

November 1, 2017

CIRCULAR LETTER TO ALL MEMBER COMPANIES

Re: Workers Compensation Insurance
2017 Medical Data Report – North Carolina
Opioid Utilization Supplement – North Carolina

The North Carolina Rate Bureau is pleased to provide you with a copy the 2017 Medical Data Report and the Opioid Utilization Supplement for the state of North Carolina. These reports have been compiled by the National Council on Compensation Insurance to provide insight into the medical cost drivers that impact the workers compensation system in North Carolina.

The reports are based on data collected on a calendar year basis and represents medical transactions for service year 2016. This data considers transactions for medical services provided on all workers compensation claims less than 30 years old from January 1, 2016 through December 31, 2016. The data shows that in service year 2016, over \$259 million was paid on 77,100 claims. This represents 88% of data from the workers compensation premium written, which includes experience for large-deductible polices. Lump-sum settlements are not required to be reported. Self-insured data is not included.

This year's Medical Data Report illustrates the breakdown of services by category as follow:

- Physician
- Hospital
- Ambulatory Surgical Centers
- Drugs
- Durable Medical Equipment (DME), Supplies, and Implants
- Other

The Opioid Utilization Supplement Report includes sections on:

- Prescription Drug Statistics
- Opioid Clam Statistics
- Concurrent Usage of Opioids and Benzodiazepines
- Changes in Opioid Prescribing Patterns
- Opioids and Morphine Milligram Equivalents

We trust that these reports will provide additional insight into the works compensation cost drivers in North Carolina. A copy of the reports is attached for your review.

If you have questions, contact the NCRB Information Center at 919-582-1056 or via email at wcinfo@ncrb.org.

Sincerely,

Joanna Biliouris

Chief Operating Officer

JB:ko

Attachments

C-17-16



Medical Data Report

For the state of:

NORTH CAROLINA

September 2017



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Introduction

Medical costs have consistently been on the rise over the last 30 years. Today, in many states, close to 60% of workers compensation benefits are attributed to medical costs. The rising cost of medical care is one of the major issues facing workers compensation stakeholders now and in the foreseeable future. The availability of medical data on workers compensation claims is essential for pricing of proposed state legislation, impacts of changes to medical fee schedules, and research.

This publication is a data source for regulators and others who are interested in the driving forces behind the increasing medical costs in workers compensation claims. The information in this report provides important benchmarks against which cost containment strategies may be measured and gives valuable insight into the medical cost drivers that threaten the financial soundness of the workers compensation system.

Knowing how payments for different services contribute to workers compensation medical benefit costs provides insight into the growth of medical benefits. This report illustrates the breakdown of services by category, namely:

- Physician
- Hospital Outpatient
- Hospital Inpatient
- Ambulatory Surgical Centers
- Drugs
- Durable Medical Equipment (DME), Supplies, and Implants
- Other

Next, the report drills down into these categories to show which particular procedures represent the greatest share of payments and which are performed the most.

Additionally, this report provides detail on payments for prescription drugs, including which drugs are being prescribed the most and which ones represent the greatest share of drug payments, as well as information on repackaged drugs and controlled substances.

There is one important caveat: Information in this report may not coincide with an analysis of a medical fee schedule change performed in the future. An analysis of a medical fee schedule change requires evaluation of the specific procedures covered by the fee schedule, which may be different from how payments are categorized in this report.

Additional information regarding the data underlying this report is available in the Appendix.



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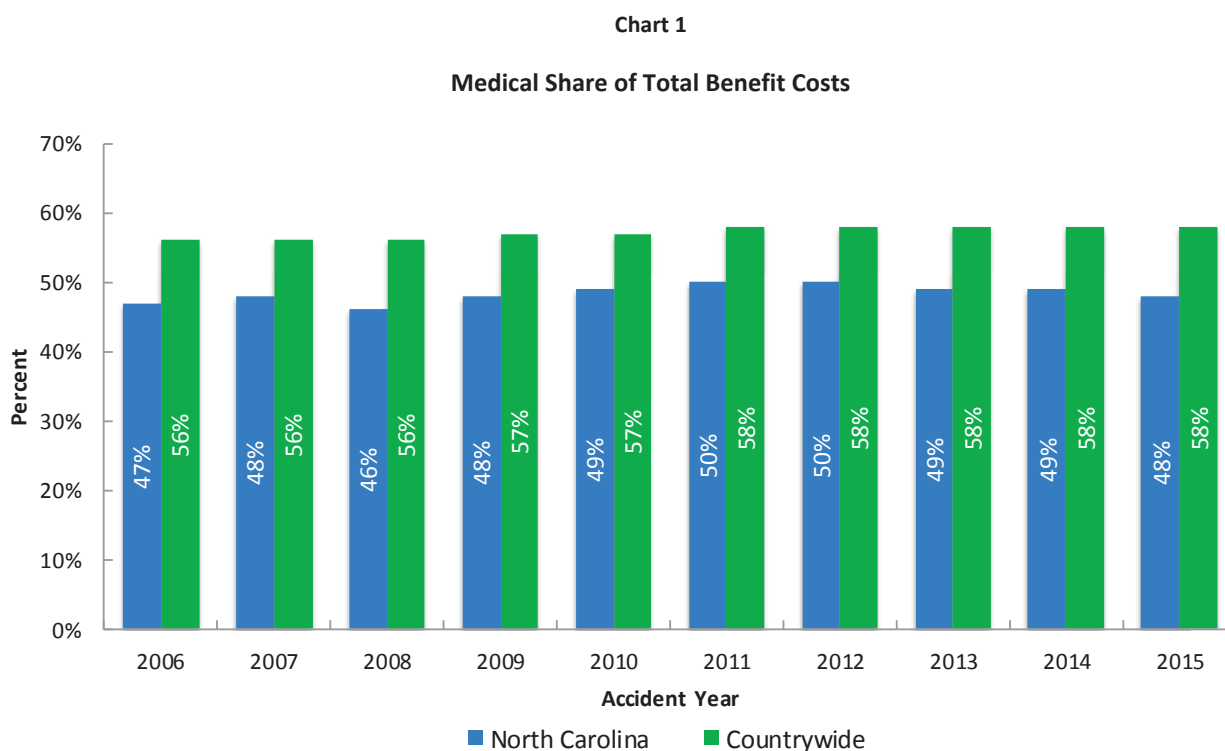
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Traditional workers compensation policies cover two types of benefit payments: medical benefits and indemnity (lost wages) benefits.

Of the two, medical benefits resulting from a work-related injury or disease are the leading cost drivers for workers compensation claims on a countrywide basis. Because this is a relative measure, and benefits for both indemnity and medical may vary from state to state, the local share of medical benefit costs may vary. In particular, the medical share in a state may be large because the indemnity benefits are relatively less prominent.

Chart 1 displays the medical percentage of total benefit costs for North Carolina and the countrywide average for the past 10 accident years.



