



# WHERE TO FIND THE NATION'S MOST AFFORDABLE MEDICAL-CARE

NATIONWIDE RANKING: COMPARISON OF 274 REGIONS' COMMERCIAL INSURANCE CLAIMS COST AND INSURED PATIENTS' OUT OF POCKET/COPAY COST

# Contents

- Foreword ..... - 3 -
- Introduction..... - 4 -
- Lower quality and cost inefficiency co-exist..... - 4 -
- Methods ..... - 4 -
- Significance ..... - 5 -
- With Robust Information Such As This... - 5 -
- About the data used in this report ..... - 6 -
- How to use the cost rankings ..... - 6 -
- Recommendations..... - 7 -
  - Nation’s Lowest Cost Regions – COMMERCIAL INSURANCE ..... - 10 -
  - Nations Highest Cost Regions – COMMERCIAL INSURANCE ..... - 11 -
  - Cost by Region Alphabetically – COMMERCIAL INSURANCE..... - 12 -
  - Nation’s Lowest Cost Regions – MEDICARE ..... - 19 -
  - Nation’s Highest Cost Regions – MEDICARE..... - 20 -
  - Cost by Region Alphabetically – MEDICARE ..... - 21 -
  - Nation’s Lowest Cost Regions – COMMERCIAL INSURANCE + MEDICARE..... - 28 -
  - Nation’s Highest Cost Regions – COMMERCIAL INSURANCE + MEDICARE ..... - 29 -
  - Cost by Region Alphabetically – COMMERCIAL INSURANCE + MEDICARE..... - 30 -
  - Cost Ranked by Region Alphabetically – 25 Lowest Cost Regions Shaded in Green; 25 Highest Cost Regions Shaded in Yellow ..... - 37 -
- Appendix 1: How were these data analyzed? ..... - 44 -
- Appendix 2: Notes ..... - 47 -
- Appendix 3: Bruce A. Boissonault Bio and Contact Information..... - 48 -

## Foreword

NHQC breaks new ground in this report by releasing the cost of medical-care spending in 274 regions across the United States for both commercial health insurance and Medicare. It's a long-awaited step forward because business can use this information to evaluate relocation options more effectively and because quality and cost are linked. Regional cost comparisons are ranked from the lowest cost region (best) to the highest cost region (worst). Memo information also is provided on commercial insurance *plus* Medicare in each region. This is not a report of commercial health insurance prices in every region. It is what commercial insurance actually pays providers. The commercial insurance claims cost rankings in this report are adjusted to be on an apples-to-apples basis with what Medicare pays providers in each region. Health insurance company administration cost and profit are excluded to avoid distortions arising from differences among health insurance companies. Governments, policy leaders, researchers, media and consumer watchdogs have clamored for this information for many years because they want to compare the cost of medical-care funded by commercial insurance in each region to learn where costs are most affordable. Now they can.

For nearly two decades, the Niagara Health Quality Coalition (NHQC) has been a respected national leader in the science of health care performance measurement and reward systems. NHQC's work on behalf of consumers has led to better, more effective ways to measure medical-care performance, nationally and statewide. NHQC also pioneered many of the nation's most important performance reports for consumers, including NHQC's Patient Survey Project (one of the models used to develop the federal patient survey for hospitals), clinical results such as mortality, infections and safety (now adopted as federally endorsed measures for hospitals) and NHQC's kidney disease early identification and treatment project (adopted by the National Kidney Foundation and in other countries). NHQC's unbiased consumer reports help patients find high quality care; and they drive subpar providers to make needed investments in quality. NHQC accepts no funds from the providers we grade and our governance structure ensures that we remain independent of the industry whose performance we assess.

## THANK YOU

Thank you to researchers at the Institute of Medicine (IOM) for allowing the Niagara Health Quality Coalition to access data and documents compiled as part of IOM's work writing *Variation in Health Care Spending: Target Decision Making, Not Geography*. Special thanks to Joseph P. Newhouse, Harvard University, Adalsteinn Brown, University of Toronto, and Richard L. Fuller, Payment Design Consultant, Schnecksville, Pennsylvania for sharing their time and for providing valuable suggestions and insights during development of this report. Errors, omissions and perspectives are the author's responsibility alone.

## Introduction

“Here’s a partial score: Notre Dame 6.”

—George Carlin (From a comedy skit in which he played a radio sports announcer)

Excluding cost from discussions about medical-care quality, or vice versa, is reminiscent of this George Carlin comedy routine. It’s funny as a comedy routine because the announcer sounds authoritative and informative, but he’s not telling us anything. We don’t know who Notre Dame is playing or what the opponent’s score is. We don’t even know what sport Norte Dame is playing. Thus, we know nothing about who is winning the game. In health care, a partial score is not funny. Knowing a few scraps of information about medical-care results but nothing about cost, or vice versa, leaves patients and payers in the dark. It’s a partial score, like “Notre Dame 6.”

This is the first time that a national ranking of commercial insurance claims cost (i.e., for 274 regions) has been publicly available.<sup>1</sup> By understanding what drives regional variation in commercial insurance claims cost, we can begin looking for ways to improve quality.

### Lower quality and cost inefficiency co-exist

Patients see quality in terms of how much they benefited from medical-care treatments and how much pain resulted from paying for those treatments. In fact, it is a fallacy to ignore the cost of medical-care when evaluating quality<sup>2</sup> because inefficiency is always accompanied by lower quality. “In practice, lower quality and inefficiency co-exist because wasteful care is either directly harmful to health or is harmful by displacing more useful care.”<sup>3</sup>

### Methods

This report analyzes the cost of claims paid to providers by commercial health insurance. Each region’s commercial spending is ranked by Hospital Referral Region (HRR) across the United States on an apples-to-apples basis with the cost of Medicare spending. Costs are ranked from lowest to highest, that is, from the best to worst respectively.

Hospital Referral Regions (HRRs) are used to analyze regional variation in medical-care claims cost because HRRs correspond to the area served by a region’s major tertiary care hospital(s). Moreover, HRR-level is “the most widely established unit of analysis in the literature on geographic variation”,<sup>4</sup> and HRR-level is how Medicare regional cost variation is evaluated in the Dartmouth Atlas.

Commercial health insurance claims cost rankings in this report are not the same as commercial health insurance company prices. That’s because the regional variation in commercial health insurance claims cost ranked in this report does not include health insurance companies’ administration cost or profit

---

<sup>1</sup> The Trustees of Dartmouth College. “FAQ.” *The Dartmouth Atlas of Health Care*. Dartmouth Institute, n.d. Web. 30 Mar. 2015. <<http://www.dartmouthatlas.org/tools/faq/>>. “Why does the Dartmouth Atlas Project focus on Medicare data?” **“There is no counterpart to this [Medicare] database for the commercially insured population.”**

<sup>2</sup> The *Oxford English Dictionary* defines fallacy as, “A mistaken belief, especially one based on unsound argument.”

<sup>3</sup> Donabedian, Avedis. “The Quality of Care; How Can It Be Assessed?” *JAMA* 260.12 (1988): 1743–48.

<sup>4</sup> Institute of Medicine. *Variation in Health Care Spending: Target Decision Making, Not Geography*. Ed. Joseph P. Newhouse et al. Washington: National Academies, 2013. Print.

within a region. By excluding health insurance companies' administration cost and profit, we can compare claims cost for commercial health insurance and Medicare on an apples-to-apples basis.

### Significance

- Regional variation between the 25th lowest vs. 25th highest cost regions for commercial spending varied by 29%.
- The Institute of Medicine estimates that “70 percent of variation in total commercial spending is attributable to price markups, most likely reflecting the varying market power of providers across HRRs.” See footnote 8.
- Therefore, an estimated 20% of regional variation in total commercial spending is attributable to higher prices charged by providers for similar services.
- These high levels of regional price variation (for similar care) mean that the intensity of competition for medical-care is too low to keep care affordable in many regions.

### With Robust Information Such As This...

- Future users can link this cost information to medical-care results measures to assess regional variation in quality. See Recommendation 3 and related footnotes.
- Leaders can assess the cost competitiveness for medical-care purchased through commercial health insurance in their region.
- Federal (and state) policymakers can better understand:
  - i. Which HRR regions have the highest/lowest commercial health insurance claims cost.
  - ii. Which competitive factors contribute to making commercial health insurance more affordable in some regions than in others.
  - iii. The negative (or positive) impact that Medicare (and Medicaid) pilot programs may have on commercial insurance cost. For example, if Medicare pilot projects in a region result in lower regional Medicare claims cost but are also associated with a dramatic rise in commercial health insurance claims cost, then Medicare may elect not to expand pilot projects if they plausibly drive up total cost for the region.<sup>5 6</sup>
- The return on investment for regional economic development efforts can be enhanced, especially in regions where medical-care cost is low and providers' reputation and available performance measures are competitive. Economic development agencies can deploy ads and marketing materials that emphasize the savings that are possible (for self-insured employers) relocating or remaining in the lowest cost regions.
  - i. Commercial health insurance coverage often is one of an employer's most significant costs of doing business.

