
MA	99	15.4	0.8	8.8	0.9	7.5	0.9	2.9	0.9	21.9	0.9	17.4	0.8
OR	1	8.0	1.0	14.0	1.0	12.0	1.0		0.0		0.0		0.0
OR	2	12.8	0.9	15.7	0.9	13.2	0.9	5.1	1.0	33.7	1.0	18.7	0.9
OR	3		0.0	6.0	0.5	14.0	0.5	0.0	0.5	22.0	0.5	16.0	0.5
OR	4	12.0	0.2	15.7	0.6	17.3	0.6	3.3	0.8	34.5	0.8	17.5	0.8
OR	5		0.0	0.0	0.1		0.0	3.0	0.3	64.0	0.3	21.5	0.3
OR	6	11.5	0.7	17.5	0.7	10.0	0.7	5.0	0.7	20.5	0.7	15.5	0.7
OR	9	21.5	0.8	9.4	1.0	15.8	1.0	1.4	1.0	43.8	1.0	13.2	1.0
OR	10	15.3	0.8	8.8	1.0	11.3	1.0	2.3	1.0	47.5	1.0	16.5	1.0
OR	11		0.0	12.0	0.5	24.0	0.5	6.5	1.0	43.0	1.0	26.5	1.0
OR	12		0.0	3.0	1.0	6.0	1.0		0.0		0.0		0.0
OR	13	11.0	0.5	8.8	0.8	10.1	0.8	2.9	0.9	28.5	0.9	9.2	0.8
OR	14		0.0	11.5	1.0	13.0	0.5	8.5	1.0	45.5	1.0	15.5	1.0
OR	16		0.0	6.0	0.5	15.0	0.5	3.0	0.5	29.0	0.5	20.0	0.5
OR	17	10.4	0.4	8.7	0.8	10.5	0.8	6.0	0.8	34.2	0.8	16.0	0.7
OR	18	9.1	0.5	10.6	0.8	8.3	0.7	5.4	0.6	32.5	0.6	16.0	0.5
OR	19		0.0	11.0	1.0	18.0	1.0	4.0	1.0	0.0	1.0		0.0
OR	20		0.0	13.0	1.0	19.3	1.0	11.0	0.7	44.5	0.7	24.5	0.7
OR	21		0.0	12.0	0.5	3.0	0.5	5.0	0.5	39.0	0.5	28.0	0.5
OR	22		0.0		0.0		0.0		0.0		0.0		0.0
OR	25	10.0	0.3	9.5	0.7	7.0	0.7	4.3	0.7	43.5	0.7	20.0	0.3

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UT	1	15.0	0.3	11.8	0.8	8.5	0.7	3.5	0.7	42.3	0.7	15.3	0.5
UT	2	12.1	0.6	7.2	0.7	7.1	0.7	3.6	0.6	34.7	0.6	14.1	0.6
UT	4	16.8	0.5	7.0	0.6	9.0	0.6	5.0	0.6	36.6	0.6	15.0	0.6
UT	99	16.3	1.0	9.3	1.0	3.8	1.0		0.0	71.0	0.3		0.0
WA	3	13.8	0.8	11.8	1.0	14.3	1.0	1.3	0.7	32.0	0.7	20.3	0.7
WA	4	13.5	0.7	11.0	0.8	13.0	0.8	8.7	0.5	55.0	0.5	15.0	0.3
WA	6	12.9	0.9	11.6	1.0	10.6	1.0	1.7	0.9	35.1	0.9	21.7	0.9
WA	7	16.3	0.4	14.3	0.9	8.0	0.7	1.8	0.7	30.6	0.7	22.7	0.4
WA	8	16.5	0.3	11.7	0.5	5.7	0.5	2.0	0.2	28.5	0.3	17.0	0.2
WA	11	12.9	0.8	11.6	0.9	10.1	0.8	4.3	0.8	30.5	0.8	16.1	0.8
WA	16	13.3	0.8	9.0	1.0	11.8	1.0	3.0	0.3	4.0	0.3	11.0	0.3
WA	17	16.1	0.9	12.9	1.0	9.9	1.0	1.4	0.9	32.1	0.9	15.4	0.9
WA	18	11.0	0.6	13.3	0.9	7.8	0.9	3.1	1.0	21.0	1.0	11.4	1.0
WA	20	11.5	0.6	9.0	0.8	9.1	0.8	3.8	0.5	29.9	0.5	17.1	0.5
WA	21	14.9	0.7	12.7	0.8	10.2	0.8	4.8	0.8	32.9	0.8	20.3	0.7
WA	22	5.7	0.6	12.3	0.8	10.5	0.8	7.0	0.8	38.8	0.8	15.0	0.8
WA	23	15.3	0.8	9.0	0.9	9.1	0.9	6.8	0.9	28.0	0.9	12.0	0.8
WA	25	13.6	0.9	10.8	1.0	9.0	1.0	3.5	0.8	28.8	0.8	13.5	0.7
WA	99	21.0	0.5	14.0	1.0	12.5	1.0	5.5	1.0	33.5	1.0	4.5	1.0
WV	1	14.8	0.5	9.9	0.6	12.4	0.6	2.9	0.7	21.9	0.7	25.5	0.7
WV	3	19.0	0.8	12.0	0.8	7.3	0.8	9.0	0.3	20.0	0.3	4.0	0.3
WV	4	13.7	0.9	15.6	1.0	14.1	1.0	1.2	0.7	17.2	0.7	16.3	0.4
WV	6	16.4	0.8	11.3	0.8	12.5	0.8	1.5	0.8	25.7	0.8	19.2	0.7
WV	7	12.9	0.8	8.1	0.9	8.5	0.9	2.1	0.6	16.0	0.7	23.8	0.5
WV	8	15.8	0.7	10.4	0.8	8.2	0.8	2.4	0.7	29.0	0.7	24.3	0.6
WV	9	16.3	0.7	13.7	0.7	12.6	0.7	2.1	0.8	16.9	0.8	18.7	0.7
WV	99	13.5	0.8	12.2	0.9	10.4	0.9	2.7	0.6	16.4	0.6	20.3	0.4

		Quality Indicators											
State	Market Number	% Whose Ability to Move About in and Around Their Room Got Worse	Share reporting measure 10	% with a Urinary Tract Infection	Share reporting measure 11	% Who Lose Too Much Weight Looks	Share reporting measure 12	Percent of Short-Stay Residents With Delirium	Share reporting measure 21	Percent of Short-Stay Residents Who Had Moderate to Severe Pain	Share reporting measure 22	Percent of Short-Stay Residents With Pressure Sores	Share reporting measure 23
WI	1	21.3	0.8	5.3	1.0	8.5	1.0	0.3	0.8	31.0	0.8	13.0	0.8
WI	2	13.9	0.8	5.9	0.9	7.2	0.9	4.3	0.4	25.3	0.4	17.7	0.3
WI	3	12.5	0.7	7.1	0.9	8.4	0.9	3.0	0.7	32.9	0.7	14.2	0.7
WI	5	14.2	0.8	7.9	0.9	8.9	0.9	3.6	0.7	28.0	0.7	15.0	0.7
WI	7	14.5	1.0	7.8	1.0	9.0	1.0	1.3	1.0	21.8	1.0	13.3	0.8
WI	9	12.6	0.9	7.2	0.9	8.0	0.9	2.7	0.7	30.1	0.7	16.4	0.7
WI	10	12.0	0.9	3.6	0.9	6.3	0.9	0.8	0.4	22.8	0.4	10.0	0.3
WI	14	15.3	1.0	11.7	1.0	6.9	1.0	1.8	0.9	26.9	0.9	15.1	0.9
WI	15	11.8	0.8	6.3	0.9	9.0	0.9	3.2	0.5	30.6	0.5	16.3	0.4
WI	17	15.8	1.0	10.7	1.0	6.8	1.0	1.5	1.0	23.0	1.0	12.8	1.0
WI	20	13.8	0.8	9.0	0.9	9.6	0.9	2.6	0.8	22.1	0.8	15.1	0.8
WI	21	15.0	0.9	7.4	0.9	8.6	0.9	6.2	0.6	38.5	0.8	17.3	0.4
WI	22	12.0	0.8	8.1	0.9	9.3	0.9	2.1	0.7	34.7	0.7	15.2	0.7
WI	24	12.4	0.7	9.5	0.9	11.5	0.9	6.0	0.1	46.0	0.1	5.0	0.1
WI	25	19.7	0.8	9.5	1.0	10.9	1.0	6.0	0.5	28.6	0.6	9.7	0.4
WI	26	9.0	0.5	14.5	1.0	9.0	1.0	3.0	1.0	17.5	1.0	14.5	1.0
WI	30	13.0	0.8	9.1	0.9	8.8	0.9	3.0	0.8	30.1	0.9	18.3	0.8
WI	32	8.0	1.0	6.5	1.0	6.5	1.0	4.0	1.0	10.0	1.0	41.0	0.5
WI	34	12.4	1.0	5.7	1.0	8.0	1.0	2.6	0.8	32.1	0.8	20.3	0.8
WI	35	13.5	0.9	11.3	0.9	13.8	0.9	1.4	0.7	24.4	0.7	10.0	0.6
WI	38	10.5	0.8	4.5	0.9	6.4	0.9	3.8	0.8	32.9	0.8	13.8	0.8
WI	39	12.2	0.9	8.5	0.9	6.4	0.9	2.0	0.8	23.1	0.8	10.3	0.7
WI	99	12.1	0.9	7.6	1.0	6.3	1.0	3.5	0.7	24.1	0.7	12.5	0.6