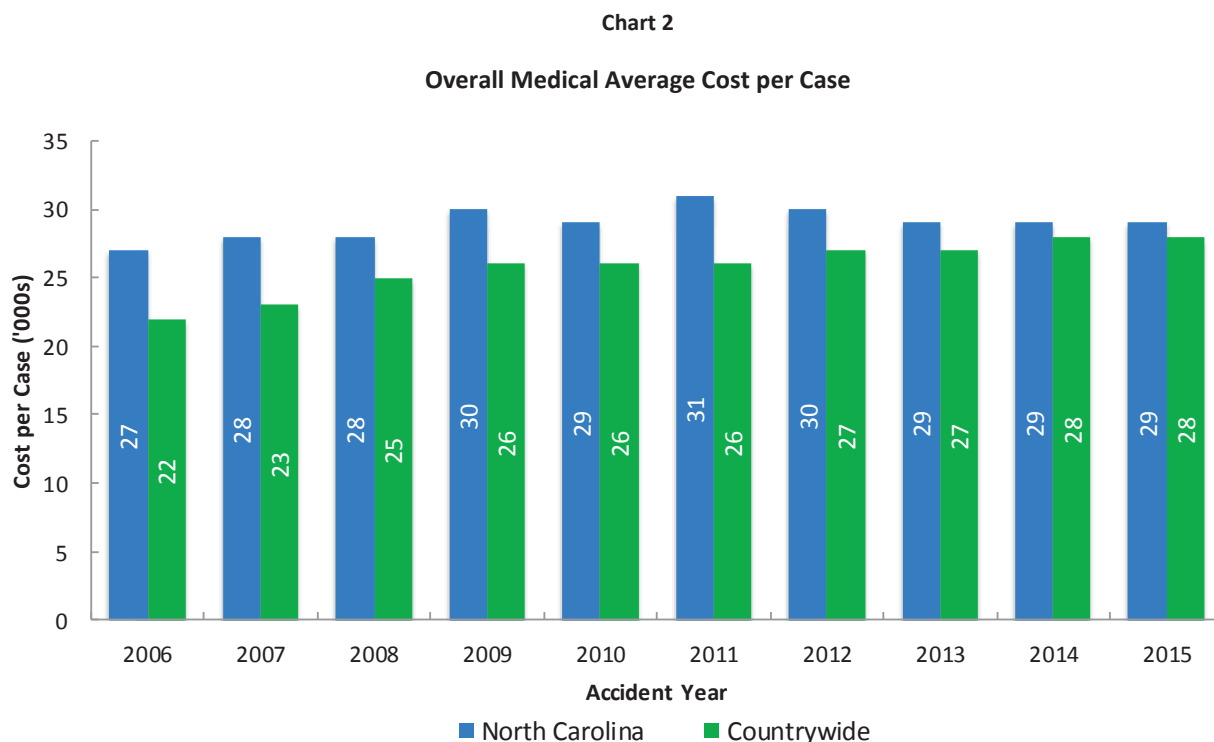
Source: NCCI Calendar-Accident Year Call for Compensation Experience. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VA, VT, and WV.



After a decade of medical cost inflation at an annual rate of 6%, the countrywide overall medical average cost per claim has seen more moderate increases, averaging 1% from 2009 to 2015; this is markedly less than the observed 3% annual growth for the United States Personal Healthcare Spending per Capita.¹ Chart 2 displays the historical overall medical average cost per case (per lost-time claim) for the most recent 10 accident years. Results are displayed for both North Carolina and the countrywide average.

Medical losses are at historical benefit levels and historical dollar values—meaning that no adjustment for inflation or changes in benefits has been made. Since the data is aggregated for all medical losses by accident year, the results shown in this chart provide a high-level perspective of the average medical cost per case.

This chart illustrates how North Carolina compares to the countrywide average for each individual accident year and allows for the comparison of the growth in average medical costs.



Source: NCCI Calendar-Accident Year Call for Compensation Experience. Losses and claim counts are developed to ultimate. Medical-only claim counts and losses are excluded. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VA, and VT.

¹ Medical Cost Trends Then and Now, www.ncci.com/Articles/Documents/II_AIS2017-Lipton.pdf.

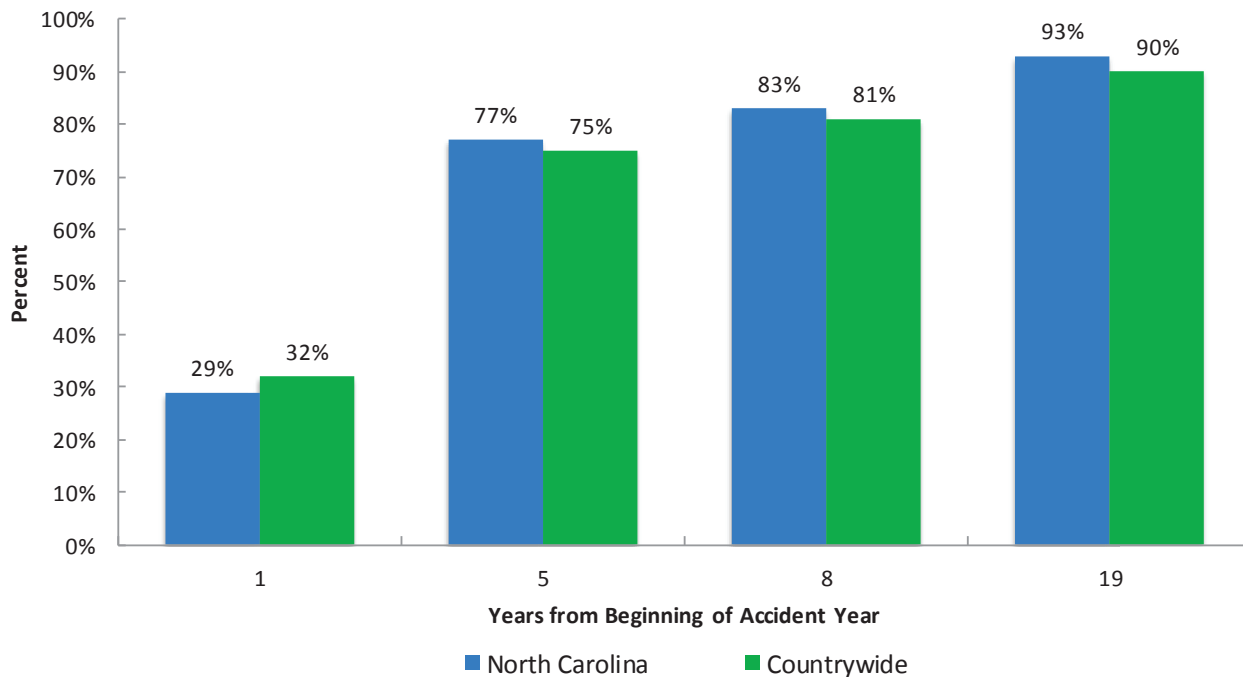
One factor that impacts medical costs is the time over which medical services are used. Payments on a workers compensation claim often continue for many years. Recent NCCI research has found that it is likely that more than 10% of the cost of medical benefits for workplace injuries that occur this year will be for services provided more than two decades into the future.

A key determinant driving payment patterns for medical services is the effectiveness of dispute resolution processes, settlement practices, and statutory provisions for medical benefits. An aging workforce and continued changes in rules for Medicare set-asides have created a shifting environment for the settlement of claims and, particularly, medical benefits.

Chart 3 shows the percentage of medical benefits paid (including medical settlements) at different claim maturities for North Carolina and the countrywide average.

Chart 3

Percentage of Medical Paid by Claim Maturity



Source: NCCI Calendar-Accident Year Call for Compensation Experience. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, and VT.

Knowing how payments for different medical services contribute to workers compensation medical benefit costs provides insight into the growth in medical benefits.

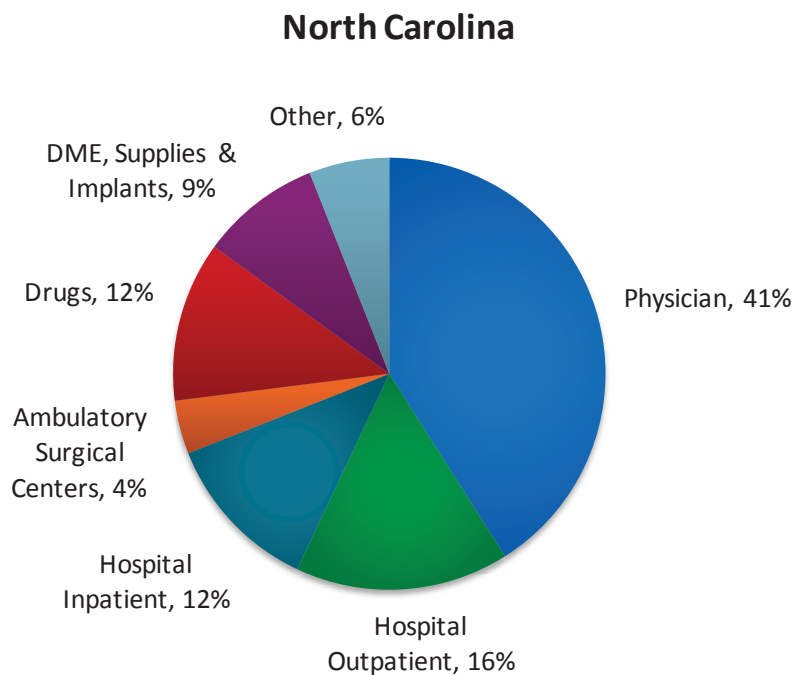
Chart 4 displays the distribution of medical payments by type of service.