---

<sup>5</sup> Illustration: Many Medicare pilots tend to emphasize integrating care as a means to reduce Medicare claims cost. Effective provider integration (or care coordination) works well to cut some types of Medicare claims cost because Medicare prices are set nationally and improved cooperation among providers can reduce utilization. However, prices providers charge under commercial health insurance contracts are not set nationally. Thus, more cooperation among Medicare providers when they provide care to their patients with commercial health insurance might be reducing competition and increasing prices.

<sup>6</sup> The IOM report did not find a significant correlation between commercial insurance and Medicare cost. This does not mean that future changes in Medicare will not have an unforeseen impact on the cost of care provided through commercial insurance markets.

- ii. For employers in industries that offer extensive benefits, the cost of commercial health insurance will often outweigh regional taxes, regulations, quality of life and most other factors. It can even outweigh the total cost of raw materials, as in the case of the automakers.
  - iii. Illustration: Ford Motor Company claims they spend more money to pay for health insurance benefits than they spend on all of the steel that goes into their cars.
  - iv. Often, the best employers to bolster the economy invest the most in strong health insurance coverage benefits for their employees. If economic development entities are able to use this information to attract or retain more of these high-wage, high-benefit companies, the economic development entities might also be attracting companies with the greatest economic impact and the highest economic impact multipliers.
- Self-insured employers evaluating relocation or expansion options can use this information to weigh the cost/benefit of their relocation options more precisely.

#### About the data used in this report

- # of claims in each sample
  - i. MarketScan (Harvard) – 109 million claims
  - ii. OptumInsight (Lewin) – 68 million claims
- All claims data used in this report are sorted by region, adjusted for partial year enrollment, year, pharmacy benefit, age, sex, age multiplied by sex, and health status.
- Data are from 2007–2009. The IOM research suggests 2007–2009 data remain valid.<sup>7</sup>

#### How to use the cost rankings

- To determine how the cost of medical-care in your region compares to other regions, simply refer to the tables that follow.
- Commercial insurance cost, Medicare cost, and commercial insurance cost plus Medicare cost all are ranked for 274 regions across the United States.
  - i. Emphasis should be given to the relative cost of providing medical-care through commercial health insurance in each region because this granular regional rank information has never before been publicly available.
  - ii. Where the regional cost of providing medical-care through commercial health insurance is high (i.e., more costly), we can infer that providers in those regions charge more.<sup>8</sup>

---

<sup>7</sup> Institute of Medicine. *Variation in Health Care Spending: Target Decision Making, Not Geography*. Ed. Joseph P. Newhouse et al. Washington: National Academies, 2013. Print. Note from Summary (page 6): "...area-level Medicare and commercial spending and utilization are highly correlated from one year to the next between 1992 and 2010, suggesting that geographic variation arises from systemic differences rather than randomness." In short, the relative cost of commercial health insurance claims within an HRR are unlikely to fluctuate randomly from year to year making this look back at 2007-2009 still valuable for evaluating regional variation in medical-care cost today.

<sup>8</sup> Ibid. Note from Summary (page 6): "Harvard's analysis of commercial MarketScan data disaggregated unit price into its subcomponents and examined variation input prices and markups (defined as the difference between input and transaction "output" prices). Harvard reports that 70 percent of variation in total commercial spending is attributable to price markups, most likely reflecting the varying market power of providers across HRRs. Although utilization of various services,

- iii. If you live in a high-cost region for commercial spending, ask yourself, is there enough intense competition among providers? For example, if most or all of the hospitals in your region have merged, it is likely that prices will be higher for hospital care than in regions with more competitors and more intense competition. Unlike Medicare, where prices are set nationally, the level and intensity of regional competition among providers must be adequate in order to keep commercial medical-care insurance coverage from becoming unaffordable.
- Much has been written about the causes of regional variation in Medicare. This report does not duplicate that research.

## Recommendations

1. *To be patient-centered, recognize that patients care about results, not effort; and recognize that cost and quality are linked.* (a) The medical-care industry too often confuses effort with results. Treatment is an effort, not a result. To be patient-centered, medical-care must held accountable for patients' results. (b) Some in the medical-care industry see quality and cost as separate topics. "In practice, lower quality and inefficiency co-exist because wasteful care is either directly harmful to health or is harmful by displacing more useful care."<sup>9</sup>
2. *Know when it's appropriate to measure medical-care quality vs. health care quality.* Medical-care is the physician-hospital centered industry that treats patients. It is not health. Health can be impacted by many things that the medical-care industry does not treat and for which providers and health insurers should not be held accountable.<sup>10</sup>
3. *Don't get too hung up on data quality—providers are paid to submit performance data and it won't improve until we use it.* Improvement of performance measurement and reward systems in any complex, dynamic system is iterative. Be cognizant of risks associated with poorly designed performance reporting or reward systems; however, accept also that providers' quality data won't get better until it's used. Scientists have many valid performance measures based on administrative data that are useful right now<sup>11</sup>; and these data are improving continuously because they are being used.<sup>12</sup>

---

particularly rates of inpatient admissions and emergency department visits does contribute to regional differences in spending, it has a notably smaller influence than price markups."

<sup>9</sup> Donabedian, Avedis. "The Quality of Care; How Can It Be Assessed?" *JAMA* 260.12 (1988): 1743–48.

<sup>10</sup> Note: The medical-care industry is but one of many factors that can impact health. Factors such as government's environmental or farm subsidy policies can have a greater impact on health than medical-care. If governments don't regulate polluters to keep the air and water safe, or if government provides greater tax incentives for producing unhealthy foods, the impacts on health can be immense. Poverty too can have a greater impact on health than medical-care, especially where poverty restricts access to adequate nourishment, clothing, warmth, sanitation, or a safe environment.

<sup>11</sup> Pine, Michael, et al. "Enhancement of Claims Data to Improve Risk Adjustment of Hospital Mortality." *JAMA* 297.1 (2007): 71-76.

<sup>12</sup> Hughes, Ronda G., ed. *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. Rockville: Agency for Healthcare Research and Quality, 2008. Print. Chapter 45: "However even with these limitations, codes, coding systems, and coding practices are improving and are often subject to auditing or monitoring for accuracy. Coders are becoming more aware of the importance of properly coding the data and how they are used in relation to quality improvement, public reporting, P4P and other initiatives."



4. *Evaluate performance measurement metrics separately from the reward systems tied to them.* The value of performance measures must be evaluated separately from the reward systems tied to them. Unintended consequences can arise from performance measurement, the reward system tied to such measures, or both. Illustration of this common error: Recently, the same measure of hospital readmissions was used both for: 1) public reporting of where readmissions were too high and 2) for CMS' hospital readmissions pay-for-performance penalty. This is inappropriate because some hospitals with high readmissions need higher reimbursement and others with high readmissions could be financially penalized. The readmissions rate used for public reporting was plausibly adequate, but before being used for pay-for-performance incentives by CMS, the publicly reported readmission rate must be adjusted before a heavy financial penalty is applied. In fact, the adjustment should allow for some hospitals with higher readmissions to receive a higher rate. Unfortunately, CMS' decision to use the same measure for public reporting and for pay-for-performance has resulted in financial penalties and unintended hardships imposed on too many of the hospitals that treat more low income people.
5. *Look at commercial insurance and Medicare cost.* Nearly all patients eventually will need information about both. Sometimes, if you don't have the data you need, it's easy to start thinking you need the data you have. Until this paper was published, consumers and policymakers had only Medicare cost comparisons. It is important to understand the interplay between both.
6. *Studying the impact of competition would be good.* There may be several factors that help determine whether medical-care in a region is affordable or not. Regional variation in provider competition intensity and health insurance company competition intensity are two factors that should be studied in detail. By understanding what makes medical-care competition work, leaders can make better policy decisions; and they can avoid policies that are likely to screw things up.
7. *Learn from regions with low cost.* Federal research is especially relevant for regions such as Honolulu, upstate New York, Bronx NY, western PA, etc. that have the lowest cost. Key factors for success in keeping commercial claims cost low should be studied by federal agencies to ensure cost-effectiveness is preserved and for possible replication in other regions.
8. *Learn why we don't see evidence of cost shifting between commercial insurance and Medicare cost.* While many economists opine that lower Medicare reimbursements will lead to higher commercial insurance cost, there is no evidence of that phenomenon when we compare regions.
9. *Let's not let political lobbying get in the way of releasing this data to the public which is a key driver of needed change.* While no plans exist at the Institute of Medicine (IOM) to gather or make the claims information used to prepare this report publicly available in the future, the release of this report will—we hope—spur federal action to ensure ongoing annual public releases of similar information in the future.