Home Health

	Market Characteristics									
State	**Market Number**	**market**	**_FREQ_**	**HH Agencies by market**	**Herfindahl**	**Agencies/1000 population over 65**	**Ratio of all services to full service**	**Elderly Pop**	**Metro Counties**	**Share of Counties in Market that are Metropolitan**
CO	1	8001	1	1	10000	0.22	100%	4,532	0	0%
CO	3	8003	8	8	1250	0.37	88%	21,707	1	100%
CO	4	8004	4	4	2500	1.39	96%	2,880	0	0%
CO	6	8006	57	57	175	0.28	92%	201,975	6	75%
CO	7	8007	13	13	769	0.26	94%	49,673	2	100%
CO	9	8009	2	2	5000	0.47	100%	4,253	0	0%
CO	11	8011	3	3	3333	0.52	100%	5,748	0	0%
CO	13	8013	5	5	2000	0.19	97%	25,698	1	100%
CO	15	8015	2	2	5000	0.66	92%	3,024	0	0%
CO	16	8016	14	14	714	0.43	95%	32,416	1	20%
CO	18	8018	2	2	5000	0.58	75%	3,433	0	0%
CO	20	8020	1	1	10000	0.22	100%	4,515	0	0%
CO	21	8021	4	4	2500	0.81	96%	4,965	0	0%
CO	22	8022	1	1	10000	1.13		886	0	0%
CO	23	8023	1	1	10000				1	1
CO	24	8024	1	1	10000	0.56	67%	1,779	0	0%
CO	25	8025	12	12	833	0.36	89%	33,769	1	25%
CO	26	8026	2	2	5000	0.86	100%	2,318	0	0%
CO	27	8027	7	7	1429	0.33		21,276	1	50%
CO	99	8099	1	1	10000	0.55	67%	1,823	0	0%

	Market Characteristics									
State	**Market Number**	**market**	**_FREQ_**	**HH Agencies by market**	**Herfindahl**	**Agencies/1000 population over 65**	**Ratio of all services to full service**	**Elderly Pop**	**Metro Counties**	**Share of Counties in Market that are Metropolitan**
FL	1	12001	8	8	1250	0.12	96%	67,260	2	20%
FL	2	12002	9	9	1111	0.29	93%	31,454	1	20%
FL	3	12003	20	20	500	0.19	98%	103,261	1	100%
FL	4	12004	63	63	159	0.22	98%	282,325	1	100%
FL	5	12005	8	8	1250	0.15	89%	54,550	1	100%
FL	6	12006	6	6	1667	0.14	89%	41,995	0	0%
FL	8	12008	7	7	1429	0.10	98%	72,598	1	100%
FL	10	12010	179	179	56	0.55	100%	326,712	1	50%
FL	11	12011	31	31	323	0.23	95%	136,703	5	100%
FL	12	12012	6	6	1667	0.11	100%	54,995	2	100%
FL	13	12013	12	12	833	0.26	100%	46,390	1	100%
FL	14	12014	5	5	2000	0.14	90%	34,630	0	0%
FL	15	12015	24	24	417	0.18	100%	131,930	1	100%
FL	16	12016	6	6	1667	0.17	97%	36,232	1	100%
FL	17	12017	1	1	10000	0.14	83%	6,940	0	0%
FL	19	12019	25	25	400	0.19	93%	134,615	1	50%
FL	20	12020	10	10	1000	0.28	78%	36,250	4	67%
FL	21	12021	8	8	1250	0.11	92%	73,699	1	100%
FL	22	12022	14	14	714	0.20	99%	71,434	1	100%
FL	23	12023	4	4	2500	0.10	100%	38,956	1	100%
FL	25	12025	4	4	2500	0.13	92%	29,663	1	50%
FL	26	12026	1	1	10000	0.16	50%	6,367	0	0%
FL	27	12027	44	44	227	0.17	96%	251,594	4	80%
FL	29	12029	45	45	222	0.16	98%	288,035	1	100%
FL	30	12030	8	8	1250	0.07	100%	109,297	1	100%
FL	31	12031	37	37	270	0.18	99%	209,152	1	100%
FL	32	12032	13	13	769	0.14	96%	96,158	1	100%
FL	34	12034	15	15	667	0.13	100%	111,873	1	100%
FL	36	12036	8	8	1250	0.16	100%	51,500	1	100%
FL	38	12038	9	9	1111	0.07	94%	125,364	1	50%
FL	99	12099	1	1	10000					

	Market Characteristics									
State	**Market Number**	**market**	**_FREQ_**	**HH Agencies by market**	**Herfindahl**	**Agencies/1000 population over 65**	**Ratio of all services to full service**	**Elderly Pop**	**Metro Counties**	**Share of Counties in Market that are Metropolitan**
GA	1	13001	1	1	10000	0.76		1,322	0	0%
GA	3	13003	1	1	10000	0.12		8,201	1	100%
GA	4	13004	4	4	2500	0.07	88%	56,591	6	40%
GA	7	13007	1	1	10000	0.07	100%	13,796	2	100%
GA	8	13008	2	2	5000	0.11	100%	17,782	3	100%
GA	9	13009	10	10	1000	0.15	97%	66,797	7	54%
GA	10	13010	6	6	1667	0.17	100%	34,992	3	33%
GA	12	13012	1	1	10000	0.26	83%	3,885	0	0%
GA	13	13013	1	1	10000	0.18	100%	5,625	0	0%
GA	14	13014	2	2	5000	0.47	92%	4,228	0	0%
GA	15	13015	1	1	10000	0.26	83%	3,793	0	0%
GA	16	13016	1	1	10000	0.39	100%	2,583	0	0%
GA	17	13017	3	3	3333	0.12	94%	25,428	4	40%
GA	19	13019	1	1	10000	0.24		4,111	0	0%
GA	20	13020	3	3	3333	0.11	100%	27,400	1	25%
GA	21	13021	22	22	455	0.07	99%	308,892	16	94%
GA	25	13025	5	5	2000	0.16	100%	30,800	1	17%
GA	27	13027	1	1	10000	0.11	100%	9,474	0	0%
GA	28	13028	5	5	2000	0.30	97%	16,862	3	50%
GA	29	13029	5	5	2000	0.19	100%	26,285	3	75%
GA	31	13031	6	6	1667	0.14	92%	43,814	4	40%
GA	33	13033	1	1	10000	0.68		1,461	0	0%
GA	34	13034	4	4	2500	0.30	92%	13,186	4	100%
GA	35	13035	1	1	10000	0.26		3,901	0	0%
GA	36	13036	1	1	10000	0.25		4,055	0	0%
GA	37	13037	1	1	10000	0.11	100%	9,252	0	0%
GA	38	13038	2	2	5000	0.21	92%	9,628	0	0%
GA	39	13039	1	1	10000	0.31	100%	3,264	0	0%
GA	40	13040	1	1	10000	0.09	100%	10,803	1	50%
GA	41	13041	1	1	10000	0.24	83%	4,228	0	0%
GA	42	13042	1	1	10000	0.24		4,199	0	0%
GA	43	13043	2	2	5000	0.31	92%	6,525	0	0%
GA	45	13045	1	1	10000	0.31	100%	3,202	0	0%
GA	46	13046	1	1	10000	0.08	100%	12,432	2	100%
GA	99	13099	2	2	5000	0.09	83%	22,257	2	25%

	Market Characteristics									
State	**Market Number**	**market**	**_FREQ_**	**HH Agencies by market**	**Herfindahl**	**Agencies/1000 population over 65**	**Ratio of all services to full service**	**Elderly Pop**	**Metro Counties**	**Share of Counties in Market that are Metropolitan**
IA	1	19001	1	1	10000	1.08	83%	925	0	0%
IA	2	19002	1	1	10000	0.37	83%	2,715	0	0%
IA	5	19005	9	9	1111	0.25	93%	36,143	3	43%
IA	7	19007	2	2	5000	0.59	92%	3,398	0	0%
IA	8	19008	4	4	2500	1.02	75%	3,907	0	0%
IA	9	19009	2	2	5000	0.67	92%	2,966	0	0%
IA	10	19010	11	11	909	0.40	85%	27,670	0	0%
IA	11	19011	1	1	10000	0.33	83%	3,034	0	0%
IA	12	19012	5	5	2000	0.63	80%	7,890	0	0%
IA	13	19013	4	4	2500	0.59	83%	6,818	0	0%
IA	14	19014	2	2	5000	0.58	92%	3,440	0	0%
IA	15	19015	4	4	2500	0.20	100%	20,269	1	33%
IA	16	19016	2	2	5000	0.97	67%	2,053	0	0%
IA	18	19018	1	1	10000	0.34	100%	2,933	0	0%
IA	25	19025	5	5	2000	0.82	83%	6,078	0	0%
IA	26	19026	26	26	385	0.39	82%	67,060	5	38%
IA	27	19027	1	1	10000	0.45	83%	2,209	0	0%
IA	29	19029	3	3	3333	0.30	94%	9,845	0	0%
IA	32	19032	3	3	3333	1.30	83%	2,309	0	0%
IA	34	19034	1	1	10000	0.78	67%	1,286	0	0%
IA	35	19035	3	3	3333	0.93	89%	3,220	0	0%
IA	36	19036	1	1	10000	0.48	100%	2,084	0	0%
IA	38	19038	38	38	263	0.41	83%	92,969	5	26%
IA	39	19039	6	6	1667	0.33	81%	18,407	3	75%
IA	40	19040	1	1	10000	0.30	100%	3,356	0	0%
IA	41	19041	2	2	5000	0.11	83%	18,850	1	100%
IA	42	19042	1	1	10000	0.38	100%	2,605	0	0%
IA	43	19043	3	3	3333	0.62	100%	4,842	0	0%
IA	44	19044	3	3	3333	0.21	100%	14,420	1	33%
IA	46	19046	3	3	3333	0.38	67%	7,884	0	0%
IA	47	19047	7	7	1429	0.54	91%	13,033	0	0%
IA	48	19048	3	3	3333	0.57	78%	5,305	0	0%
IA	49	19049	13	13	769	0.54	81%	24,239	1	20%
IA	99	19099	7	7	1429	0.51	100%	13,626	0	0%