Payments are categorized as Drugs; Durable Medical Equipment (DME), Supplies, and Implants; and Other (includes home health, transportation, vision, and dental services), based on the procedure code reported. Payments are mapped to these categories regardless of who provides the service or where the service is performed. For the remaining categories—Physicians, Hospital Outpatient, Hospital Inpatient, and Ambulatory Surgical Centers (ASC)—NCCI relies on a combination of:

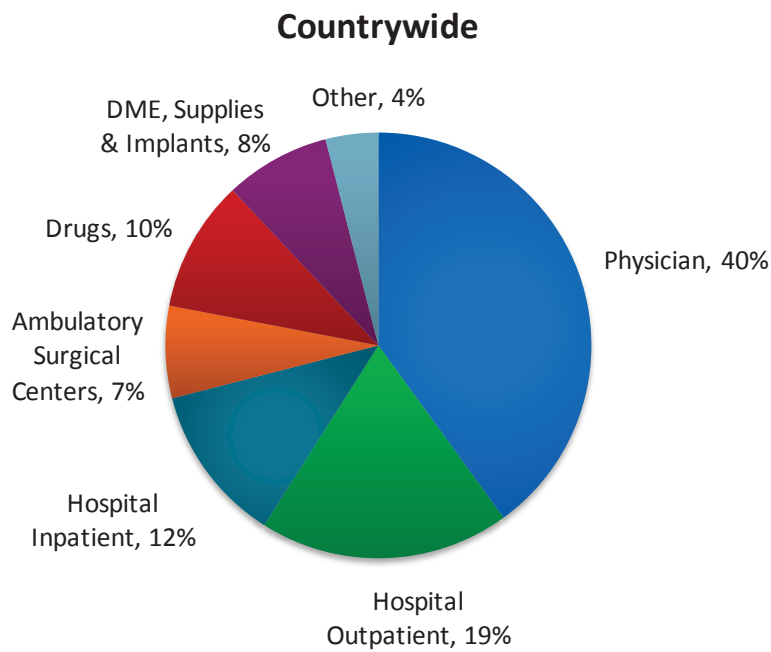
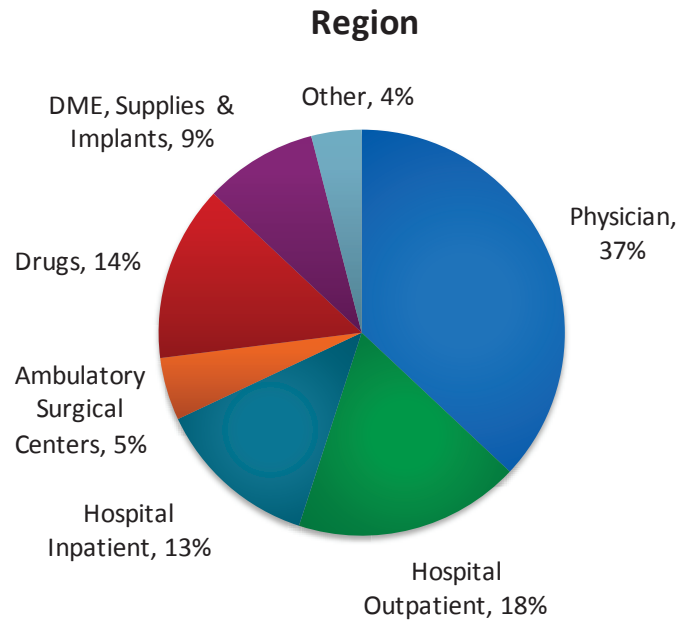
- Provider taxonomy code—identifies the type of provider that billed for and is being paid for a medical service; see Glossary
- Procedure code—alphanumeric code used to identify procedures performed by medical professionals
- Place of services—alphanumeric code used to identify places where procedures were performed (e.g., physician’s office, ambulatory surgical center)

Chart 4

Distribution of Medical Payments



Distribution of Medical Payments (cont'd)



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



Results from NCCI’s study, [“The Price Impact of Physician Fee Schedules”](#) (April 2014), show that the median workers compensation price for a physician service is always at, or very near, the maximum allowable reimbursement (MAR) amount set by the fee schedule. In the 1970s, fewer than a dozen states had physician fee schedules in place. In the 1990s, several states established such schedules. Today, few states remain *without* a physician fee schedule. Recent changes in the schedules indicate greater attention to provisions that often seek to balance cost containment with service provider availability.

One measure of workers compensation medical costs is a comparison of current payments to the Medicare rates.

The table below shows the average percentage of Medicare schedule reimbursement amounts for physician payments, by category, for North Carolina, the region, and countrywide.

Payments Percentage of Medicare	NC	Region	Countrywide
Surgery	158%	211%	228%
Radiology	187%	218%	243%
Medicine	120%	126%	129%
Evaluation and Management	130%	142%	139%
All Physician Services	136%	154%	160%

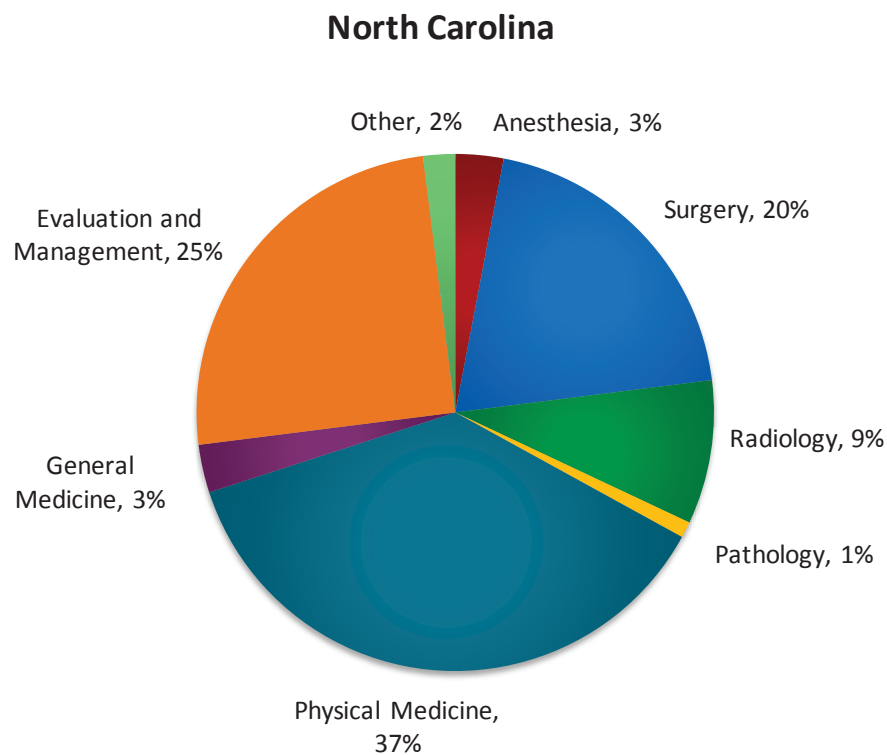
Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Chart 5 shows the distribution of physician payments by service category. Service categories are defined by the American Medical Association (AMA). Services involving office visits and consultations are included in the Evaluation and Management category. The Other category includes any codes not included in the AMA service categories, such as state-defined codes.