TABLES

NATIONAL ANALYSIS OF THE COST OF COMMERCIAL HEALTH INSURANCE CLAIMS RANKED FOR 274 REGIONS

TABLE 1: Nation's Lowest Cost Regions – COMMERCIAL INSURANCE

TABLE 2: Nation's Highest Cost Regions – COMMERCIAL INSURANCE

TABLE 3: Cost by Region Alphabetically – COMMERCIAL INSURANCE

TABLE 4: Nation's Lowest Cost Regions – MEDICARE

TABLE 5: Nation's Highest Cost Regions – MEDICARE

TABLE 6: Cost by Region Alphabetically – MEDICARE

TABLE 7: Nation's Lowest Cost Regions – COMMERCIAL INSURANCE + MEDICARE

TABLE 8: Nation's Highest Cost Regions – COMMERCIAL INSURANCE + MEDICARE

TABLE 9: Cost by Region Alphabetically – COMMERCIAL INSURANCE + MEDICARE

TABLE 10: Cost by Region Alphabetically – 25 Lowest Cost Regions Shaded in Green; 25 Highest Cost Regions Shaded in Yellow

NOTE: HRR rankings for Medicare vs. commercial insurance within the State of Maryland may be distorted due to rate cross-subsidization between Medicare and commercial insurance created by the operation of the Maryland waiver administered by the Health Services Cost Review Commission. <http://www.hscrc.state.md.us/>

NIAGARA HEALTH QUALITY COALITION  
RESEARCH REPORT: COST OF COMMERCIAL HEALTH INSURANCE  
CLAIMS  
RANKED BY HOSPITAL REFERRAL REGION (HRR)

Nation’s Lowest Cost Regions – COMMERCIAL INSURANCE

STATE – City	NATIONAL RANK*
HI – Honolulu	1
NY – Buffalo	2
NY – Bronx	3
NY – Rochester	4
MD - Takoma Park	5
IA – Dubuque	6
AZ – Tucson	7
DC – Washington	8
MD – Baltimore	9
MI – Dearborn	10
OH – Canton	11
MI - Royal Oak	12
MI – Detroit	13
NY - East Long Island	14
NV - Las Vegas	15
PA – Johnstown	16
TX - San Antonio	17
PA – Altoona	18
NY – Syracuse	19
MA – Springfield	20
AR - Fort Smith	21
FL – Gainesville	22
PA – Erie	23
TX - Corpus Christi	24
NJ - New Brunswick	25

\*Source: NHQC Analysis, Institute of Medicine, Medicare-Acumen, MarketScan-Harvard, OptumInsight-Lewin.

NIAGARA HEALTH QUALITY COALITION  
RESEARCH REPORT: COST OF COMMERCIAL HEALTH INSURANCE  
CLAIMS  
RANKED BY HOSPITAL REFERRAL REGION (HRR)

Nations Highest Cost Regions – COMMERCIAL INSURANCE

STATE – City	NATIONAL RANK*
CA - Santa Cruz	274
WV – Huntington	273
WV – Charleston	272
MS – Gulfport	271
WI – Wausau	270
CA - Contra Costa County	269
WI - Green Bay	268
AK – Anchorage	267
CA – Sacramento	266
WI – Marshfield	265
MO - Cape Girardeau	264
CA – Salinas	263
KY – Owensboro	262
CA - San Mateo County	261
IN – Indianapolis	260
GA – Albany	259
IL – Urbana	258
WI – Milwaukee	257
ME – Bangor	256
IN – Muncie	255
IN - Fort Wayne	254
CA - Alameda County	253
MN – Duluth	252
FL – Tallahassee	251
CA – Napa	250

\*Source: NHQC Analysis, Institute of Medicine, Medicare-Acumen, MarketScan-Harvard, OptumInsight-Lewin.

NIAGARA HEALTH QUALITY COALITION  
RESEARCH REPORT: COST OF COMMERCIAL HEALTH INSURANCE CLAIMS  
RANKED BY HOSPITAL REFERRAL REGION (HRR)

Cost by Region Alphabetically – COMMERCIAL INSURANCE

STATE - City	NATIONAL RANK*
AL - Birmingham	98
AL - Dothan	52
AL - Huntsville	99
AL - Montgomery	49
AL - Tuscaloosa	69
AK - Anchorage	267
AZ - Mesa	124
AZ - Phoenix	116
AZ - Sun City	40
AZ - Tucson	7
AR - Fort Smith	21
AR - Jonesboro	48
AR - Little Rock	102
AR - Springdale	61
CA - Orange County	104
CA - Bakersfield	66
CA - Contra Costa County	269
CA - Los Angeles	82
CA - Modesto	241
CA - Napa	250
CA - Alameda County	253
CA - Palm Springs/Rancho Mira	42
CA - Redding	100
CA - Sacramento	266
CA - Salinas	263
CA - San Bernardino	63
CA - San Diego	190
CA - San Francisco	243
CA - San Jose	203
CA - San Luis Obispo	240
CA - San Mateo County	261
CA - Santa Cruz	274
CA - Santa Rosa	164
CA - Stockton	227
CA - Ventura	105
CO - Boulder	180

CO - Colorado Springs	158
CO - Denver	204
CO - Fort Collins	244
CO - Grand Junction	208
CO - Greeley	223
CO - Pueblo	67
CT - Bridgeport	194
CT - Hartford	44
CT - New Haven	89
DE - Wilmington	188
DC - Washington	8
FL - Bradenton	75
FL - Clearwater	154
FL - Fort Lauderdale	58
FL - Fort Myers	78
FL - Gainesville	22
FL - Hudson	173
FL - Jacksonville	193
FL - Lakeland	172
FL - Miami	84
FL - Ocala	41
FL - Orlando	125
FL - Ormond Beach	28
FL - Panama City	183
FL - Pensacola	150
FL - Sarasota	113
FL - St. Petersburg	81
FL - Tallahassee	251
FL - Tampa	109
GA - Albany	259
GA - Atlanta	77
GA - Augusta	32
GA - Columbus	31
GA - Macon	196
GA - Rome	234
GA - Savannah	165
HI - Honolulu	1
ID - Boise	220
ID - Idaho Falls	186
IL - Aurora	217
IL - Blue Island	94
IL - Chicago	153
IL - Elgin	166

IL - Evanston	119
IL - Hinsdale	139
IL - Joliet	200
IL - Melrose Park	112
IL - Peoria	229
IL - Rockford	236
IL - Springfield	233
IL - Urbana	258
IL - Bloomington	209
IN - Evansville	237
IN - Fort Wayne	254
IN - Gary	198
IN - Indianapolis	260
IN - Lafayette	178
IN - Muncie	255
IN - Munster	211
IN - South Bend	216
IN - Terre Haute	242
IA - Cedar Rapids	35
IA - Davenport	30
IA - Des Moines	39
IA - Dubuque	6
IA - Iowa City	34
IA - Mason City	62
IA - Sioux City	43
IA - Waterloo	64
KS - Wichita	135
KY - Covington	219
KY - Lexington	152
KY - Louisville	74
KY - Owensboro	262
KY - Paducah	225
LA - Alexandria	163
LA - Baton Rouge	226
LA - Houma	170
LA - Lafayette	149
LA - Lake Charles	248
LA - Metairie	210
LA - Monroe	230
LA - New Orleans	73
LA - Shreveport	144
LA - Slidell	238
ME - Bangor	256

ME - Portland	214
MD - Baltimore	9
MD - Salisbury	27
MD - Takoma Park	5
MA - Boston	111
MA - Springfield	20
MA - Worcester	45
MI - Ann Arbor	26
MI - Dearborn	10
MI - Detroit	13
MI - Flint	46
MI - Grand Rapids	65
MI - Kalamazoo	97
MI - Lansing	96
MI - Marquette	232
MI - Muskegon	50
MI - Petoskey	51
MI - Pontiac	29
MI - Royal Oak	12
MI - Saginaw	88
MI - St. Joseph	212
MI - Traverse City	87
MN - Duluth	252
MN - Minneapolis	205
MN - Rochester	224
MN - St. Cloud	213
MN - St. Paul	192
MS - Gulfport	271
MS - Hattiesburg	103
MS - Jackson	148
MS - Meridian	146
MS - Oxford	171
MS - Tupelo	159
MO - Cape Girardeau	264
MO - Joplin	76
MO - Springfield	142
MT - Billings	187
MT - Great Falls	110
MT - Missoula	176
NE - Lincoln	207
NE - Omaha	202
NV - Las Vegas	15
NH - Lebanon	138



NH - Manchester	239
NJ - Camden	85
NJ - Hackensack	55
NJ - Morristown	101
NJ - New Brunswick	25
NJ - Newark	36
NJ - Paterson	68
NJ - Ridgewood	123
NY - Albany	83
NY - Binghamton	147
NY - Bronx	3
NY - Buffalo	2
NY - Elmira	37
NY - East Long Island	14
NY - Rochester	4
NY - Syracuse	19
NY - White Plains	90
NC - Asheville	107
NC - Charlotte	184
NC - Durham	114
NC - Greensboro	57
NC - Greenville	231
NC - Hickory	151
NC - Raleigh	129
NC - Wilmington	136
NC - Winston-Salem	133
ND - Bismarck	79
ND - Fargo/Moorhead MN	70
ND - Grand Forks	161
OH - Akron	53
OH - Canton	11
OH - Cincinnati	118
OH - Cleveland	126
OH - Columbus	179
OH - Dayton	182
OH - Elyria	132
OH - Kettering	106
OH - Toledo	108
OH - Youngstown	38
OK - Lawton	156
OK - Oklahoma City	141
OK - Tulsa	117
OR - Bend	137