	Market Characteristics									
State	**Market Number**	**market**	**_FREQ_**	**HH Agencies by market**	**Herfindahl**	**Agencies/1000 population over 65**	**Ratio of all services to full service**	**Elderly Pop**	**Metro Counties**	**Share of Counties in Market that are Metropolitan**
ME	1	23001	1	1	10000	0.06	100%	15,427	1	100%
ME	3	23003	12	12	833	0.13	94%	90,766	3	50%
ME	4	23004	4	4	2500	0.12	100%	33,940	0	0%
ME	6	23006	12	12	833	0.24	97%	49,208	1	20%
MA	1	25001	34	34	294	0.15	91%	221,341	5	100%
MA	2	25002	67	67	149	0.14	97%	493,565	5	71%
MA	99	25099	14	14	714	0.09		155,218	2	100%
OR	1	41001	1	1	10000	0.32	83%	3,133	0	0%
OR	2	41002	2	2	5000	0.08	92%	23,733	1	50%
OR	3	41003	2	2	5000	0.35	100%	5,656	0	0%
OR	4	41004	5	5	2000	0.28	93%	18,088	0	0%
OR	5	41005	7	7	1429	0.29	86%	24,443	1	25%
OR	6	41006	3	3	3333	0.16	100%	18,379	0	0%
OR	9	41009	4	4	2500	0.13	100%	30,866	1	100%
OR	10	41010	2	2	5000	0.12	92%	16,081	0	0%
OR	11	41011	1	1	10000	0.10	100%	9,717	0	0%
OR	12	41012	1	1	10000	0.77	83%	1,307	0	0%
OR	13	41013	5	5	2000	0.11	97%	44,102	1	100%
OR	14	41014	2	2	5000	0.23	100%	8,842	0	0%
OR	16	41016	1	1	10000	0.23	83%	4,295	0	0%
OR	17	41017	3	3	3333	0.06	94%	47,319	2	100%
OR	18	41018	13	13	769	0.08	100%	170,354	4	67%
OR	19	41019	1	1	10000	0.20	100%	4,927	0	0%
OR	20	41020	3	3	3333	0.33	94%	9,036	0	0%
OR	21	41021	1	1	10000	0.28	100%	3,597	0	0%
OR	22	41022	1	1	10000	0.76	33%	1,317	0	0%
OR	25	41025	2	2	5000	0.19	83%	10,650	1	100%

	Market Characteristics									
State	**Market Number**	**market**	**_FREQ_**	**HH Agencies by market**	**Herfindahl**	**Agencies/1000 population over 65**	**Ratio of all services to full service**	**Elderly Pop**	**Metro Counties**	**Share of Counties in Market that are Metropolitan**
UT	1	49001	2	2	5000	0.17	100%	11,631	1	50%
UT	2	49002	46	46	217	0.29	99%	158,772	6	50%
UT	4	49004	5	5	2000	0.23	93%	21,772	1	50%
UT	99	49099	1	1	10000	0.21		4,870	0	0%
WA	3	53003	3	3	3333	0.14	94%	21,107	2	100%
WA	4	53004	3	3	3333	0.22	100%	13,940	2	100%
WA	6	53006	4	4	2500	0.11	92%	37,290	1	100%
WA	7	53007	2	2	5000	0.15	67%	13,493	1	50%
WA	8	53008	1	1	10000	0.11	83%	9,228	0	0%
WA	11	53011	21	21	476	0.07	97%	301,871	3	50%
WA	16	53016	1	1	10000	0.18	100%	5,540	0	0%
WA	17	53017	4	4	2500	0.05	100%	76,177	1	100%
WA	18	53018	1	1	10000	0.05	100%	19,095	1	50%
WA	20	53020	8	8	1250	0.11	100%	72,624	2	25%
WA	21	53021	3	3	3333	0.05	100%	56,377	1	25%
WA	22	53022	2	2	5000	0.22	92%	9,272	0	0%
WA	23	53023	2	2	5000	0.10	100%	20,953	1	100%
WA	25	53025	4	4	2500	0.13	100%	29,795	1	50%
WA	99	53099	1	1	10000	0.21		4,794	0	0%
WV	1	54001	4	4	2500	0.19	88%	21,057	4	100%
WV	3	54003	2	2	5000	0.39	75%	5,135	0	0%
WV	4	54004	1	1	10000	0.09	100%	11,018	0	0%
WV	6	54006	23	23	435	0.22	81%	103,196	7	54%
WV	7	54007	17	17	588	0.30	79%	56,014	3	23%
WV	8	54008	4	4	2500	0.16	100%	24,531	4	100%
WV	9	54009	4	4	2500	0.20	92%	20,184	2	50%
WV	99	54099	7	7	1429	0.21		33,803	0	0%

	Market Characteristics									
State	**Market Number**	**market**	**_FREQ_**	**HH Agencies by market**	**Herfindahl**	**Agencies/1000 population over 65**	**Ratio of all services to full service**	**Elderly Pop**	**Metro Counties**	**Share of Counties in Market that are Metropolitan**
WI	1	55001	2	2	5000	0.39	67%	5,151	0	0%
WI	2	55002	4	4	2500	0.38	79%	10,555	0	0%
WI	3	55003	9	9	1111	0.16	85%	54,905	3	43%
WI	5	55005	11	11	909	0.15	92%	72,531	3	43%
WI	7	55007	2	2	5000	0.31	83%	6,401	1	100%
WI	9	55009	2	2	5000	0.14	92%	14,138	1	100%
WI	10	55010	2	2	5000	0.26	83%	7,593	0	0%
WI	14	55014	2	2	5000	0.11	83%	18,186	1	100%
WI	15	55015	15	15	667	0.24	76%	62,895	3	27%
WI	17	55017	2	2	5000	0.16	83%	12,843	0	0%
WI	20	55020	33	33	303	0.15	89%	226,757	5	83%
WI	21	55021	1	1	10000	0.06	100%	15,493	0	0%
WI	22	55022	4	4	2500	0.12	83%	32,001	2	67%
WI	24	55024	1	1	10000	0.27	67%	3,687	1	100%
WI	25	55025	2	2	5000	0.20	75%	9,994	0	0%
WI	26	55026	1	1	10000	0.14		7,373	0	0%
WI	30	55030	3	3	3333	0.15	100%	19,930	1	100%
WI	32	55032	1	1	10000	0.33	67%	3,032	0	0%
WI	34	55034	1	1	10000	0.06	100%	15,915	1	100%
WI	35	55035	2	2	5000	0.27	75%	7,323	1	100%
WI	38	55038	5	5	2000	0.18	70%	28,141	1	33%
WI	39	55039	8	8	1250	0.15	90%	52,661	1	13%
WI	99	55099	10	10	1000	0.31		32,051	0	0%

		Quality Indicators				
State	Market Number	Percentage of patients who get better at walking or moving around	Percentage of patients who get better at getting in and out of bed	Percentage of patients whose bladder control improves	Percentage of patients who have less pain when moving around	Percentage of patients who get better at bathing
CO	1	36.0	63.0	59.0	61.0	57.0
CO	3	31.8	49.4	39.0	50.4	58.8
CO	4	34.7	44.0	45.0	58.0	60.0
CO	6	32.7	49.6	47.8	54.9	58.6
CO	7	35.6	51.3	48.7	52.3	61.3
CO	9	36.5	50.0	45.0	52.5	63.5
CO	11	45.0	58.0	62.5	61.3	66.7
CO	13	36.0	55.5	36.0	53.3	62.3
CO	15	38.0	57.0	48.0	61.0	70.0
CO	16	37.9	50.6	46.5	55.9	63.3
CO	18	37.5	68.5	56.0	53.0	69.0
CO	20	38.0	47.0	27.0	74.0	61.0
CO	21	36.0	49.3	40.5	52.0	63.0
CO	22					
CO	23					
CO	24	41.0	56.0	15.0	59.0	55.0
CO	25	36.9	47.3	44.8	56.7	57.5
CO	26	35.0	58.0	55.0	57.0	64.5
CO	27					
CO	99	51.0	67.0	19.0	45.0	67.0