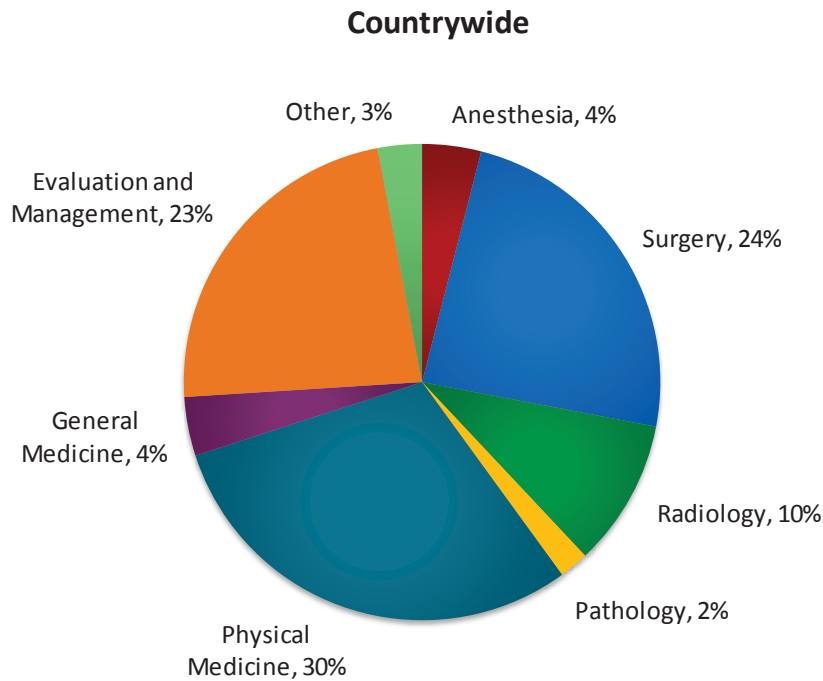
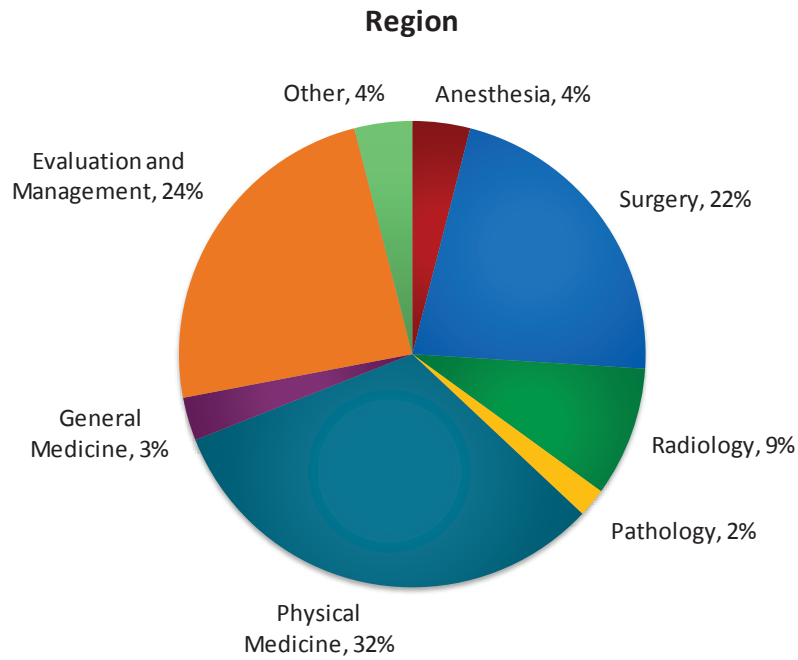
Since many states' medical fee schedule payment levels vary by service categories, an analysis of physician payments provides insights into the effectiveness of the fee schedule. For example, if the share of payments is high for a particular category compared to other states, a driver of the higher share could be higher maximum payment levels for that service category provided in the fee schedule.

Chart 5

Distribution of Physician Payments by AMA Service Category



Distribution of Physician Payments by AMA Service Category (cont'd)



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



Physicians typically use current procedure terminology (CPT) codes to identify the services that they provide to claimants. These codes are specific and provide detailed information on what service was performed. Charts 6 through 14 display the top 10 procedure codes reported by physicians for the following service categories: surgery, radiology, physical and general medicine, and evaluation and management. A brief description of each procedure code, including the percentage of payments that the procedure code represents in North Carolina, is displayed in the corresponding table below each chart.

The charts also include the average amount paid per transaction for these codes in North Carolina, in the region, and across the country. The average amount paid per transaction is calculated by taking the total payments for the procedure code and dividing by the number of transactions for the procedure code. Other fields, such as the secondary paid procedure code, modifier, diagnosis code, place of service, quantity/units, and others may need to be considered when evaluating average payments per service.

The Top 10 charts rank the procedure codes for each service category using two different methods. The first method ranks procedure codes by total payments. Procedure codes are sorted from highest total payments to lowest total payments. The procedure code with the highest amount paid is ranked first, the procedure code with the second highest amount paid is ranked second, and so on. This method of ranking shows those procedures that represent the highest percentage share of payments.

The second method ranks procedure codes by total count of transactions. The procedure code with the highest total transaction count is ranked first, the procedure code with the second highest total transaction count is ranked second, and so on. This method reveals the most frequently used procedures.

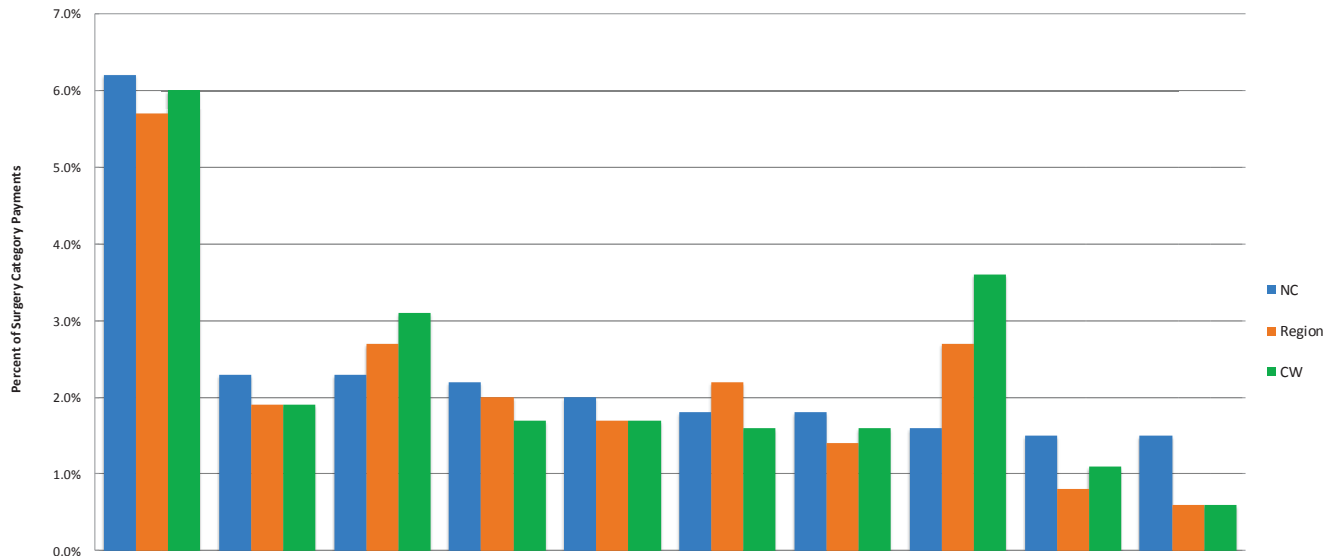
Results from NCCI's study, [“The Price Impact of Physician Fee Schedules”](#) (April 2014), show that the influence of fee schedules is quite different between the high-volume Evaluation and Management (E&M) service category and the small-volume Surgery category. For Surgery, many workers compensation payments are well below the MAR but are considerably above group health payments. In contrast, for E&M, workers compensation payments are closer to the MAR than those for Surgery and are more in line with those for group health.



In North Carolina, physician payments for surgery services provided in 2016 are, on average, 158% of Medicare scheduled reimbursement amounts.