OR - Eugene	175
OR - Medford	246
OR - Portland	155
OR - Salem	185
PA - Allentown	143
PA - Altoona	18
PA - Danville	177
PA - Erie	23
PA - Harrisburg	54
PA - Johnstown	16
PA - Lancaster	140
PA - Philadelphia	93
PA - Pittsburgh	33
PA - Reading	245
PA - Sayre	131
PA - Scranton	71
PA - Wilkes-Barre	122
PA - York	72
RI - Providence	80
SD - Sioux Falls	157
TN - Chattanooga	120
TN - Johnson City	228
TN - Kingsport	199
TN - Knoxville	201
TN - Memphis	121
TN - Nashville	221
TX - Austin	59
TX - Beaumont	169
TX - Bryan	115
TX - Corpus Christi	24
TX - Dallas	181
TX - Fort Worth	191
TX - Houston	206
TX - Longview	145
TX - San Antonio	17
TX - Temple	162
TX - Tyler	134
TX - Waco	127
TX - Wichita Falls	218
UT - Ogden	47
UT - Provo	130
UT - Salt Lake City	167
VT - Burlington	160

VA - Arlington	56
VA - Norfolk	128
VA - Richmond	174
VA - Roanoke	197
VA - Winchester	86
WA - Everett	168
WA - Olympia	91
WA - Seattle	92
WA - Spokane	60
WA - Tacoma	222
WA - Yakima	95
WV - Charleston	272
WV - Huntington	273
WV - Morgantown	195
WI - Appleton	215
WI - Green Bay	268
WI - La Crosse	189
WI - Madison	249
WI - Marshfield	265
WI - Milwaukee	257
WI - Neenah	235
WI - Wausau	270
WY - Casper	247

\*Source: NHQC Analysis, Institute of Medicine, Medicare-Acumen, MarketScan-Harvard, OptumInsight-Lewin.

NIAGARA HEALTH QUALITY COALITION  
RESEARCH REPORT: COST OF COMMERCIAL HEALTH INSURANCE  
CLAIMS  
RANKED BY HOSPITAL REFERRAL REGION (HRR)

Nation’s Lowest Cost Regions – MEDICARE

STATE - City	NATIONAL RANK*
HI - Honolulu	1
CA - Stockton	2
CA - San Francisco	3
CA - Sacramento	4
CA - Santa Cruz	5
OR - Medford	6
CA - Santa Rosa	7
OR - Salem	8
CA - Alameda County	9
NY - Rochester	10
CA - San Jose	11
NY - Bronx	12
NY - Buffalo	13
OR - Eugene	14
CA - San Mateo County	15
WA - Yakima	16
WI - La Crosse	17
OR - Portland	18
CA - Modesto	19
NY - Syracuse	20
CA - Bakersfield	21
IA - Iowa City	22
WA - Olympia	23
NY - Binghamton	24
GA - Albany	25

\*Source: NHQC Analysis, Institute of Medicine, Medicare-Acumen, MarketScan-Harvard, OptumInsight-Lewin.

NIAGARA HEALTH QUALITY COALITION  
RESEARCH REPORT: COST OF COMMERCIAL HEALTH INSURANCE  
CLAIMS  
RANKED BY HOSPITAL REFERRAL REGION (HRR)

Nation’s Highest Cost Regions – MEDICARE

STATE - City	NATIONAL RANK*
FL - Miami	274
LA - Monroe	273
LA - Alexandria	272
LA - Lafayette	271
LA - Baton Rouge	270
LA - Shreveport	269
TX - Houston	268
LA - Metairie	267
FL - Fort Lauderdale	266
TX - Dallas	265
LA - Lake Charles	264
LA - Slidell	263
MS - Meridian	262
TX - Tyler	261
FL - St. Petersburg	260
MS - Jackson	259
FL - Clearwater	258
MS - Hattiesburg	257
FL - Panama City	256
TX - Wichita Falls	255
TX - Bryan	254
TX - Beaumont	253
TX - Fort Worth	252
TX - Longview	251
MS - Gulfport	250

\*Source: NHQC Analysis, Institute of Medicine, Medicare-Acumen, MarketScan-Harvard, OptumInsight-Lewin.

NIAGARA HEALTH QUALITY COALITION  
RESEARCH REPORT: COST OF COMMERCIAL HEALTH INSURANCE CLAIMS  
RANKED BY HOSPITAL REFERRAL REGION (HRR)

Cost by Region Alphabetically – MEDICARE

STATE - City	NATIONAL RANK*
AL - Birmingham	207
AL - Dothan	190
AL - Huntsville	208
AL - Montgomery	192
AL - Tuscaloosa	214
AK - Anchorage	61
AZ - Mesa	187
AZ - Phoenix	94
AZ - Sun City	148
AZ - Tucson	91
AR - Fort Smith	156
AR - Jonesboro	172
AR - Little Rock	168
AR - Springdale	89
CA - Orange County	194
CA - Bakersfield	21
CA - Contra Costa County	42
CA - Los Angeles	201
CA - Modesto	19
CA - Napa	54
CA - Alameda County	9
CA - Palm Springs/Rancho Mira	138
CA - Redding	35
CA - Sacramento	4
CA - Salinas	60
CA - San Bernardino	49
CA - San Diego	75
CA - San Francisco	3
CA - San Jose	11
CA - San Luis Obispo	51
CA - San Mateo County	15
CA - Santa Cruz	5
CA - Santa Rosa	7
CA - Stockton	2
CA - Ventura	112
CO - Boulder	173

CO - Colorado Springs	100
CO - Denver	118
CO - Fort Collins	141
CO - Grand Junction	47
CO - Greeley	142
CO - Pueblo	32
CT - Bridgeport	129
CT - Hartford	93
CT - New Haven	115
DE - Wilmington	146
DC - Washington	139
FL - Bradenton	245
FL - Clearwater	258
FL - Fort Lauderdale	266
FL - Fort Myers	243
FL - Gainesville	210
FL - Hudson	227
FL - Jacksonville	247
FL - Lakeland	226
FL - Miami	274
FL - Ocala	205
FL - Orlando	235
FL - Ormond Beach	215
FL - Panama City	256
FL - Pensacola	217
FL - Sarasota	230
FL - St. Petersburg	260
FL - Tallahassee	111
FL - Tampa	233
GA - Albany	25
GA - Atlanta	104
GA - Augusta	76
GA - Columbus	66
GA - Macon	119
GA - Rome	179
GA - Savannah	193
HI - Honolulu	1
ID - Boise	70
ID - Idaho Falls	106
IL - Aurora	167
IL - Blue Island	229
IL - Chicago	219
IL - Elgin	236



IL - Evanston	221
IL - Hinsdale	206
IL - Joliet	238
IL - Melrose Park	196
IL - Peoria	147
IL - Rockford	151
IL - Springfield	128
IL - Urbana	116
IL - Bloomington	130
IN - Evansville	212
IN - Fort Wayne	108
IN - Gary	220
IN - Indianapolis	183
IN - Lafayette	159
IN - Muncie	169
IN - Munster	244
IN - South Bend	102
IN - Terre Haute	232
IA - Cedar Rapids	48
IA - Davenport	103
IA - Des Moines	53
IA - Dubuque	33
IA - Iowa City	22
IA - Mason City	63
IA - Sioux City	71
IA - Waterloo	109
KS - Wichita	199
KY - Covington	186
KY - Lexington	170
KY - Louisville	184
KY - Owensboro	165
KY - Paducah	163
LA - Alexandria	272
LA - Baton Rouge	270
LA - Houma	241
LA - Lafayette	271
LA - Lake Charles	264
LA - Metairie	267
LA - Monroe	273
LA - New Orleans	223
LA - Shreveport	269
LA - Slidell	263
ME - Bangor	110

ME - Portland	44
MD - Baltimore	240
MD - Salisbury	209
MD - Takoma Park	174
MA - Boston	157
MA - Springfield	58
MA - Worcester	133
MI - Ann Arbor	185
MI - Dearborn	222
MI - Detroit	228
MI - Flint	150
MI - Grand Rapids	85
MI - Kalamazoo	125
MI - Lansing	161
MI - Marquette	117
MI - Muskegon	64
MI - Petoskey	134
MI - Pontiac	237
MI - Royal Oak	242
MI - Saginaw	213
MI - St. Joseph	154
MI - Traverse City	131
MN - Duluth	82
MN - Minneapolis	69
MN - Rochester	28
MN - St. Cloud	67
MN - St. Paul	83
MS - Gulfport	250
MS - Hattiesburg	257
MS - Jackson	259
MS - Meridian	262
MS - Oxford	211
MS - Tupelo	224
MO - Cape Girardeau	200
MO - Joplin	152
MO - Springfield	84
MT - Billings	79
MT - Great Falls	99
MT - Missoula	68
NE - Lincoln	188
NE - Omaha	171
NV - Las Vegas	231
NH - Lebanon	92