		Quality Indicators				
State	Market Number	Percentage of patients who get better at walking or moving around	Percentage of patients who get better at getting in and out of bed	Percentage of patients whose bladder control improves	Percentage of patients who have less pain when moving around	Percentage of patients who get better at bathing
FL	1	40.4	52.9	53.3	56.4	62.1
FL	2	40.8	56.4	49.8	54.2	64.3
FL	3	41.8	52.5	58.4	61.7	66.1
FL	4	37.8	51.4	48.7	60.6	60.1
FL	5	40.0	58.8	54.0	65.9	66.3
FL	6	40.3	54.5	48.2	66.5	64.0
FL	8	37.3	53.4	51.8	58.0	60.4
FL	10	40.0	50.5	56.0	57.5	63.0
FL	11	38.8	49.0	49.2	60.6	61.5
FL	12	44.5	48.5	43.8	58.7	66.8
FL	13	44.3	54.0	57.6	69.3	70.8
FL	14	37.7	48.7	53.0	59.3	58.7
FL	15	37.3	48.5	49.0	64.9	61.1
FL	16	35.5	48.7	51.0	57.8	64.5
FL	17	38.0	43.0	54.0	55.0	59.0
FL	19	41.5	60.9	52.6	68.8	69.1
FL	20	34.2	42.5	32.7	61.8	54.8
FL	21	37.3	52.0	58.5	63.2	65.1
FL	22	42.3	59.9	57.0	65.1	67.6
FL	23	41.0	50.5	64.0	66.8	68.3
FL	25	37.3	52.3	47.3	56.0	71.8
FL	26	50.0	96.0	58.0	71.0	77.0
FL	27	38.6	53.4	54.2	64.4	64.1
FL	29	37.4	49.9	51.8	62.2	62.8
FL	30	44.0	60.9	62.1	67.4	67.8
FL	31	34.9	46.5	47.6	59.8	59.7
FL	32	37.8	49.0	51.2	62.1	63.2
FL	34	37.6	52.0	52.8	65.4	64.6
FL	36	40.7	48.7	53.1	59.0	64.1
FL	38	38.0	49.0	53.3	64.7	64.0
FL	99					

		Quality Indicators				
State	Market Number	Percentage of patients who get better at walking or moving around	Percentage of patients who get better at getting in and out of bed	Percentage of patients whose bladder control improves	Percentage of patients who have less pain when moving around	Percentage of patients who get better at bathing
GA	1					
GA	3					
GA	4	41.3	57.3	55.5	68.0	64.5
GA	7	39.0	59.0	37.0	61.0	58.0
GA	8	41.5	59.5	60.5	64.0	62.0
GA	9	43.3	58.7	50.5	66.8	63.1
GA	10	39.5	58.0	43.3	64.2	62.8
GA	12	37.0	48.0	31.0	84.0	59.0
GA	13	42.0	56.0	57.0	67.0	52.0
GA	14	42.5	60.0	47.0	69.5	61.0
GA	15	45.0	59.0	45.0	72.0	64.0
GA	16	51.0	56.0	55.0	70.0	69.0
GA	17	30.5	58.0	48.0	50.5	54.5
GA	19	46.3	55.7	57.0	61.3	65.7
GA	20	37.8	53.9	53.0	64.9	60.4
GA	21	40.2	52.0	50.6	58.6	60.0
GA	25	55.0	85.0 .		79.0	78.0
GA	27					
GA	28	38.6	49.0	42.4	54.8	53.2
GA	29	52.8	59.8	52.3	67.4	64.6
GA	31	35.5	53.3	47.7	60.7	57.8
GA	33					
GA	34	34.8	49.0	52.5	65.8	54.3
GA	35					
GA	36	41.0	59.0	60.0	63.0	60.0
GA	37	40.5	50.5	56.0	59.5	68.5
GA	38	38.0	68.0	54.0	74.0	59.0
GA	39					
GA	40	40.0	67.0	82.0	66.0	63.0
GA	41	30.0	41.0	20.0	39.0	62.0
GA	42					
GA	43	44.0	62.0	51.5	68.0	66.0
GA	45	36.0	49.0	51.0	46.0	55.0
GA	46	41.0	56.0	56.0	65.0	57.0
GA	99 .	.	.	.	.	

		Quality Indicators				
State	Market Number	Percentage of patients who get better at walking or moving around	Percentage of patients who get better at getting in and out of bed	Percentage of patients whose bladder control improves	Percentage of patients who have less pain when moving around	Percentage of patients who get better at bathing
IA	1	31.0	26.0	.	41.0	46.0
IA	2	23.0	32.0	32.0	57.0	37.0
IA	5	33.3	40.4	34.0	48.8	58.8
IA	7	33.0	31.0	25.0	42.0	57.0
IA	8	31.0	60.0	15.0	56.3	55.3
IA	9	37.0	30.0	21.0	50.0	45.0
IA	10	36.1	50.8	44.0	66.1	62.5
IA	11	48.0	55.0	30.0	58.0	68.0
IA	12	53.5	51.5	60.0	68.0	65.0
IA	13	44.5	60.5	29.0	76.5	71.5
IA	14	33.5	49.5	44.0	48.5	57.5
IA	15	30.8	33.3	33.0	49.5	51.5
IA	16	36.0	38.0	.	49.0	58.0
IA	18	50.0	59.0	51.0	66.0	65.0
IA	25	38.8	42.0	58.0	58.7	52.0
IA	26	32.3	48.0	34.3	55.2	52.9
IA	27	36.0	.	.	.	68.0
IA	29	41.7	57.0	25.5	65.7	68.0
IA	32	37.5	57.0	41.0	52.5	66.0
IA	34					
IA	35	26.0	36.0	31.0	53.0	53.0
IA	36	32.0	49.0	26.0	50.0	46.0
IA	38	30.0	42.5	33.3	51.3	52.7
IA	39	36.0	39.5	29.7	64.3	61.8
IA	40	33.0	28.0	42.0	50.0	62.0
IA	41	49.0	58.0	53.0	56.0	66.0
IA	42	28.0	30.0	38.0	34.0	54.0
IA	43	30.5	58.0	36.0	49.5	60.7
IA	44	35.3	44.0	29.0	63.0	62.7
IA	46	27.0	41.0	44.0	63.0	49.0
IA	47	33.3	44.6	35.2	57.5	59.3
IA	48	30.3	43.3	6.0	45.7	56.3
IA	49	30.3	47.2	29.6	53.0	53.3
IA	99	30.3	44.3	34.0	51.7	57.3

		Quality Indicators				
State	Market Number	Percentage of patients who get better at walking or moving around	Percentage of patients who get better at getting in and out of bed	Percentage of patients whose bladder control improves	Percentage of patients who have less pain when moving around	Percentage of patients who get better at bathing
ME	1	40.0	54.0	41.0	54.0	59.0
ME	3	38.3	54.7	50.7	59.8	60.7
ME	4	37.0	61.5	47.8	61.3	54.5
ME	6	37.9	55.1	44.0	58.9	53.6
MA	1	36.7	48.0	50.2	61.6	56.3
MA	2	36.0	48.4	45.4	62.4	57.8
MA	99					
OR	1	44.0	57.0	51.0	60.0	70.0
OR	2	36.5	56.0	59.0	46.5	59.0
OR	3	30.5	51.5	45.5	55.5	57.0
OR	4	40.0	65.6	48.2	58.2	66.4
OR	5	39.2	51.5	55.0	49.8	68.0
OR	6	34.7	46.3	48.5	55.3	58.7
OR	9	35.5	53.3	47.0	57.0	60.0
OR	10	33.5	50.5	54.0	61.5	63.0
OR	11	40.0	59.0	46.0	63.0	69.0
OR	12	44.0	53.0 .		57.0	63.0
OR	13	37.8	52.4	32.6	64.6	61.4
OR	14	37.0	59.0	60.5	72.5	67.0
OR	16	41.0	60.0	63.0	44.0	67.0
OR	17	36.3	56.3	44.3	61.3	61.3
OR	18	35.1	49.5	47.8	56.5	59.5
OR	19	46.0	70.0	58.0	63.0	67.0
OR	20	36.7	53.0	48.0	53.5	67.0
OR	21	43.0	66.0	47.0	53.0	68.0
OR	22	29.0	25.0 .		50.0	51.0
OR	25	29.0	40.5	45.0	47.0	54.0

		Quality Indicators				
State	Market Number	Percentage of patients who get better at walking or moving around	Percentage of patients who get better at getting in and out of bed	Percentage of patients whose bladder control improves	Percentage of patients who have less pain when moving around	Percentage of patients who get better at bathing
UT	1	43.5	67.0	31.5	61.0	69.0
UT	2	42.8	60.7	49.3	61.6	68.2
UT	4	36.6	50.6	55.4	59.4	67.4
UT	99					
WA	3	41.0	60.0	41.0	58.3	65.3
WA	4	43.7	54.3	42.3	59.7	69.0
WA	6	36.0	45.5	41.8	49.3	60.0
WA	7	38.0	60.0	46.0	60.0	66.0
WA	8	38.0	49.0	45.0	54.0	60.0
WA	11	36.0	53.6	52.6	58.7	63.2
WA	16	38.0	59.0	41.0	62.0	63.0
WA	17	32.5	47.0	52.5	55.0	57.5
WA	18	33.0	67.0	48.0	48.0	64.0
WA	20	39.0	63.8	53.6	59.9	63.8
WA	21	38.0	50.0	41.7	58.7	64.0
WA	22	31.5	52.0	52.5	62.0	60.0
WA	23	28.5	37.5	42.0	55.0	58.5
WA	25	34.8	51.0	53.3	62.3	65.5
WA	99					
WV	1	37.0	53.3	43.3	52.0	52.3
WV	3	44.5	52.5	37.0	71.0	60.0
WV	4	43.0	56.0	41.0	49.0	57.0
WV	6	42.8	56.7	49.3	55.4	58.7
WV	7	41.3	61.7	39.8	61.7	53.7
WV	8	34.0	54.3	41.5	56.0	55.8
WV	9	41.5	58.0	50.5	62.3	58.0
WV	99					