Chart 6

Top 10 Surgery Procedure Codes by Amount Paid for North Carolina



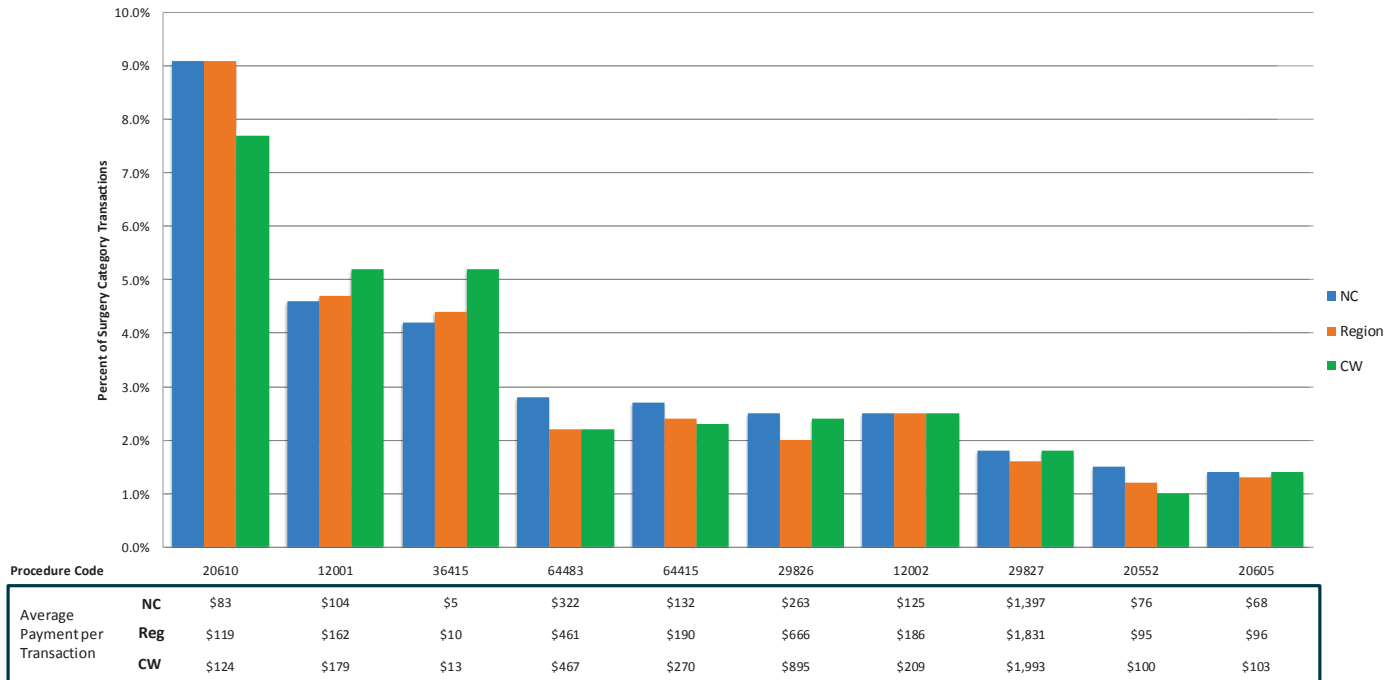
Procedure Code		29827	22551	29881	64483	29824	20610	63030	29826	23430	25609
Average Payment per Transaction	NC	\$1,397	\$2,237	\$856	\$322	\$601	\$83	\$1,411	\$263	\$797	\$1,974
	Reg	\$1,831	\$2,552	\$1,154	\$461	\$775	\$119	\$1,768	\$666	\$1,058	\$1,754
	CW	\$1,993	\$3,295	\$1,432	\$467	\$861	\$124	\$2,098	\$895	\$1,128	\$1,922

Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
29827	6.2%	Arthroscopy shoulder surgical; with rotator cuff repair
22551	2.3%	Arthrodesis, anterior interbody, including disc space preparation, discectomy, osteophylectomy, and decompression of spinal cord and/or nerve roots; cervical below C2
29881	2.3%	Arthroscopy knee surgical; with meniscectomy (medial or lateral including any meniscal shaving) including debridement/shaving of articular cartilage
64483	2.2%	Injection(s), anesthetic agent, and/or steroid, transforaminal epidural, with imaging guidance (fluoroscopy or computed tomography (CT)); lumbar or sacral, single level
29824	2.0%	Arthroscopy shoulder surgical; distal claviclectomy including distal articular surface (Mumford procedure)
20610	1.8%	Arthrocentesis, aspiration, and/or injection; major joint or bursa (e.g., shoulder, hip, knee, joint, subacromial bursa)
63030	1.8%	Laminotomy (hemilaminectomy) with decompression of nerve root(s) including partial facetectomy, foraminotomy, and/or excision of herniated intervertebral disc; 1 interspace lumbar
29826	1.6%	Arthroscopy shoulder surgical; decompression of subacromial space with partial acromioplasty with coracoacromial ligament (i.e., arch) release when performed
23430	1.5%	Tenodesis of long tendon of biceps
25609	1.5%	Open treatment of distal radial intra-articular fracture or epiphyseal separation; with internal fixation of 3 or more fragments

Chart 7

Top 10 Surgery Procedure Codes by Transaction Counts for North Carolina



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

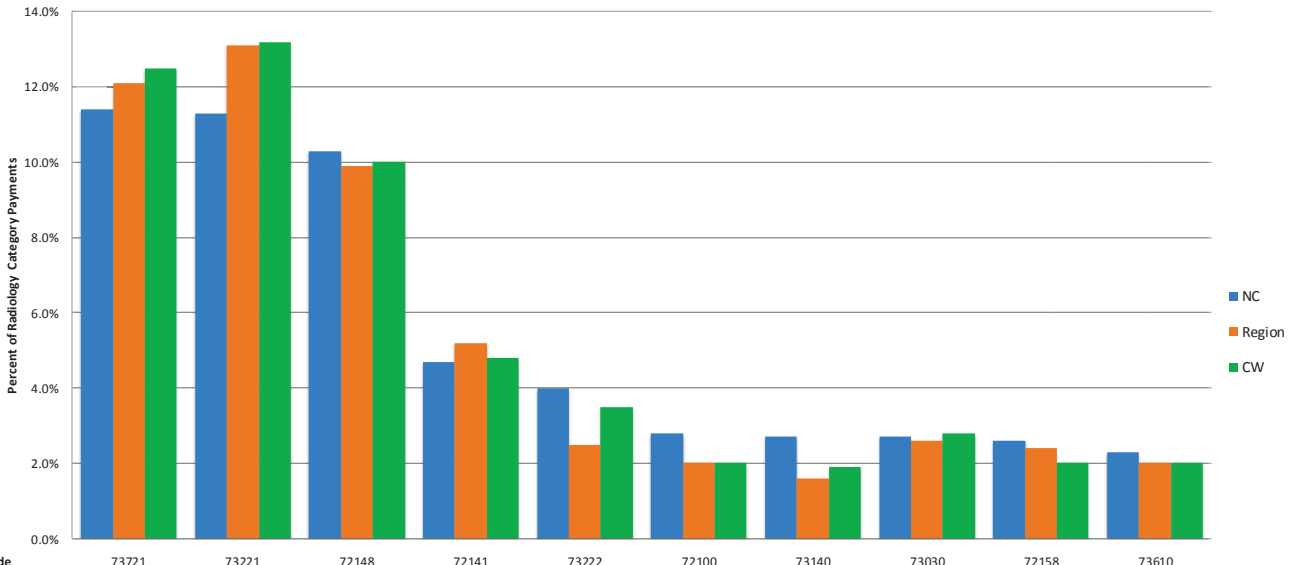
Code	% in NC	Description
20610	9.1%	Arthrocentesis, aspiration, and/or injection; major joint or bursa (e.g., shoulder, hip, knee, joint, subacromial bursa)
12001	4.6%	Simple repair of superficial wounds of scalp, neck, axillae, external genitalia, trunk, and/or extremities (including hands and feet); 2.5 cm or less
36415	4.2%	Collection of venous blood by venipuncture
64483	2.8%	Injection(s), anesthetic agent, and/or steroid, transforaminal epidural, with imaging guidance (fluoroscopy or computed tomography (CT)); lumbar or sacral, single level
64415	2.7%	Injection, anesthetic agent; brachial plexus, single
29826	2.5%	Arthroscopy shoulder surgical; decompression of subacromial space with partial acromioplasty with coracoacromial ligament (i.e., arch) release when performed
12002	2.5%	Simple repair of superficial wounds of scalp, neck, axillae, external genitalia, trunk, and/or extremities (including hands and feet); 2.6 cm to 7.5 cm
29827	1.8%	Arthroscopy shoulder surgical; with rotator cuff repair
20552	1.5%	Injection(s); single or multiple trigger point(s), 1 or 2 muscle(s)
20605	1.4%	Arthrocentesis, aspiration, and/or injection; intermediate joint or bursa (e.g., temporomandibular, acromioclavicular, wrist, elbow or ankle, olecranon bursa)



In North Carolina, physician payments for radiology services provided in 2016 are, on average, 187% of Medicare scheduled reimbursement amounts.