NH - Manchester	90
NJ - Camden	166
NJ - Hackensack	177
NJ - Morristown	140
NJ - New Brunswick	135
NJ - Newark	120
NJ - Paterson	114
NJ - Ridgewood	160
NY - Albany	55
NY - Binghamton	24
NY - Bronx	12
NY - Buffalo	13
NY - Elmira	30
NY - East Long Island	123
NY - Rochester	10
NY - Syracuse	20
NY - White Plains	122
NC - Asheville	132
NC - Charlotte	137
NC - Durham	78
NC - Greensboro	62
NC - Greenville	149
NC - Hickory	153
NC - Raleigh	143
NC - Wilmington	216
NC - Winston-Salem	136
ND - Bismarck	39
ND - Fargo/Moorhead MN	41
ND - Grand Forks	121
OH - Akron	175
OH - Canton	144
OH - Cincinnati	182
OH - Cleveland	178
OH - Columbus	204
OH - Dayton	195
OH - Elyria	234
OH - Kettering	218
OH - Toledo	191
OH - Youngstown	181
OK - Lawton	155
OK - Oklahoma City	248
OK - Tulsa	239
OR - Bend	29

OR - Eugene	14
OR - Medford	6
OR - Portland	18
OR - Salem	8
PA - Allentown	96
PA - Altoona	105
PA - Danville	27
PA - Erie	73
PA - Harrisburg	74
PA - Johnstown	107
PA - Lancaster	46
PA - Philadelphia	158
PA - Pittsburgh	180
PA - Reading	88
PA - Sayre	56
PA - Scranton	126
PA - Wilkes-Barre	162
PA - York	81
RI - Providence	52
SD - Sioux Falls	87
TN - Chattanooga	176
TN - Johnson City	198
TN - Kingsport	98
TN - Knoxville	189
TN - Memphis	197
TN - Nashville	202
TX - Austin	246
TX - Beaumont	253
TX - Bryan	254
TX - Corpus Christi	249
TX - Dallas	265
TX - Fort Worth	252
TX - Houston	268
TX - Longview	251
TX - San Antonio	225
TX - Temple	145
TX - Tyler	261
TX - Waco	203
TX - Wichita Falls	255
UT - Ogden	101
UT - Provo	164
UT - Salt Lake City	86
VT - Burlington	36

VA - Arlington	77
VA - Norfolk	72
VA - Richmond	95
VA - Roanoke	26
VA - Winchester	45
WA - Everett	37
WA - Olympia	23
WA - Seattle	34
WA - Spokane	57
WA - Tacoma	38
WA - Yakima	16
WV - Charleston	31
WV - Huntington	113
WV - Morgantown	65
WI - Appleton	43
WI - Green Bay	80
WI - La Crosse	17
WI - Madison	40
WI - Marshfield	59
WI - Milwaukee	124
WI - Neenah	50
WI - Wausau	97
WY – Casper	127

\*Source: NHQC Analysis, Institute of Medicine, Medicare-Acumen, MarketScan-Harvard, OptumInsight-Lewin.

NIAGARA HEALTH QUALITY COALITION  
RESEARCH REPORT: COST OF COMMERCIAL HEALTH INSURANCE  
CLAIMS  
RANKED BY HOSPITAL REFERRAL REGION (HRR)

Nation’s Lowest Cost Regions – COMMERCIAL INSURANCE + MEDICARE

STATE - City	NATIONAL RANK*
HI - Honolulu	1
NY – Bronx	2
NY – Buffalo	3
NY - Rochester	4
IA - Dubuque	5
NY - Syracuse	6
IA - Iowa City	7
AZ – Tucson	8
MA - Springfield	9
NY – Elmira	10
IA - Cedar Rapids	11
CA - Bakersfield	12
WA - Yakima	13
PA – Erie	14
DC - Washington	15
IA - Des Moines	16
MD - Takoma Park	17
GA - Columbus	18
PA - Johnstown	19
NY - East Long Island	20
OH – Canton	21
PA - Altoona	22
CO – Pueblo	23
GA – Augusta	24
WA – Olympia	25

\*Source: NHQC Analysis, Institute of Medicine, Medicare-Acumen, MarketScan-Harvard, OptumInsight-Lewin.

NIAGARA HEALTH QUALITY COALITION  
RESEARCH REPORT: COST OF COMMERCIAL HEALTH INSURANCE  
CLAIMS  
RANKED BY HOSPITAL REFERRAL REGION (HRR)

Nation’s Highest Cost Regions – COMMERCIAL INSURANCE + MEDICARE

STATE - City	NATIONAL RANK*
FL - Miami	274
MS - Gulfport	273
LA - Monroe	272
WV - Huntington	271
CA - Santa Cruz	270
LA - Baton Rouge	269
LA - Lake Charles	268
LA - Slidell	267
LA - Metairie	266
TX - Houston	265
LA - Alexandria	264
LA - Lafayette	263
LA - Shreveport	262
MO - Cape Girardeau	261
TX - Wichita Falls	260
WV - Charleston	259
TX - Dallas	258
WI - Wausau	257
IN - Terre Haute	256
IN - Indianapolis	255
WI - Green Bay	254
KY - Owensboro	253
FL - Panama City	252
TX - Fort Worth	251
IN - Munster	250

\*Source: NHQC Analysis, Institute of Medicine, Medicare-Acumen, MarketScan-Harvard, OptumInsight-Lewin.



NIAGARA HEALTH QUALITY COALITION  
RESEARCH REPORT: COST OF COMMERCIAL HEALTH INSURANCE CLAIMS  
RANKED BY HOSPITAL REFERRAL REGION (HRR)

Cost by Region Alphabetically – COMMERCIAL INSURANCE + MEDICARE

STATE - City	NATIONAL RANK*
AL - Birmingham	157
AL - Dothan	105
AL - Huntsville	159
AL - Montgomery	96
AL - Tuscaloosa	140
AK - Anchorage	224
AZ - Mesa	161
AZ - Phoenix	86
AZ - Sun City	64
AZ - Tucson	8
AR - Fort Smith	49
AR - Jonesboro	85
AR - Little Rock	133
AR - Springdale	56
CA - Orange County	150
CA - Bakersfield	12
CA - Contra Costa County	240
CA - Los Angeles	134
CA - Modesto	123
CA - Napa	177
CA - Alameda County	111
CA - Palm Springs/Rancho Mira	59
CA - Redding	45
CA - Sacramento	143
CA - Salinas	210
CA - San Bernardino	30
CA - San Diego	125
CA - San Francisco	80
CA - San Jose	52
CA - San Luis Obispo	164
CA - San Mateo County	154
CA - Santa Cruz	270
CA - Santa Rosa	27
CA - Stockton	51
CA - Ventura	102
CO - Boulder	182

CO - Colorado Springs	120
CO - Denver	175
CO - Fort Collins	225
CO - Grand Junction	116
CO - Greeley	199
CO - Pueblo	23
CT - Bridgeport	168
CT - Hartford	43
CT - New Haven	89
DE - Wilmington	176
DC - Washington	15
FL - Bradenton	188
FL - Clearwater	245
FL - Fort Lauderdale	235
FL - Fort Myers	187
FL - Gainesville	79
FL - Hudson	216
FL - Jacksonville	248
FL - Lakeland	215
FL - Miami	274
FL - Ocala	106
FL - Orlando	200
FL - Ormond Beach	98
FL - Panama City	252
FL - Pensacola	193
FL - Sarasota	189
FL - St. Petersburg	219
FL - Tallahassee	222
FL - Tampa	190
GA - Albany	181
GA - Atlanta	68
GA - Augusta	24
GA - Columbus	18
GA - Macon	165
GA - Rome	228
GA - Savannah	183
HI - Honolulu	1
ID - Boise	146
ID - Idaho Falls	144
IL - Aurora	212
IL - Blue Island	178
IL - Chicago	198
IL - Elgin	221

IL - Evanston	184
IL - Hinsdale	179
IL - Joliet	243
IL - Melrose Park	160
IL - Peoria	209
IL - Rockford	217
IL - Springfield	205
IL - Urbana	238
IL - Bloomington	180
IN - Evansville	242
IN - Fort Wayne	227
IN - Gary	226
IN - Indianapolis	255
IN - Lafayette	173
IN - Muncie	247
IN - Munster	250
IN - South Bend	172
IN - Terre Haute	256
IA - Cedar Rapids	11
IA - Davenport	37
IA - Des Moines	16
IA - Dubuque	5
IA - Iowa City	7
IA - Mason City	34
IA - Sioux City	28
IA - Waterloo	66
KS - Wichita	171
KY - Covington	218
KY - Lexington	166
KY - Louisville	117
KY - Owensboro	253
KY - Paducah	213
LA - Alexandria	264
LA - Baton Rouge	269
LA - Houma	236
LA - Lafayette	263
LA - Lake Charles	268
LA - Metairie	266
LA - Monroe	272
LA - New Orleans	162
LA - Shreveport	262
LA - Slidell	267
ME - Bangor	229