		Quality Indicators				
State	Market Number	Percentage of patients who get better at walking or moving around	Percentage of patients who get better at getting in and out of bed	Percentage of patients whose bladder control improves	Percentage of patients who have less pain when moving around	Percentage of patients who get better at bathing
WI	1	40.0	49.5	.	46.0	52.0
WI	2	38.0	54.3	34.7	65.5	61.5
WI	3	35.3	57.2	48.9	59.6	54.9
WI	5	32.5	50.5	44.2	59.3	56.1
WI	7	37.0	77.0	35.0	55.0	58.0
WI	9	34.5	53.0	30.5	54.0	49.5
WI	10	32.5	51.5	26.0	58.5	60.0
WI	14	44.0	64.0	60.0	64.0	63.0
WI	15	34.4	53.5	42.6	59.1	58.2
WI	17	47.5	55.5	38.5	63.0	59.0
WI	20	30.4	44.3	44.4	53.8	51.2
WI	21	40.0	53.0	41.0	60.0	55.0
WI	22	43.5	51.5	47.0	63.5	60.5
WI	24	20.0	25.0	.	.	37.0
WI	25	35.5	54.5	17.0	78.0	55.5
WI	26					
WI	30	42.0	67.3	35.3	60.7	59.7
WI	32	28.0	50.0	.	62.0	54.0
WI	34	41.0	53.0	60.0	60.0	60.0
WI	35	30.0	45.0	33.0	47.0	57.0
WI	38	40.7	50.0	55.0	52.3	54.0
WI	39	40.3	47.6	40.5	55.2	57.7
WI	99					

		Quality Indicators				
State	Market Number	Percentage of patients who get better at taking their medicines	Percentage of patients who are short of breath less often	Percentage of patients who had to be admitted to the hospital (NOTE: HIGHER IS WORSE)	Percentage of patients who need urgent, unplanned medical care (NOTE: HIGHER IS WORSE)	Percentage of patients who stay at home after an episode of home
CO	1	29.0	66.0	36.0	28.0	57.0
CO	3	28.8	51.8	23.2	23.6	72.8
CO	4	34.0	55.0	26.3	24.0	66.0
CO	6	35.4	56.8	28.2	24.0	66.0
CO	7	34.6	56.0	33.7	27.1	61.2
CO	9	38.0	66.0	27.0	23.0	63.5
CO	11	47.0	67.7	22.7	24.7	68.3
CO	13	26.3	57.5	29.0	27.8	67.8
CO	15	48.0	60.0	24.0	18.0	74.0
CO	16	34.9	56.7	29.0	28.4	65.3
CO	18	38.5	62.5	22.0	20.5	74.0
CO	20	33.0	76.0	23.0	26.0	74.0
CO	21	21.7	62.7	34.7	25.7	55.0
CO	22					
CO	23					
CO	24	26.0	48.0	27.0	31.0	72.0
CO	25	33.1	56.4	25.7	21.4	68.9
CO	26	48.0	56.5	22.5	20.0	70.0
CO	27					
CO	99	51.0	58.0	22.0	23.0	73.0

		Quality Indicators				
State	Market Number	Percentage of patients who get better at taking their medicines	Percentage of patients who are short of breath less often	Percentage of patients who had to be admitted to the hospital (NOTE: HIGHER IS WORSE)	Percentage of patients who need urgent, unplanned medical care (NOTE: HIGHER IS WORSE)	Percentage of patients who stay at home after an episode of home
FL	1	34.0	53.9	24.8	20.3	70.0
FL	2	43.1	58.6	30.9	23.8	62.0
FL	3	44.6	62.8	26.4	20.2	69.0
FL	4	38.7	54.0	25.7	17.5	69.3
FL	5	44.5	62.1	24.6	18.8	71.1
FL	6	42.3	56.8	22.0	17.5	73.5
FL	8	44.1	62.0	17.1	18.1	77.7
FL	10	41.0	67.0	29.0	10.0	60.5
FL	11	37.7	53.9	29.8	19.7	65.3
FL	12	38.8	57.0	22.8	18.3	73.3
FL	13	48.6	62.3	24.4	16.8	69.8
FL	14	38.0	49.0	26.7	12.3	67.3
FL	15	37.2	56.5	28.9	23.3	66.5
FL	16	35.7	52.3	27.2	18.8	67.8
FL	17	37.0	49.0	38.0	33.0	58.0
FL	19	43.9	62.8	19.6	18.4	76.4
FL	20	35.5	44.0	23.4	13.9	72.7
FL	21	41.5	58.5	21.9	19.6	74.0
FL	22	42.7	62.7	26.4	23.8	70.2
FL	23	46.5	62.3	24.5	13.3	71.8
FL	25	38.3	55.8	23.5	10.3	71.0
FL	26	54.0	64.0	41.0	7.0	53.0
FL	27	40.3	60.2	28.2	21.9	66.9
FL	29	39.6	59.1	24.7	15.3	69.4
FL	30	46.5	62.1	22.1	17.5	73.0
FL	31	38.1	57.0	26.4	19.1	69.0
FL	32	45.9	59.8	29.8	20.6	65.8
FL	34	39.0	58.4	20.5	19.4	74.9
FL	36	44.1	56.0	22.7	17.9	73.1
FL	38	43.4	61.9	21.4	19.4	73.1
FL	99					

		Quality Indicators				
State	Market Number	Percentage of patients who get better at taking their medicines	Percentage of patients who are short of breath less often	Percentage of patients who had to be admitted to the hospital (NOTE: HIGHER IS WORSE)	Percentage of patients who need urgent, unplanned medical care (NOTE: HIGHER IS WORSE)	Percentage of patients who stay at home after an episode of home
GA	1					
GA	3					
GA	4	40.5	60.0	29.5	23.5	67.3
GA	7	34.0	56.0	26.0	20.0	73.0
GA	8	41.5	66.5	29.5	19.0	66.0
GA	9	46.6	61.1	26.8	22.0	70.7
GA	10	39.5	61.8	24.8	20.7	71.7
GA	12	45.0	47.0	49.0	23.0	47.0
GA	13	37.0	47.0	19.0	20.0	78.0
GA	14	35.0	61.5	27.5	26.5	70.0
GA	15	45.0	68.0	26.0	15.0	71.0
GA	16	41.0	54.0	36.0	30.0	63.0
GA	17	32.0	53.5	26.5	22.0	72.0
GA	19	46.0	62.0	29.3	24.0	66.7
GA	20	38.7	59.6	31.2	23.7	65.4
GA	21	36.6	59.6	26.6	17.8	69.4
GA	25	40.0	55.0	27.0	16.0	71.0
GA	27					
GA	28	30.4	42.4	32.4	24.4	62.6
GA	29	43.2	70.2	25.6	20.2	71.8
GA	31	34.7	55.5	31.8	25.0	65.5
GA	33					
GA	34	34.8	58.5	32.3	29.5	64.3
GA	35					
GA	36	46.0	70.0	34.0	15.0	61.0
GA	37	41.0	50.0	31.0	31.0	64.5
GA	38	41.0	62.0	24.0	21.0	73.0
GA	39					
GA	40	47.0	77.0	30.0	9.0	65.0
GA	41	28.0	23.0	43.0	5.0	45.0
GA	42					
GA	43	44.5	59.0	42.0	36.0	57.5
GA	45	33.0	42.0	38.0	21.0	58.0
GA	46	38.0	57.0	26.0	27.0	70.0
GA	99	.	.	58.0	38.0	36.0

		Quality Indicators				
State	Market Number	Percentage of patients who get better at taking their medicines	Percentage of patients who are short of breath less often	Percentage of patients who had to be admitted to the hospital (NOTE: HIGHER IS WORSE)	Percentage of patients who need urgent, unplanned medical care (NOTE: HIGHER IS WORSE)	Percentage of patients who stay at home after an episode of home
IA	1	14.0	45.0	36.0	22.0	58.0
IA	2	25.0	32.0	40.0	36.0	52.0
IA	5	35.3	50.4	35.7	28.1	57.9
IA	7	26.0	48.0	26.5	24.5	62.0
IA	8	33.7	48.7	22.7	17.3	68.7
IA	9	36.0	35.0	34.0	32.0	49.5
IA	10	39.9	66.0	29.3	26.3	64.3
IA	11	52.0	41.0	30.0	22.0	63.0
IA	12	43.0	68.5	37.0	26.7	59.7
IA	13	40.5	65.5	34.7	29.3	62.7
IA	14	38.0	43.5	25.5	19.0	68.5
IA	15	35.3	52.3	33.5	29.0	61.3
IA	16	30.0	53.0	36.0	25.0	58.0
IA	18	48.0	53.0	36.0	28.0	57.0
IA	25	28.3	44.8	41.2	36.8	53.8
IA	26	31.1	53.0	38.0	30.1	56.9
IA	27	.	.	28.0	18.0	72.0
IA	29	55.0	49.7	21.7	22.7	73.7
IA	32	52.0	40.0	26.0	21.0	67.5
IA	34					
IA	35	.	29.0	38.0	34.7	55.3
IA	36	28.0	73.0	39.0	26.0	52.0
IA	38	31.6	46.6	35.6	27.5	58.1
IA	39	35.3	44.0	36.7	31.5	57.2
IA	40	37.0	58.0	35.0	29.0	59.0
IA	41	48.0	53.0	20.0	16.0	77.0
IA	42	21.0	49.0	25.0	25.0	67.0
IA	43	35.5	63.5	23.7	20.3	70.7
IA	44	37.0	59.3	30.3	22.0	66.7
IA	46	23.0	44.0	49.3	43.0	46.7
IA	47	41.4	53.8	34.6	28.0	59.1
IA	48	43.0	53.5	31.7	31.7	60.3
IA	49	26.5	46.6	38.0	28.0	52.4
IA	99	38.3	61.0	31.3	19.7	63.3