Chart 8

Top 10 Radiology Procedure Codes by Amount Paid for North Carolina



Procedure Code	NC	Reg	CW
73721	\$399	\$469	\$514
73221	\$401	\$451	\$514
72148	\$379	\$442	\$495
72141	\$371	\$459	\$500
73222	\$615	\$538	\$651
72100	\$52	\$50	\$62
73140	\$43	\$40	\$50
73030	\$42	\$42	\$56
72158	\$620	\$641	\$736
73610	\$44	\$43	\$53

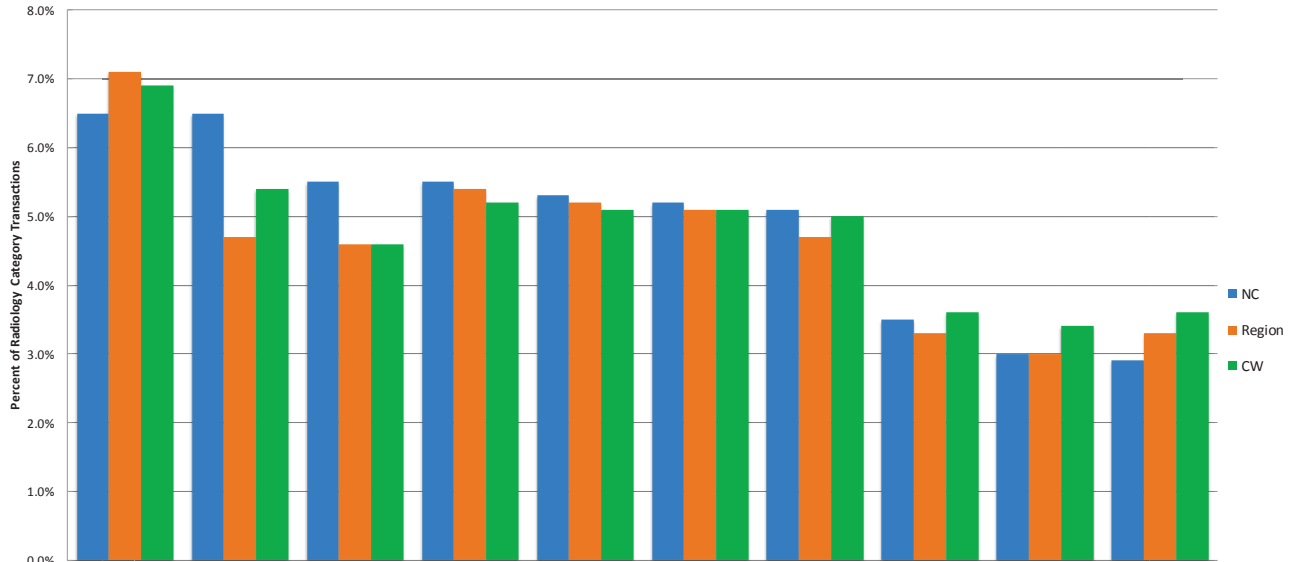
Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
73721	11.4%	Magnetic resonance (e.g., proton) imaging any joint of lower extremity; without contrast material
73221	11.3%	Magnetic resonance (e.g., proton) imaging any joint of upper extremity; without contrast material
72148	10.3%	Magnetic resonance (e.g., proton) imaging spinal canal and contents lumbar; without contrast material
72141	4.7%	Magnetic resonance (e.g., proton) imaging spinal canal and contents cervical; without contrast material
73222	4.0%	Magnetic resonance (e.g., proton) imaging any joint of upper extremity; with contrast material
72100	2.8%	Radiologic examination spine lumbosacral; 2 or 3 views
73140	2.7%	Radiologic examination finger(s); minimum of 2 views
73030	2.7%	Radiologic examination shoulder; complete minimum of 2 views
72158	2.6%	Magnetic resonance (e.g., proton) imaging spinal canal and contents without contrast material followed by contrast material(s) and further sequences; lumbar
73610	2.3%	Radiologic examination ankle; complete minimum of 3 views



Chart 9

Top 10 Radiology Procedure Codes by Transaction Counts for North Carolina



Procedure Code	NC	Reg	CW
73030	\$42	\$42	\$56
73140	\$43	\$40	\$50
72100	\$52	\$50	\$62
73610	\$44	\$43	\$53
73630	\$42	\$41	\$51
73130	\$40	\$39	\$51
73110	\$47	\$45	\$59
73562	\$50	\$47	\$60
73721	\$399	\$469	\$514
73221	\$401	\$451	\$514

Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

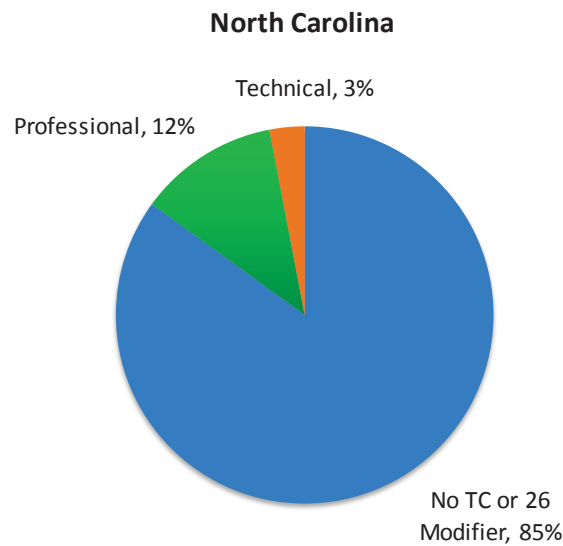
Code	% in NC	Description
73030	6.5%	Radiologic examination shoulder; complete minimum of 2 views
73140	6.5%	Radiologic examination finger(s) minimum of 2 views
72100	5.5%	Radiologic examination spine lumbosacral; 2 or 3 views
73610	5.5%	Radiologic examination ankle; complete minimum of 3 views
73630	5.3%	Radiologic examination foot; complete minimum of 3 views
73130	5.2%	Radiologic examination hand; minimum of 3 views
73110	5.1%	Radiologic examination wrist; complete minimum of 3 views
73562	3.5%	Radiologic examination knee; 3 views
73721	3.0%	Magnetic resonance (e.g., proton) imaging any joint of lower extremity; without contrast material
73221	2.9%	Magnetic resonance (e.g., proton) imaging any joint of upper extremity; without contrast material

Radiology procedures consist of two components. There is a technical component, which is the performance of the examination, and a professional component for the interpretation of the results. Radiology services may be billed for the entire procedure, or they may be billed separately for each component. If billed by component, a modifier should be reported along with the CPT code. These modifiers may be “26” for the professional component or “TC” for the technical component.

Chart 10 shows the distribution of radiology payments by component for the latest service year and the breakdown for the identified top 10 radiology procedures, by paid amount, in the state.

Chart 10

Distribution of Radiology Payments by Modifier Code for North Carolina



Source: NCCI Medical Data Call, Service Year 2016.

Average Paid Amount per Transaction by Modifier Code for North Carolina

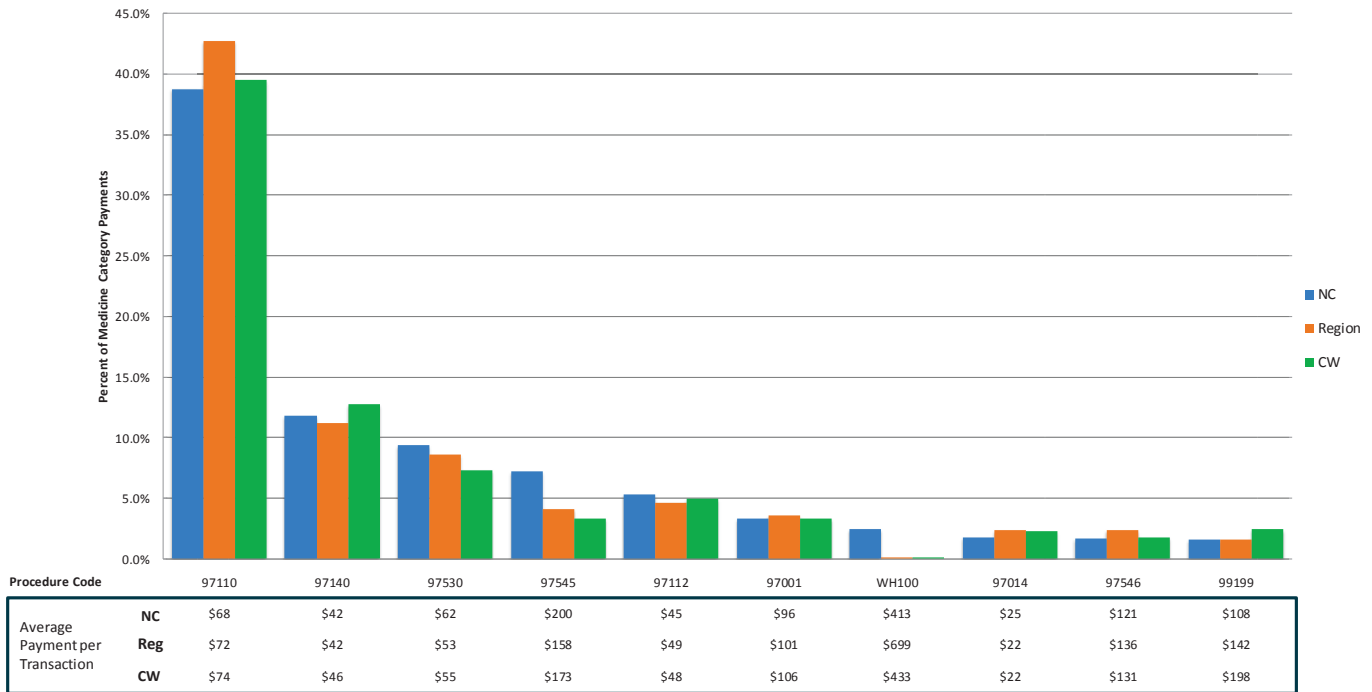
Code	No TC or 26 Modifier	Professional	Technical
73721	\$434	\$117	\$315
73221	\$431	\$117	\$298
72148	\$420	\$129	\$272
72141	\$419	\$125	\$263
73222	\$673	\$138	\$535
72100	\$60	\$20	\$45
73140	\$50	\$12	\$34
73030	\$49	\$17	\$30
72158	\$714	\$198	\$501
73610	\$52	\$16	\$34