ME - Portland	119
MD - Baltimore	87
MD - Salisbury	90
MD - Takoma Park	17
MA - Boston	128
MA - Springfield	9
MA - Worcester	62
MI - Ann Arbor	67
MI - Dearborn	60
MI - Detroit	74
MI - Flint	72
MI - Grand Rapids	55
MI - Kalamazoo	95
MI - Lansing	118
MI - Marquette	201
MI - Muskegon	26
MI - Petoskey	65
MI - Pontiac	132
MI - Royal Oak	94
MI - Saginaw	156
MI - St. Joseph	192
MI - Traverse City	92
MN - Duluth	204
MN - Minneapolis	131
MN - Rochester	122
MN - St. Cloud	137
MN - St. Paul	135
MS - Gulfport	273
MS - Hattiesburg	232
MS - Jackson	246
MS - Meridian	249
MS - Oxford	195
MS - Tupelo	207
MO - Cape Girardeau	261
MO - Joplin	100
MO - Springfield	99
MT - Billings	126
MT - Great Falls	83
MT - Missoula	104
NE - Lincoln	211
NE - Omaha	197
NV - Las Vegas	84
NH - Lebanon	103

NH - Manchester	191
NJ - Camden	113
NJ - Hackensack	97
NJ - Morristown	109
NJ - New Brunswick	47
NJ - Newark	50
NJ - Paterson	71
NJ - Ridgewood	136
NY - Albany	40
NY - Binghamton	57
NY - Bronx	2
NY - Buffalo	3
NY - Elmira	10
NY - East Long Island	20
NY - Rochester	4
NY - Syracuse	6
NY - White Plains	91
NC - Asheville	110
NC - Charlotte	167
NC - Durham	77
NC - Greensboro	33
NC - Greenville	214
NC - Hickory	153
NC - Raleigh	130
NC - Wilmington	186
NC - Winston-Salem	129
ND - Bismarck	31
ND - Fargo/Moorhead MN	29
ND - Grand Forks	139
OH - Akron	93
OH - Canton	21
OH - Cincinnati	148
OH - Cleveland	147
OH - Columbus	196
OH - Dayton	194
OH - Elyria	203
OH - Kettering	174
OH - Toledo	145
OH - Youngstown	81
OK - Lawton	158
OK - Oklahoma City	233
OK - Tulsa	208
OR - Bend	54

OR - Eugene	44
OR - Medford	101
OR - Portland	42
OR - Salem	41
PA - Allentown	107
PA - Altoona	22
PA - Danville	70
PA - Erie	14
PA - Harrisburg	36
PA - Johnstown	19
PA - Lancaster	63
PA - Philadelphia	112
PA - Pittsburgh	76
PA - Reading	202
PA - Sayre	61
PA - Scranton	78
PA - Wilkes-Barre	138
PA - York	53
RI - Providence	38
SD - Sioux Falls	108
TN - Chattanooga	142
TN - Johnson City	234
TN - Kingsport	151
TN - Knoxville	206
TN - Memphis	163
TN - Nashville	230
TX - Austin	185
TX - Beaumont	244
TX - Bryan	231
TX - Corpus Christi	149
TX - Dallas	258
TX - Fort Worth	251
TX - Houston	265
TX - Longview	239
TX - San Antonio	88
TX - Temple	155
TX - Tyler	241
TX - Waco	169
TX - Wichita Falls	260
UT - Ogden	48
UT - Provo	141
UT - Salt Lake City	114
VT - Burlington	69

VA - Arlington	46
VA - Norfolk	75
VA - Richmond	124
VA - Roanoke	82
VA - Winchester	39
WA - Everett	73
WA - Olympia	25
WA - Seattle	35
WA - Spokane	32
WA - Tacoma	127
WA - Yakima	13
WV - Charleston	259
WV - Huntington	271
WV - Morgantown	115
WI - Appleton	121
WI - Green Bay	254
WI - La Crosse	58
WI - Madison	170
WI - Marshfield	220
WI - Milwaukee	237
WI - Neenah	152
WI - Wausau	257
WY - Casper	223

\*Source: NHQC Analysis, Institute of Medicine, Medicare-Acumen, MarketScan-Harvard, OptumInsight-Lewin.

See Appendix 1 and Appendix 2 for information about the data and the analyses used in this report.

NIAGARA HEALTH QUALITY COALITION  
RESEARCH REPORT: COST OF COMMERCIAL HEALTH INSURANCE CLAIMS  
RANKED BY HOSPITAL REFERRAL REGION (HRR)

Cost Ranked by Region Alphabetically – 25 Lowest Cost Regions Shaded in Green; 25 Highest Cost Regions Shaded in Yellow

Hospital Referral Region (HRR)	HRR# 1	Marketscan-Harvard	Acumen-Medicare	Comm + Medicare	Shaded
HRR 1	HRR# 1	Rank 1	Rank 2	Rank 3	25
AL - Birmingham	1	98	207	157	
AL - Dothan	2	52	190	105	
AL - Huntsville	5	99	208	159	
AL - Montgomery	7	49	192	96	
AL - Tuscaloosa	9	69	214	140	
AK - Anchorage	10	267	61	224	
AZ - Mesa	11	124	187	161	
AZ - Phoenix	12	116	94	86	
AZ - Sun City	14	40	148	64	
AZ - Tucson	15	7	91	8	
AR - Fort Smith	16	21	156	49	
AR - Jonesboro	18	48	172	85	
AR - Little Rock	19	102	168	133	
AR - Springdale	21	61	89	56	
CA - Orange County	23	104	194	150	
CA - Bakersfield	25	66	21	12	
CA - Contra Costa County	33	269	42	240	
CA - Los Angeles	56	82	201	134	
CA - Modesto	58	241	19	123	
CA - Napa	62	250	54	177	
CA - Alameda County	65	253	9	111	
CA - Palm Springs/Rancho Mira	69	42	138	59	
CA - Redding	73	100	35	45	
CA - Sacramento	77	266	4	143	
CA - Salinas	78	263	60	210	
CA - San Bernardino	79	63	49	30	
CA - San Diego	80	190	75	125	
CA - San Francisco	81	243	3	80	
CA - San Jose	82	203	11	52	
CA - San Luis Obispo	83	240	51	164	
CA - San Mateo County	85	261	15	154	
CA - Santa Cruz	87	274	5	270	



CA - Santa Rosa	89	164	7	27
CA - Stockton	91	227	2	51
CA - Ventura	96	105	112	102
CO - Boulder	101	180	173	182
CO - Colorado Springs	102	158	100	120
CO - Denver	103	204	118	175
CO - Fort Collins	104	244	141	225
CO - Grand Junction	105	208	47	116
CO - Greeley	106	223	142	199
CO - Pueblo	107	67	32	23
CT - Bridgeport	109	194	129	168
CT - Hartford	110	44	93	43
CT - New Haven	111	89	115	89
DE - Wilmington	112	188	146	176
DC - Washington	113	8	139	15
FL - Bradenton	115	75	245	188
FL - Clearwater	116	154	258	245
FL - Fort Lauderdale	118	58	266	235
FL - Fort Myers	119	78	243	187
FL - Gainesville	120	22	210	79
FL - Hudson	122	173	227	216
FL - Jacksonville	123	193	247	248
FL - Lakeland	124	172	226	215
FL - Miami	127	84	274	274
FL - Ocala	129	41	205	106
FL - Orlando	130	125	235	200
FL - Ormond Beach	131	28	215	98
FL - Panama City	133	183	256	252
FL - Pensacola	134	150	217	193
FL - Sarasota	137	113	230	189
FL - St. Petersburg	139	81	260	219
FL - Tallahassee	140	251	111	222
FL - Tampa	141	109	233	190
GA - Albany	142	259	25	181
GA - Atlanta	144	77	104	68
GA - Augusta	145	32	76	24
GA - Columbus	146	31	66	18
GA - Macon	147	196	119	165
GA - Rome	148	234	179	228
GA - Savannah	149	165	193	183
HI - Honolulu	150	1	1	1
ID - Boise	151	220	70	146
ID - Idaho Falls	152	186	106	144