State	Market Number	Quality Indicators				
		Percentage of patients who get better at taking their medicines	Percentage of patients who are short of breath less often	Percentage of patients who had to be admitted to the hospital (NOTE: HIGHER IS WORSE)	Percentage of patients who need urgent, unplanned medical care (NOTE: HIGHER IS WORSE)	Percentage of patients who stay at home after an episode of home
ME	1	43.0	54.0	28.0	22.0	69.0
ME	3	36.1	60.5	29.1	18.1	66.6
ME	4	36.5	66.5	25.5	22.8	70.8
ME	6	33.5	55.9	25.9	28.3	71.0
MA	1	37.6	57.7	33.5	24.4	62.3
MA	2	38.0	55.4	36.0	27.9	60.4
MA	99					
OR	1	39.0	55.0	23.0	14.0	72.0
OR	2	34.0	58.0	20.0	21.5	74.5
OR	3	34.0	60.0	28.5	32.0	68.5
OR	4	38.2	63.6	24.4	23.0	73.2
OR	5	40.2	60.2	22.0	19.8	71.7
OR	6	32.3	61.7	22.0	19.7	74.3
OR	9	33.5	55.5	22.8	23.8	72.0
OR	10	39.5	54.0	16.0	16.5	79.0
OR	11	31.0	68.0	16.0	18.0	83.0
OR	12	.	62.0	28.0	22.0	67.0
OR	13	35.4	62.4	18.6	20.8	77.6
OR	14	38.0	70.5	16.0	14.5	81.0
OR	16	37.0	70.0	21.0	21.0	75.0
OR	17	35.7	60.3	22.0	20.0	75.0
OR	18	34.2	60.2	20.3	19.8	76.4
OR	19	37.0	63.0	18.0	19.0	79.0
OR	20	39.3	58.3	17.7	17.7	78.0
OR	21	32.0	60.0	17.0	21.0	78.0
OR	22	5.0	.	29.0	6.0	69.0
OR	25	27.0	52.0	25.0	24.5	71.0

		Quality Indicators				
State	Market Number	Percentage of patients who get better at taking their medicines	Percentage of patients who are short of breath less often	Percentage of patients who had to be admitted to the hospital (NOTE: HIGHER IS WORSE)	Percentage of patients who need urgent, unplanned medical care (NOTE: HIGHER IS WORSE)	Percentage of patients who stay at home after an episode of home
UT	1	32.0	67.5	23.0	23.0	72.5
UT	2	40.9	62.3	23.7	21.4	69.1
UT	4	45.2	63.4	22.8	16.2	70.2
UT	99					
WA	3	36.3	65.0	21.3	16.3	75.0
WA	4	36.0	57.0	17.7	19.7	79.7
WA	6	31.8	49.3	20.8	20.0	77.0
WA	7	36.0	59.0	18.0	18.0	77.0
WA	8	42.0	43.0	28.0	9.0	67.0
WA	11	40.1	62.7	21.7	19.0	74.5
WA	16	41.0	65.0	29.0	23.0	70.0
WA	17	35.3	63.0	24.8	16.0	70.8
WA	18	40.0	47.0	19.0	22.0	77.0
WA	20	38.1	68.0	23.8	22.4	73.5
WA	21	40.0	61.7	23.3	22.0	72.7
WA	22	34.0	65.5	24.0	22.0	73.0
WA	23	27.5	54.0	19.5	22.5	76.0
WA	25	35.5	71.3	22.8	24.0	74.0
WA	99					
WV	1	33.0	54.0	27.5	23.0	67.8
WV	3	23.5	59.0	27.5	32.5	67.0
WV	4	41.0	45.0	19.0	23.0	78.0
WV	6	35.8	57.3	29.3	24.5	69.2
WV	7	32.7	55.9	28.3	24.5	69.6
WV	8	34.5	54.8	25.8	25.8	73.0
WV	9	38.8	58.3	29.0	22.5	70.8
WV	99					

		Quality Indicators				
State	Market Number	Percentage of patients who get better at taking their medicines	Percentage of patients who are short of breath less often	Percentage of patients who had to be admitted to the hospital (NOTE: HIGHER IS WORSE)	Percentage of patients who need urgent, unplanned medical care (NOTE: HIGHER IS WORSE)	Percentage of patients who stay at home after an episode of home
WI	1	27.5	45.0	30.5	27.0	63.5
WI	2	36.3	54.5	28.0	23.0	67.5
WI	3	36.3	59.0	26.9	20.9	68.6
WI	5	30.5	61.0	27.2	21.5	70.2
WI	7	25.0	54.0	26.5	22.5	69.0
WI	9	29.0	50.0	18.5	20.0	75.5
WI	10	36.5	56.0	24.5	25.5	71.5
WI	14	34.0	62.0	18.0	15.0	60.5
WI	15	33.1	52.4	29.4	26.8	64.8
WI	17	31.0	68.5	23.5	25.5	70.5
WI	20	28.6	53.7	30.4	27.7	66.1
WI	21	35.0	61.0	26.0	10.0	72.0
WI	22	33.0	67.0	25.5	23.0	70.5
WI	24	27.0	15.0	15.0	12.0	82.0
WI	25	35.0	46.5	22.0	16.5	76.0
WI	26					
WI	30	35.3	65.7	27.3	28.0	69.7
WI	32	30.0	61.0	32.0	31.0	70.0
WI	34	30.0	65.0	26.0	25.0	69.0
WI	35	24.0	57.0	31.0	26.0	65.0
WI	38	36.3	62.5	28.0	30.5	67.3
WI	39	33.3	55.5	25.4	23.6	71.8
WI	99					

APPENDIX E: QUALITY

Module	Indicators
IQI	Esophageal Resection Volume (IQI 1)
IQI	Pancreatic Resection Volume (IQI 2)
IQI	Abdominal Aortic Aneurysm Repair (AAA) Volume (IQI 4)
IQI	Coronary Artery Bypass Graft (CABG) Volume (IQI 5)
IQI	Percutaneous Transluminal Coronary Angioplasty (PTCA) Volume (IQI 6)
IQI	Carotid Endarterectomy (CEA) Volume (IQI 7)
IQI	Esophageal Resection Mortality Rate (IQI 8)
IQI	Pancreatic Resection Mortality Rate
IQI	AAA Repair Mortality Rate (IQI 11)
IQI	CABG Mortality Rate (IQI 12)
IQI	Craniotomy Mortality Rate (IQI 13)
IQI	Hip Replacement Mortality Rate (IQI 14)
IQI	Acute Myocardial Infarction (AMI) Mortality Rate (IQI 15)
IQI	Congestive Heart Failure (CHF) Mortality Rate (IQI 16)
IQI	Acute Stroke Mortality Rate (IQI 17)
IQI	Gastrointestinal (GI) Hemorrhage Mortality Rate (IQI 18)
IQI	Hip Fracture Mortality Rate (IQI 19)
IQI	Pneumonia Mortality Rate (IQI 20)
IQI	Cesarean Delivery Rate (IQI 21)
IQI	Vaginal Birth After Cesarean (VBAC) Rate, Uncomplicated (IQI 22)
IQI	Laparoscopic Cholecystectomy Rate (IQI 23)
IQI	Incidental Appendectomy in the Elderly Rate (IQI 24)
IQI	Bilateral Cardiac Catheterization Rate (IQI 25)
IQI	PTCA Mortality Rate (IQI 30)
IQI	CEA Mortality Ratea (IQI 31)
IQI	Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases (IQI 32)
IQI	Primary Cesarean Delivery Rate (IQI 33)
IQI	Vaginal Birth After Cesarean (VBAC) Rate, All (IQI 34)
PDI	Accidental Puncture or Laceration (PDI 1)
PDI	Decubitus Ulcer (PDI 2)
PDI	Foreign Body Left During Procedure (PDI 3)
PDI	Iatrogenic Pneumothorax in neonates (PDI 4)
PDI	Iatrogenic Pneumothorax (PDI 5)
PDI	Pediatric Heart Surgery Volume (PDI 6)
PDI	Pediatric Heart Surgery Mortality Rate (PDI 7)
PDI	Postoperative Hemorrhage or Hematoma (PDI 8)
PDI	Postoperative Respiratory Failure (PDI 9)
PDI	Postoperative Sepsis (PDI 10)
PDI	Postoperative Wound Dehiscence (PDI 11)
PDI	Selected Infections Due to Medical Care (PDI 12)