In North Carolina, physician payments for physical and general medicine services provided in 2016 are, on average, 120% of Medicare scheduled reimbursement amounts.

Chart 11

Top 10 Physical and General Medicine Procedure Codes by Amount Paid for North Carolina



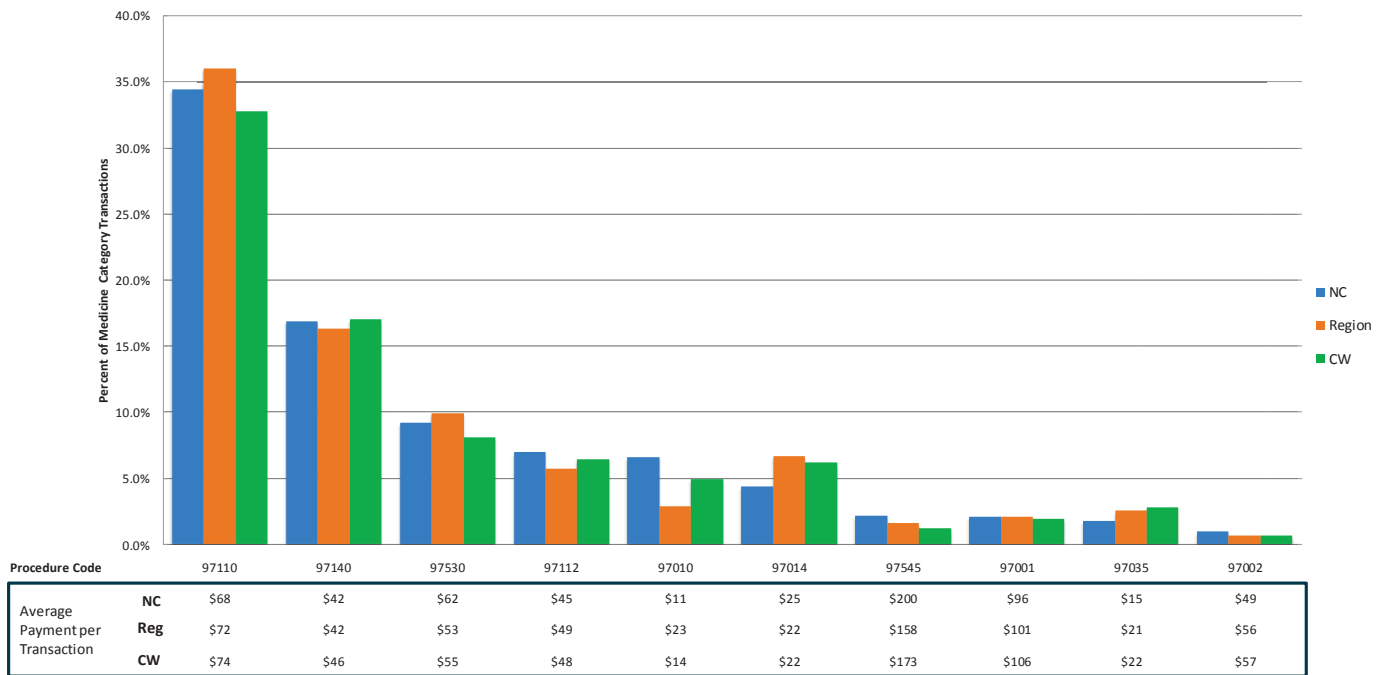
Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
97110	38.7%	Therapeutic procedure, 1 or more areas, each 15 minutes; therapeutic exercises to develop strength and endurance range of motion and flexibility
97140	11.8%	Manual therapy techniques (e.g., mobilization/manipulation, manual lymphatic drainage, manual traction) 1 or more regions, each 15 minutes
97530	9.4%	Therapeutic activities, direct (one-on-one) patient contact by the provider (use of dynamic activities to improve functional performance), each 15 minutes
97545	7.2%	Work hardening/conditioning; initial 2 hours
97112	5.3%	Therapeutic procedure, 1 or more areas, each 15 minutes; neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and/or proprioception for sitting and/or standing activities
97001	3.3%	Physical therapy evaluation
WH100	2.5%	Work hardening
97014	1.8%	Application of a modality to 1 or more areas; electrical stimulation (unattended)
97546	1.7%	Work hardening/conditioning; each additional hour
99199	1.6%	Unlisted special service procedure or report



Chart 12

Top 10 Physical and General Medicine Procedure Codes by Transaction Counts for North Carolina



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

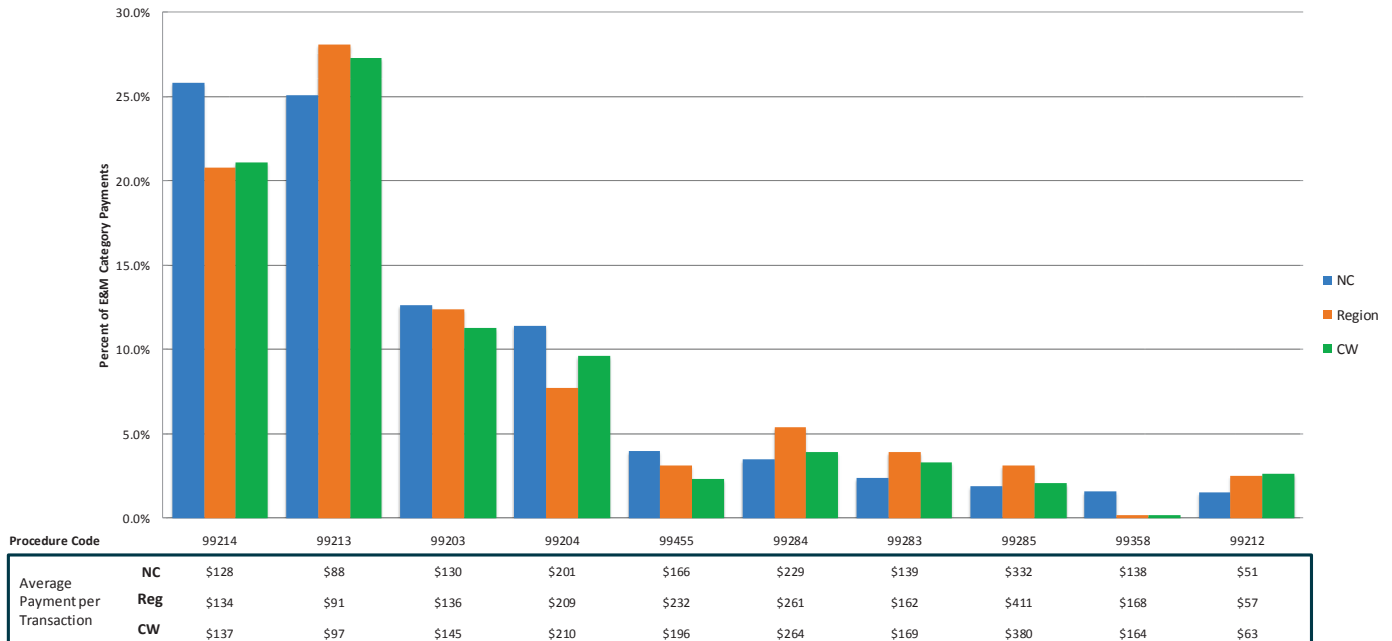
Code	% in NC	Description
97110	34.4%	Therapeutic procedure, 1 or more areas, each 15 minutes; therapeutic exercises to develop strength and endurance range of motion and flexibility
97140	16.9%	Manual therapy techniques (e.g., mobilization/manipulation, manual lymphatic drainage, manual traction) 1 or more regions, each 15 minutes
97530	9.2%	Therapeutic activities, direct (one-on-one) patient contact by the provider (use of dynamic activities to improve functional performance), each 15 minutes
97112	7.0%	Therapeutic procedure, 1 or more areas, each 15 minutes; neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and/or proprioception for sitting and/or standing activities
97010	6.6%	Application of a modality to 1 or more areas; hot or cold packs
97014	4.4%	Application of a modality to 1 or more areas; electrical stimulation (unattended)
97545	2.2%	Work hardening/conditioning; initial 2 hours
97001	2.1%	Physical therapy evaluation
97035	1.8%	Application of a modality to 1 or more areas; ultrasound each 15 minutes
97002	1.0%	Physical therapy re-evaluation