IL - Aurora	154	217	167	212
IL - Blue Island	155	94	229	178
IL - Chicago	156	153	219	198
IL - Elgin	158	166	236	221
IL - Evanston	161	119	221	184
IL - Hinsdale	163	139	206	179
IL - Joliet	164	200	238	243
IL - Melrose Park	166	112	196	160
IL - Peoria	170	229	147	209
IL - Rockford	171	236	151	217
IL - Springfield	172	233	128	205
IL - Urbana	173	258	116	238
IL - Bloomington	175	209	130	180
IN - Evansville	179	237	212	242
IN - Fort Wayne	180	254	108	227
IN - Gary	181	198	220	226
IN - Indianapolis	183	260	183	255
IN - Lafayette	184	178	159	173
IN - Muncie	185	255	169	247
IN - Munster	186	211	244	250
IN - South Bend	187	216	102	172
IN - Terre Haute	188	242	232	256
IA - Cedar Rapids	190	35	48	11
IA - Davenport	191	30	103	37
IA - Des Moines	192	39	53	16
IA - Dubuque	193	6	33	5
IA - Iowa City	194	34	22	7
IA - Mason City	195	62	63	34
IA - Sioux City	196	43	71	28
IA - Waterloo	197	64	109	66
KS - Wichita	201	135	199	171
KY - Covington	203	219	186	218
KY - Lexington	204	152	170	166
KY - Louisville	205	74	184	117
KY - Owensboro	207	262	165	253
KY - Paducah	208	225	163	213
LA - Alexandria	209	163	272	264
LA - Baton Rouge	210	226	270	269
LA - Houma	212	170	241	236
LA - Lafayette	213	149	271	263
LA - Lake Charles	214	248	264	268
LA - Metairie	216	210	267	266
LA - Monroe	217	230	273	272

LA - New Orleans	218	73	223	162
LA - Shreveport	219	144	269	262
LA - Slidell	220	238	263	267
ME - Bangor	221	256	110	229
ME - Portland	222	214	44	119
MD - Baltimore	223	9	240	87
MD - Salisbury	225	27	209	90
MD - Takoma Park	226	5	174	17
MA - Boston	227	111	157	128
MA - Springfield	230	20	58	9
MA - Worcester	231	45	133	62
MI - Ann Arbor	232	26	185	67
MI - Dearborn	233	10	222	60
MI - Detroit	234	13	228	74
MI - Flint	235	46	150	72
MI - Grand Rapids	236	65	85	55
MI - Kalamazoo	238	97	125	95
MI - Lansing	239	96	161	118
MI - Marquette	240	232	117	201
MI - Muskegon	242	50	64	26
MI - Petoskey	243	51	134	65
MI - Pontiac	244	29	237	132
MI - Royal Oak	245	12	242	94
MI - Saginaw	246	88	213	156
MI - St. Joseph	248	212	154	192
MI - Traverse City	249	87	131	92
MN - Duluth	250	252	82	204
MN - Minneapolis	251	205	69	131
MN - Rochester	253	224	28	122
MN - St. Cloud	254	213	67	137
MN - St. Paul	256	192	83	135
MS - Gulfport	257	271	250	273
MS - Hattiesburg	258	103	257	232
MS - Jackson	259	148	259	246
MS - Meridian	260	146	262	249
MS - Oxford	261	171	211	195
MS - Tupelo	262	159	224	207
MO - Cape Girardeau	263	264	200	261
MO - Joplin	267	76	152	100
MO - Springfield	270	142	84	99
MT - Billings	274	187	79	126
MT - Great Falls	275	110	99	83
MT - Missoula	276	176	68	104

NE - Lincoln	277	207	188	211
NE - Omaha	278	202	171	197
NV - Las Vegas	279	15	231	84
NH - Lebanon	281	138	92	103
NH - Manchester	282	239	90	191
NJ - Camden	283	85	166	113
NJ - Hackensack	284	55	177	97
NJ - Morristown	285	101	140	109
NJ - New Brunswick	288	25	135	47
NJ - Newark	289	36	120	50
NJ - Paterson	291	68	114	71
NJ - Ridgewood	292	123	160	136
NY - Albany	295	83	55	40
NY - Binghamton	296	147	24	57
NY - Bronx	297	3	12	2
NY - Buffalo	299	2	13	3
NY - Elmira	300	37	30	10
NY - East Long Island	301	14	123	20
NY - Rochester	304	4	10	4
NY - Syracuse	307	19	20	6
NY - White Plains	308	90	122	91
NC - Asheville	309	107	132	110
NC - Charlotte	311	184	137	167
NC - Durham	312	114	78	77
NC - Greensboro	313	57	62	33
NC - Greenville	314	231	149	214
NC - Hickory	315	151	153	153
NC - Raleigh	318	129	143	130
NC - Wilmington	319	136	216	186
NC - Winston-Salem	320	133	136	129
ND - Bismarck	321	79	39	31
ND - Fargo/Moorhead MN	322	70	41	29
ND - Grand Forks	323	161	121	139
OH - Akron	325	53	175	93
OH - Canton	326	11	144	21
OH - Cincinnati	327	118	182	148
OH - Cleveland	328	126	178	147
OH - Columbus	329	179	204	196
OH - Dayton	330	182	195	194
OH - Elyria	331	132	234	203
OH - Kettering	332	106	218	174
OH - Toledo	334	108	191	145
OH - Youngstown	335	38	181	81

OK - Lawton	336	156	155	158
OK - Oklahoma City	339	141	248	233
OK - Tulsa	340	117	239	208
OR - Bend	341	137	29	54
OR - Eugene	342	175	14	44
OR - Medford	343	246	6	101
OR - Portland	344	155	18	42
OR - Salem	345	185	8	41
PA - Allentown	346	143	96	107
PA - Altoona	347	18	105	22
PA - Danville	350	177	27	70
PA - Erie	351	23	73	14
PA - Harrisburg	352	54	74	36
PA - Johnstown	354	16	107	19
PA - Lancaster	355	140	46	63
PA - Philadelphia	356	93	158	112
PA - Pittsburgh	357	33	180	76
PA - Reading	358	245	88	202
PA - Sayre	359	131	56	61
PA - Scranton	360	71	126	78
PA - Wilkes-Barre	362	122	162	138
PA - York	363	72	81	53
RI - Providence	364	80	52	38
SD - Sioux Falls	371	157	87	108
TN - Chattanooga	373	120	176	142
TN - Johnson City	375	228	198	234
TN - Kingsport	376	199	98	151
TN - Knoxville	377	201	189	206
TN - Memphis	379	121	197	163
TN - Nashville	380	221	202	230
TX - Austin	385	59	246	185
TX - Beaumont	386	169	253	244
TX - Bryan	388	115	254	231
TX - Corpus Christi	390	24	249	149
TX - Dallas	391	181	265	258
TX - Fort Worth	394	191	252	251
TX - Houston	397	206	268	265
TX - Longview	399	145	251	239
TX - San Antonio	412	17	225	88
TX - Temple	413	162	145	155
TX - Tyler	416	134	261	241
TX - Waco	418	127	203	169
TX - Wichita Falls	420	218	255	260

UT - Ogden	421	47	101	48
UT - Provo	422	130	164	141
UT - Salt Lake City	423	167	86	114
VT - Burlington	424	160	36	69
VA - Arlington	426	56	77	46
VA - Norfolk	430	128	72	75
VA - Richmond	431	174	95	124
VA - Roanoke	432	197	26	82
VA - Winchester	435	86	45	39
WA - Everett	437	168	37	73
WA - Olympia	438	91	23	25
WA - Seattle	439	92	34	35
WA - Spokane	440	60	57	32
WA - Tacoma	441	222	38	127
WA - Yakima	442	95	16	13
WV - Charleston	443	272	31	259
WV - Huntington	444	273	113	271
WV - Morgantown	445	195	65	115
WI - Appleton	446	215	43	121
WI - Green Bay	447	268	80	254
WI - La Crosse	448	189	17	58
WI - Madison	449	249	40	170
WI - Marshfield	450	265	59	220
WI - Milwaukee	451	257	124	237
WI - Neenah	452	235	50	152
WI - Wausau	456	270	97	257
WY - Casper	457	247	127	223

\*Source: NHQC Analysis, Institute of Medicine, Medicare-Acumen, MarketScan-Harvard, OptumInsight-Lewin.

See Appendix 1 and Appendix 2 for information about the data and the analyses used in this report.