PDI	Transfusion Reaction (PDI 13)
PDI	Asthma Admission Rate (PDI 14)
PDI	Diabetes Short-term Complication Admission Rate (PDI 15)
PDI	Pediatric Gastroenteritis Admission Rate
PDI	Perforated Appendix Admission Rate
PDI	Urinary Tract Infection Admission Rate
PSI	Complications of Anesthesia (PSI 1)
PSI	Death in Low-Mortality DRGs (PSI 2)
PSI	Decubitus Ulcer (PSI 3)
PSI	Failure to Rescue (PSI 4)
PSI	Foreign Body Left During Procedure (PSI 5)
PSI	Iatrogenic Pneumothorax (PSI 6)
PSI	Selected Infections Due to Medical Care (PSI 7)
PSI	Postoperative Hip Fracture (PSI 8)
PSI	Postoperative Hemorrhage or Hematoma (PSI 9)
PSI	Postoperative Physiologic and Metabolic Derangement (PSI 10)
PSI	Postoperative Respiratory Failure (PSI 11)
PSI	Postoperative PE or DVT (PSI 12)
PSI	Postoperative Sepsis (PSI 13)
PSI	Postoperative Wound Dehiscence (PSI 14)
PSI	Accidental Puncture or Laceration (PSI 15)
PSI	Transfusion Reaction (PSI 16)
PSI	Birth Trauma—Injury to Neonate (PSI 17)
PSI	Obstetric Trauma—Vaginal Delivery with Instrument (PSI 18)
PSI	Obstetric Trauma—Vaginal Delivery without Instrument (PSI 19)
PSI	Obstetric Trauma—Cesarean Delivery (PSI 20)
PSI	Foreign Body Left During Procedure (PSI 21)
PSI	Iatrogenic Pneumothorax (PSI 22)
PSI	Selected Infections Due to Medical Care (PSI 23)
PSI	Postoperative Wound Dehiscence (PSI 24)
PSI	Accidental Puncture or Laceration (PSI 25)
PSI	Transfusion Reaction (PSI 26)
PSI	Postoperative Hemorrhage or Hematoma (PSI 27)

APPENDIX F: ACCESS

Percent of Admissions that are Self-Pay and Self-Pay Admissions Per 1,000 Uninsured				
State	Market	Uninsured	Percent of Self-Pay Admissions	Self Pay Admissions per 1,000 Uninsured
Colorado	8001	9729	12%	46
Colorado	8003	39248	4%	30
Colorado	8004	3997	5%	17
Colorado	8006	364939	6%	48
Colorado	8007	74621	5%	33
Colorado	8009	14577	9%	43
Colorado	8011	8836	6%	29
Colorado	8013	33688	4%	28
Colorado	8015	3212	3%	23
Colorado	8016	35332	6%	40
Colorado	8018	5048	5%	20
Colorado	8020	6341	6%	25
Colorado	8021	6732	8%	35
Colorado	8022	752	3%	15
Colorado	8023	1688	7%	79
Colorado	8024	3277	8%	48
Colorado	8025	38311	4%	29
Colorado	8026	4854	5%	28
Colorado	8099	1548	3%	10
Florida	12001	82339	6%	55
Florida	12002	33869	5%	43
Florida	12003	58996	8%	89
Florida	12004	264560	7%	63
Florida	12005	22800	4%	50
Florida	12006	16855	4%	39
Florida	12008	35984	8%	70
Florida	12010	10211	7%	55
Florida	12011	147938	4%	47
Florida	12012	58797	5%	46
Florida	12013	18239	3%	43
Florida	12014	21736	7%	51
Florida	12015	159922	3%	25
Florida	12016	12963	4%	58
Florida	12017	6703	4%	22
Florida	12019	76579	6%	51

Florida	12020	54523	4%	29
Florida	12021	36466	2%	16
Florida	12022	41468	3%	27
Florida	12023	14138	7%	89
Florida	12025	28707	8%	66
Florida	12026	7655	7%	46
Florida	12027	279787	4%	38
Florida	12029	159195	5%	56
Florida	12030	49412	4%	37
Florida	12031	109940	3%	47
Florida	12032	79871	5%	39
Florida	12034	31428	7%	115
Florida	12036	29919	6%	55
Florida	12038	70723	5%	49
Georgia	13001	1915	9%	65
Georgia	13003	11493	7%	39
Georgia	13004	71990	5%	52
Georgia	13007	16938	9%	48
Georgia	13008	15589	8%	43
Georgia	13009	109882	5%	39
Georgia	13010	51206	7%	46
Georgia	13012	9912	6%	37
Georgia	13013	9180	4%	21
Georgia	13014	7127	6%	28
Georgia	13015	5821	9%	42
Georgia	13016	3146	6%	65
Georgia	13017	41031	11%	73
Georgia	13019	3275	11%	96
Georgia	13020	29978	4%	39
Georgia	13021	588448	6%	42
Georgia	13025	39865	5%	37
Georgia	13027	11694	3%	25
Georgia	13028	27494	6%	56
Georgia	13029	38762	5%	51
Georgia	13031	65979	7%	67
Georgia	13033	1965	8%	93
Georgia	13034	15983	2%	10
Georgia	13035	3482	4%	49
Georgia	13036	6699	0%	1
Georgia	13037	12513	8%	75
Georgia	13038	15191	6%	58
Georgia	13039	7465	9%	47
Georgia	13040	12608	9%	87

Georgia	13041	2406	4%	33
Georgia	13042	4021	5%	58
Georgia	13043	10753	5%	44
Georgia	13045	4558	2%	16
Georgia	13046	21121	9%	58
Georgia	13099	2227	6%	23
Iowa	19001	502	3%	38
Iowa	19002	1735	7%	31
Iowa	19005	17820	3%	42
Iowa	19007	2281	3%	24
Iowa	19008	1272	2%	47
Iowa	19009	1369	6%	90
Iowa	19010	11944	7%	89
Iowa	19011	1097	3%	79
Iowa	19012	4426	12%	191
Iowa	19013	3844	5%	97
Iowa	19014	907	3%	63
Iowa	19015	9127	5%	89
Iowa	19016	1207	3%	30
Iowa	19018	1251	2%	30
Iowa	19025	3731	3%	46
Iowa	19026	41769	3%	43
Iowa	19027	887	3%	15
Iowa	19029	6369	3%	19
Iowa	19032	1126	6%	99
Iowa	19034	653	2%	12
Iowa	19035	1388	4%	47
Iowa	19036	921	2%	18
Iowa	19038	58510	5%	65
Iowa	19039	11745	3%	29
Iowa	19040	1311	2%	63
Iowa	19041	15478	3%	37
Iowa	19042	987	2%	33
Iowa	19043	2348	6%	76
Iowa	19044	8188	3%	46
Iowa	19046	5337	3%	32
Iowa	19047	7334	2%	32
Iowa	19048	2130	10%	92
Iowa	19049	17487	7%	122
Iowa	19099	4914	3%	19
Maine	23001	8998	4%	68
Maine	23003	41803	3%	57
Maine	23004	23952	3%	35

Maine	23006	35229	4%	44
Massachusetts	25001	165785	2%	18
Massachusetts	25002	425812	2%	22
Oregon	41001	2637	4%	19
Oregon	41002	21876	20%	162
Oregon	41003	4729	3%	26
Oregon	41004	12325	2%	13
Oregon	41005	23628	4%	31
Oregon	41006	13561	3%	26
Oregon	41009	27433	2%	18
Oregon	41010	12296	2%	13
Oregon	41011	10750	3%	20
Oregon	41012	1484	5%	21
Oregon	41013	41730	2%	15
Oregon	41014	6755	5%	27
Oregon	41016	6486	6%	38
Oregon	41017	57055	7%	31
Oregon	41018	185414	2%	24
Oregon	41019	3340	0%	0
Oregon	41020	14035	5%	18
Oregon	41021	3369	0%	0
Oregon	41022	982	5%	35
Oregon	41025	10610	3%	24
Utah	49001	19222	3%	15
Utah	49002	276156	3%	22
Utah	49004	27077	4%	25
Washington	53003	33553	1%	8
Washington	53004	19587	2%	12
Washington	53006	49109	2%	13
Washington	53007	12939	2%	17
Washington	53008	16410	1%	3
Washington	53011	324297	3%	25
Washington	53016	9088	1%	5
Washington	53017	89728	1%	10
Washington	53018	17677	2%	12
Washington	53020	79664	2%	16
Washington	53021	69820	1%	7
Washington	53022	9435	2%	14
Washington	53023	23880	2%	14
Washington	53025	57140	0%	1
West Virginia	54001	17433	9%	57
West Virginia	54003	3795	4%	26
West Virginia	54004	8595	3%	19

West Virginia	54006	112391	4%	46
West Virginia	54007	60665	4%	46
West Virginia	54008	14276	2%	36
West Virginia	54009	15741	4%	68
Wisconsin	55001	4007	4%	33
Wisconsin	55002	5963	4%	50
Wisconsin	55003	35581	5%	59
Wisconsin	55005	55206	3%	51
Wisconsin	55007	4311	6%	15
Wisconsin	55009	7099	8%	115
Wisconsin	55010	4486	8%	66
Wisconsin	55014	16371	4%	34
Wisconsin	55015	41972	3%	43
Wisconsin	55017	6275	3%	43
Wisconsin	55020	205789	3%	38
Wisconsin	55021	7358	4%	54
Wisconsin	55022	17296	2%	31
Wisconsin	55024	2430	2%	11
Wisconsin	55025	5035	3%	26
Wisconsin	55026	5487	3%	30
Wisconsin	55030	15446	5%	49
Wisconsin	55032	2421	5%	32
Wisconsin	55034	8399	2%	23
Wisconsin	55035	3531	4%	41
Wisconsin	55038	14975	4%	58
Wisconsin	55039	29449	4%	60

Ambulatory Sensitive Conditions (ASC) Admissions				
State	Market	Percent ASC Admits	Percent of Self Pay Admits that are ASC	ASC admits per 1,000 Uninsured
Colorado	8001	17%	14%	6.5
Colorado	8003	9%	8%	2.4
Colorado	8004	16%	14%	2.5
Colorado	8006	10%	10%	4.7
Colorado	8007	11%	11%	3.7
Colorado	8009	9%	10%	4.3
Colorado	8011	10%	8%	2.4
Colorado	8013	9%	9%	2.4
Colorado	8015	15%	14%	3.1
Colorado	8016	10%	7%	2.8

Colorado	8018	15%	10%	2.0
Colorado	8020	18%	15%	3.6
Colorado	8021	20%	18%	6.1
Colorado	8022	29%	27%	4.0
Colorado	8023	8%	10%	7.7
Colorado	8024	22%	16%	7.9
Colorado	8025	12%	13%	3.7
Colorado	8026	11%	16%	4.5
Colorado	8099	30%	13%	1.3
Florida	12001	14%	13%	7.2
Florida	12002	17%	15%	6.6
Florida	12003	13%	6%	5.3
Florida	12004	13%	10%	6.3
Florida	12005	16%	13%	6.4
Florida	12006	19%	15%	5.7
Florida	12008	11%	10%	7.2
Florida	12010	17%	9%	5.0
Florida	12011	14%	15%	6.9
Florida	12012	13%	12%	5.6
Florida	12013	18%	15%	6.4
Florida	12014	21%	9%	4.6
Florida	12015	12%	9%	2.3
Florida	12016	15%	7%	3.9
Florida	12017	23%	26%	5.7
Florida	12019	14%	10%	5.0
Florida	12020	13%	16%	4.8
Florida	12021	14%	10%	1.6
Florida	12022	12%	14%	3.8
Florida	12023	13%	11%	9.8
Florida	12025	16%	16%	10.5
Florida	12026	33%	25%	11.5
Florida	12027	13%	13%	4.9
Florida	12029	13%	9%	4.8
Florida	12030	15%	12%	4.3
Florida	12031	13%	11%	5.1
Florida	12032	16%	16%	6.2
Florida	12034	12%	7%	7.9
Florida	12036	14%	14%	7.8
Florida	12038	14%	10%	5.1
Georgia	13001	32%	18%	11.5
Georgia	13003	15%	21%	8.2
Georgia	13004	16%	21%	10.6
Georgia	13007	22%	22%	10.7

Georgia	13008	22%	21%	9.2
Georgia	13009	15%	17%	6.7
Georgia	13010	17%	16%	7.3
Georgia	13012	26%	30%	11.1
Georgia	13013	15%	20%	4.4
Georgia	13014	22%	23%	6.3
Georgia	13015	22%	24%	10.0
Georgia	13016	22%	18%	11.8
Georgia	13017	16%	13%	9.8
Georgia	13019	21%	10%	9.8
Georgia	13020	14%	15%	5.8
Georgia	13021	11%	14%	5.8
Georgia	13025	13%	15%	5.7
Georgia	13027	22%	21%	5.4
Georgia	13028	18%	17%	9.2
Georgia	13029	13%	18%	9.0
Georgia	13031	14%	15%	9.8
Georgia	13033	25%	16%	14.8
Georgia	13034	24%	21%	2.1
Georgia	13035	24%	21%	10.3
Georgia	13036	16%	0%	0.0
Georgia	13037	15%	14%	10.1
Georgia	13038	17%	22%	12.7
Georgia	13039	22%	21%	9.9
Georgia	13040	19%	19%	16.7
Georgia	13041	25%	18%	5.8
Georgia	13042	20%	24%	14.2
Georgia	13043	22%	17%	7.6
Georgia	13045	20%	20%	3.3
Georgia	13046	19%	16%	9.0
Georgia	13099	37%	35%	8.1
Iowa	19001	18%	5%	2.0
Iowa	19002	19%	9%	2.9
Iowa	19005	13%	11%	4.8
Iowa	19007	14%	17%	3.9
Iowa	19008	16%	13%	6.3
Iowa	19009	16%	9%	8.0
Iowa	19010	13%	7%	6.5
Iowa	19011	13%	2%	1.8
Iowa	19012	23%	19%	36.8
Iowa	19013	14%	12%	11.2
Iowa	19014	14%	23%	14.3
Iowa	19015	13%	7%	6.0

Iowa	19016	16%	19%	5.8
Iowa	19018	25%	24%	7.2
Iowa	19025	18%	15%	6.7
Iowa	19026	10%	11%	4.7
Iowa	19027	17%	23%	3.4
Iowa	19029	14%	18%	3.3
Iowa	19032	19%	11%	10.7
Iowa	19034	15%	0%	0.0
Iowa	19035	23%	20%	9.4
Iowa	19036	26%	12%	2.2
Iowa	19038	13%	15%	9.9
Iowa	19039	15%	12%	3.5
Iowa	19040	16%	9%	5.3
Iowa	19041	10%	14%	5.0
Iowa	19042	18%	12%	4.1
Iowa	19043	16%	8%	6.4
Iowa	19044	13%	10%	4.8
Iowa	19046	12%	18%	5.8
Iowa	19047	20%	16%	5.2
Iowa	19048	13%	3%	2.3
Iowa	19049	12%	5%	6.6
Iowa	19099	22%	14%	2.6
Maine	23001	11%	4%	2.9
Maine	23003	11%	6%	3.7
Maine	23004	15%	9%	3.1
Maine	23006	14%	6%	2.8
Massachusetts	25001	13%	10%	1.8
Massachusetts	25002	13%	9%	2.0
Oregon	41001	19%	18%	3.4
Oregon	41002	11%	7%	10.7
Oregon	41003	18%	12%	3.2
Oregon	41004	14%	10%	1.4
Oregon	41005	11%	11%	3.5
Oregon	41006	14%	9%	2.4
Oregon	41009	11%	10%	1.7
Oregon	41010	16%	15%	2.0
Oregon	41011	13%	9%	1.9
Oregon	41012	24%	10%	2.0
Oregon	41013	10%	10%	1.5
Oregon	41014	17%	17%	4.6
Oregon	41016	13%	11%	4.2
Oregon	41017	10%	7%	2.3
Oregon	41018	9%	7%	1.7

Oregon	41019	19%	N/A	0.0
Oregon	41020	16%	14%	2.5
Oregon	41021	17%	N/A	0.0
Oregon	41022	21%	26%	9.2
Oregon	41025	15%	19%	4.6
Utah	49001	9%	7%	1.0
Utah	49002	8%	8%	1.7
Utah	49004	12%	9%	2.4
Washington	53003	11%	12%	1.0
Washington	53004	11%	12%	1.4
Washington	53006	11%	12%	1.5
Washington	53007	13%	15%	2.6
Washington	53008	15%	22%	0.6
Washington	53011	10%	10%	2.5
Washington	53016	13%	9%	0.4
Washington	53017	12%	14%	1.5
Washington	53018	11%	12%	1.4
Washington	53020	11%	13%	2.0
Washington	53021	14%	19%	1.3
Washington	53022	11%	13%	1.8
Washington	53023	12%	16%	2.2
Washington	53025	12%	13%	0.2
West Virginia	54001	19%	18%	10.2
West Virginia	54003	21%	17%	4.5
West Virginia	54004	20%	17%	3.3
West Virginia	54006	18%	12%	5.5
West Virginia	54007	18%	13%	6.1
West Virginia	54008	19%	11%	4.0
West Virginia	54009	21%	15%	10.5
Wisconsin	55001	13%	14%	4.7
Wisconsin	55002	16%	12%	6.0
Wisconsin	55003	11%	6%	3.7
Wisconsin	55005	10%	8%	4.3
Wisconsin	55007	32%	22%	3.2
Wisconsin	55009	12%	3%	3.2
Wisconsin	55010	14%	8%	5.3
Wisconsin	55014	15%	15%	5.2
Wisconsin	55015	12%	9%	3.7
Wisconsin	55017	14%	12%	5.3
Wisconsin	55020	11%	9%	3.4
Wisconsin	55021	16%	13%	7.2
Wisconsin	55022	11%	10%	3.1
Wisconsin	55024	14%	15%	1.6

Wisconsin	55025	18%	18%	4.8
Wisconsin	55026	16%	17%	5.1
Wisconsin	55030	13%	10%	5.0
Wisconsin	55032	19%	6%	2.1
Wisconsin	55034	12%	14%	3.3
Wisconsin	55035	17%	16%	6.5
Wisconsin	55038	10%	7%	3.8
Wisconsin	55039	12%	9%	5.6