## Appendix 1: How were these data analyzed?

1. NHQC used data underpinning the recent Institute of Medicine (IOM) report entitled, *Variation in Health Care Spending: Target Decision Making, Not Geography*. These data were used to rank the cost of commercial insurance spending, Medicare and commercial insurance plus Medicare in 274 regions nationally.
2. The key sources of information obtained by NHQC from IOM were from MarketScan and OptumInsight.
3. In its report, the IOM investigated the correlation between the cost of Medicare and the cost of commercial health insurance spending in each region. (Note: The IOM concluded that there is no meaningful correlation between the cost of Medicare and the cost of commercial health insurance spending in HRRs nationally.)
4. In order for IOM researchers to evaluate if there exists a strong correlation between the regional cost of commercial insurance spending vs. Medicare, the IOM researchers analyzed databases composed of nearly 200 million claims. Adjustments were developed and applied to the two different, commercial sector health insurance claims datasets to make them comparable to Medicare.
5. All claims data are sorted by region, adjusted for partial year enrollment, year, pharmacy benefit, age, sex, age multiplied by sex, and health status.
6. NHQC staff began its research by replicating the IOM correlation analysis published in the draft IOM report. This step confirmed IOM's conclusion that you can't learn about the cost effectiveness of commercial health insurance in all HRRs solely by knowing the cost effectiveness of Medicare in the same HRRs. More important for NHQC's research, duplicating the IOM analysis and reaching precisely the same statistical values reached by IOM researchers ensured an appropriate starting point for NHQC research presented this report.
7. NHQC analyzed valid options for comparing and then ranking the cost of commercial insurance spending by HRR nationally using the two available databases (i.e., MarketScan and OptumInsight).
8. NHQC evaluated MarketScan and OptumInsight as well as the options for ranking regional cost by using each or both data sources. For example, we analyzed:
  - a. The number of records in each of the two data sources
  - b. The number of markets for which information was unavailable in each data source
  - c. Whether or not it would be possible to average data from both data sources so that an average of the two data sources could be used to rank regions' cost for commercial insurance and Medicare
  - d. Whether or not it would be possible to use a weighted average

- e. Whether or not a cost of living adjustment factor should be incorporated
  - f. The level of documentation about individual claims in each of the two data sources, and possible statistical implications where documentation is incomplete
  - g. The component types of medical-care encounters
  - h. How much the cost of commercial insurance spending varied between the two data sources
9. After analysis of available options for ranking the cost of commercial insurance spending based on both MarketScan and OptumInsight data sources, NHQC researchers concluded that using only one of the two data source was an appropriate decision. Averaging the regional summaries provided by the two data sources or combining them in other ways was flawed because of potential differences in how the claims information was gathered, weighted and combined, and because of potential duplication of an unknown number of the confidential individual claims used in each database. Combining claims information from two sources where there exists no mechanism to determine which individual claims were duplicates would cause statistical error that could not be measured and whose impact would be unknown. Moreover, such efforts to enlarge the available data are not necessary where the two data sources have a strong correlation to each other without combining them in any way.
10. NHQC used the MarketScan data to rank the regional cost of commercial insurance spending in 274 regions because the MarketScan sample was comprised of a larger number of claims (i.e., 109 million claims).
11. NHQC used the second data source, OptumInsight, as a confirmation of the MarketScan data source, and to standardize the data by eliminating outlier HRRs where the two data sources varied widely for the estimated cost of commercial health insurance within the same HRR.
12. The correlation between commercial health insurance cost using the MarketScan and OptumInsight data sources without standardizing the data was .66 – an acceptable correlation. After standardizing the databases to eliminate outlier HRRs based on the variance between the two data sources, the correlation jumped to .74, a robust correlation for this application. This strong correlation (i.e., .74) between the two data sources provides further confirmation of the robustness of the commercial health insurance regional rankings for the 274 regions compared in this report.
13. Outlier HRRs were removed from the MarketScan dataset where the MarketScan and OptumInsight estimates of HRR cost varied widely. Outliers were removed using a statistical technique called standardizing the data. Employing this widely accepted statistical technique eliminated approximately 5% of the HRRs.
14. Rank order was determined for commercial insurance and for Medicare by indexing the cost of claims in each region on a 0–100 scale. The rank order for commercial insurance +



Medicare was computed by averaging the indexes for commercial and Medicare in each region.

## Appendix 2: Notes

1. Note on interpreting the results: Small differences in HRR rank are not likely to be statistically significant. Thus for example, don't focus on regional variance where one region is ranked 55 and another is ranked 56.
2. Note on unintended consequences: Some studies suggest that publication of provider price information may drive increased provider prices under some circumstances.<sup>13</sup> If this is a one-time report because the government does not mandate ongoing transparency about the cost of commercial claims in the future, corporate relocation decision-makers may never have access to the information again. Under these circumstances, the risk of unintended consequences, including higher costs in the most efficient regions, is greater.
3. Note on the role of competition in keeping medical-care affordable: Even after implementation of the Affordable Care Act, sixty percent of personal bankruptcies in the U.S. stem in total or in part from medical-care costs; and one in three Americans report difficulty in paying medical bills.<sup>14</sup> Medical-care industry consolidation, insurance market changes and horizontal and vertical integration between hospitals and health insurers are accelerating individuals' exposure to greater financial risk. While more intense regional competition can improve affordability somewhat, competition alone is unlikely to be sufficient to make the cost of medical-care in the U.S. competitive with the cost of medical-care in other nations.

---

<sup>13</sup> Ginsburg, Paul B. "Shopping for Price in Medical Care." *Health Affairs* 26.2 (2007): w208-w216. Web. 22 May 2015. <<http://content.healthaffairs.org/content/26/2/w208.full.htm>>.

<sup>14</sup> Himmelstein, David U., et al. "Medical Bankruptcy in the United States, 2007: Results of a National Study." *American Journal of Medicine* 122.8 (2009): 741-46.

## Appendix 3: Bruce A. Boissonnault Bio and Contact Information

Bruce A. Boissonnault  
93 Lehn Springs Drive  
Williamsville, NY 14221  
[bruceb9897@gmail.com](mailto:bruceb9897@gmail.com)  
716-830-5445

Bruce A. Boissonnault is CEO of the Niagara Health Quality Coalition (NHQC) and President of the Alliance for Quality Health Care. The Niagara Health Quality Coalition has pioneered many consumer reports that have been widely adopted as the national standard of performance measurement. National firsts include: the New York State Hospital Report Card<sup>SM</sup>, the Niagara Health Quality Coalition Patient Survey Report Card<sup>SM</sup>, the New York State Preventable Admissions Report<sup>SM</sup>, the New York State Appropriate Utilization Hospital Report<sup>SM</sup> and others. NHQC has pioneered similar reports in many states including New York, Florida, Texas and Washington State; and NHQC served as an advisor to the federal government assisting with development of the federal hospital measures and the patient satisfaction survey now used by nearly all U.S. hospitals. The Niagara Health Quality Coalition's reports are state-of-the-art. They are indispensable for consumers that want unbiased information to use when searching for high-quality care. Current reports are available at [myHealthFinder.com](http://myHealthFinder.com) which has no advertising, no tracking cookies, and is free of charge.

Additionally, Mr. Boissonnault is a nationally recognized scientist in his field. He has been co-chairman of, and has served on, national steering committees funded by Congress to recommend the best methods for publicly reporting and rewarding hospital performance and nursing home performance, respectively. He has been an advisor to MEDPAC, the National Health Care Quality Report to Congress, the Institute of Medicine, the American Medical Association's Physician Consortium for Performance Improvement in Cardiac Imaging, and the National Health Care Disparities Report to Congress. He also has served as a national science and technical advisor to government, business and media. He was an invited speaker on national health care data strategy for the National Committee on Vital and Health Statistics Quality Workgroup and for the National Uniform Billing Committee. Mr. Boissonnault is a member of the AARP New York Executive Council focusing on health care and interests of its youngest member group, and he is on the faculty at Northwestern University's Kellogg School of Management, where his focus is Health Enterprise Management and 'Using performance measurement to improve quality'.

The work of the Niagara Health Quality Coalition has been chronicled in media outlets including *The New York Times*, *The Wall Street Journal*, the Associated Press, Gannett, *Consumer Reports*, NPR, *The Buffalo News*, the *New York Daily News*, *Newsday*, the *New York Post*, the *Rochester Democrat and Chronicle*, Hearst Media, the *Syracuse Post-Standard*, the *Albany Times Union*, ProPublica, *Business First*, *Albany Business Journal*, the *Managed Care* magazine, *Disease Management Advisor*, *Crain's New York Business*, and many others. In addition, Mr. Boissonnault's research has been recognized in important peer-reviewed publications including Oxford University Press, *Health Affairs*, and the U.S. Agency for Healthcare Research and Quality's *Research Monthly*.

Mr. Boissonnault is recipient of many awards including the national Eye on Quality Award, the National Quality Improvement Award, the Chartered Value Exchange designation for pioneering in the field of public reporting (by HHS Secretary Leavitt), the National Kidney Foundation's Gift of Life Award for transformational work using 'big data' to improve kidney disease results, and the New Yorkers for Patient and Family Empowerment's Consumer Rights Award.

Prior to his current role, Mr. Boissonnault was an executive in the private sector including as general manager at Walt Disney World with responsibilities in Orlando and Los Angeles, with Price Waterhouse as a strategy consultant, and with Mobil Corporation in west coast retail marketing operations.

Mr. Boissonnault has two adult sons and lives with his wife Joan of 29 years in Williamsville, New York.

Dedication: This study is dedicated to Richard J. Dahle. Richard was a beloved marketing executive at Mobil Oil Corporation. He was ethical and found ways to negotiate agreements that were valuable to both Mobil and his clients. Richard offered me the following advice 35 years ago. As a valued mentor, Richard explained for me the art of making promises to management that you can always keep. With an engaging smile, he quipped, "Tell them what, or tell them when, but never tell them both. If you do that, management can never pin you down." In the medical-care industry today, we may have some information about price or we may have some information about outcome, but rarely do we have both. That's why policy leaders never can pin the medical-care industry down.