In North Carolina, physician payments for evaluation and management services provided in 2016 are, on average, 130% of Medicare scheduled reimbursement amounts.

Chart 13

Top 10 Evaluation and Management Procedure Codes by Amount Paid for North Carolina

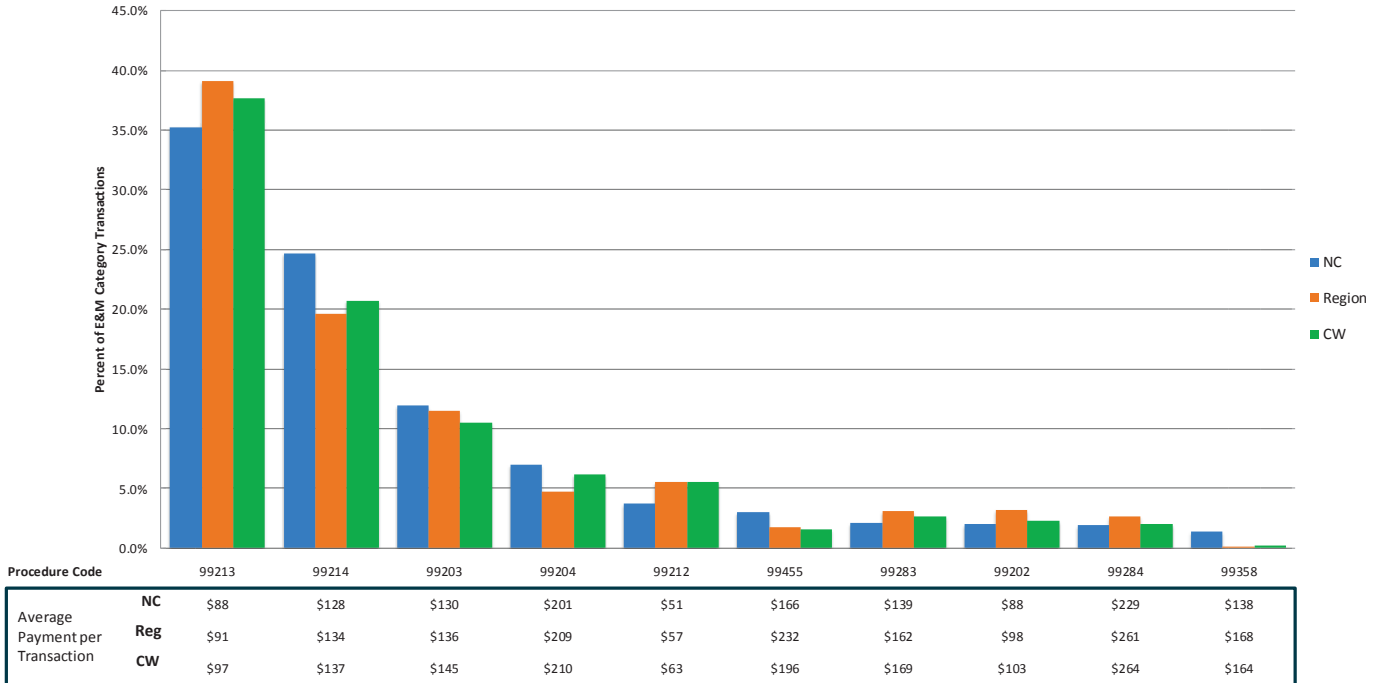


Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
99214	25.8%	Office or other outpatient visit for the evaluation and management of an established patient. Usually the presenting problem(s) are of moderate to high severity. Physicians typically spend 25 minutes face-to-face with the patient and/or family.
99213	25.1%	Office or other outpatient visit for the evaluation and management of an established patient. Usually the presenting problem(s) are of low to moderate severity. Physicians typically spend 15 minutes face-to-face with the patient and/or family.
99203	12.6%	Office or other outpatient visit for the evaluation and management of a new patient. Usually the presenting problem(s) are of moderate severity. Physicians typically spend 30 minutes face-to-face with the patient and/or family.
99204	11.4%	Office or other outpatient visit for the evaluation and management of a new patient. Usually the presenting problem(s) are of moderate to high severity. Physicians typically spend 45 minutes face-to-face with the patient and/or family.
99455	4.0%	Work related or medical disability examination by the treating physician.
99284	3.5%	Emergency department visit. Usually the presenting problem(s) are of high severity and require urgent evaluation by the physician but do not pose an immediate significant threat to life or physiologic function.
99283	2.4%	Emergency department visit. Usually the presenting problem(s) are of moderate severity.
99285	1.9%	Emergency department visit. Usually the presenting problem(s) are of high severity and pose an immediate significant threat to life or physiologic function.
99358	1.6%	Prolonged evaluation and management service before and/or after direct patient care; first hour
99212	1.5%	Office or other outpatient visit for the evaluation and management of an established patient. Usually the presenting problem(s) are self limited or minor. Physicians typically spend 10 minutes face-to-face with the patient and/or family.

Chart 14

Top 10 Evaluation and Management Procedure Codes by Transaction Counts for North Carolina



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
99213	35.2%	Office or other outpatient visit for the evaluation and management of an established patient. Usually the presenting problem(s) are of low to moderate severity. Physicians typically spend 15 minutes face-to-face with the patient and/or family.
99214	24.7%	Office or other outpatient visit for the evaluation and management of an established patient. Usually the presenting problem(s) are of moderate to high severity. Physicians typically spend 25 minutes face-to-face with the patient and/or family.
99203	11.9%	Office or other outpatient visit for the evaluation and management of a new patient. Usually the presenting problem(s) are of moderate severity. Physicians typically spend 30 minutes face-to-face with the patient and/or family.
99204	7.0%	Office or other outpatient visit for the evaluation and management of a new patient. Usually the presenting problem(s) are of moderate to high severity. Physicians typically spend 45 minutes face-to-face with the patient and/or family.
99212	3.7%	Office or other outpatient visit for the evaluation and management of an established patient. Usually the presenting problem(s) are self limited or minor. Physicians typically spend 10 minutes face-to-face with the patient and/or family.
99455	3.0%	Work related or medical disability examination by the treating physician.
99283	2.1%	Emergency department visit. Usually the presenting problem(s) are of moderate severity.
99202	2.0%	Office or other outpatient visit for the evaluation and management of a new patient. Usually the presenting problem(s) are of low to moderate severity. Physicians typically spend 20 minutes face-to-face with the patient and/or family.
99284	1.9%	Emergency department visit. Usually the presenting problem(s) are of high severity and require urgent evaluation by the physician but do not pose an immediate significant threat to life or physiologic function.
99358	1.4%	Prolonged evaluation and management service before and/or after direct patient care; first hour

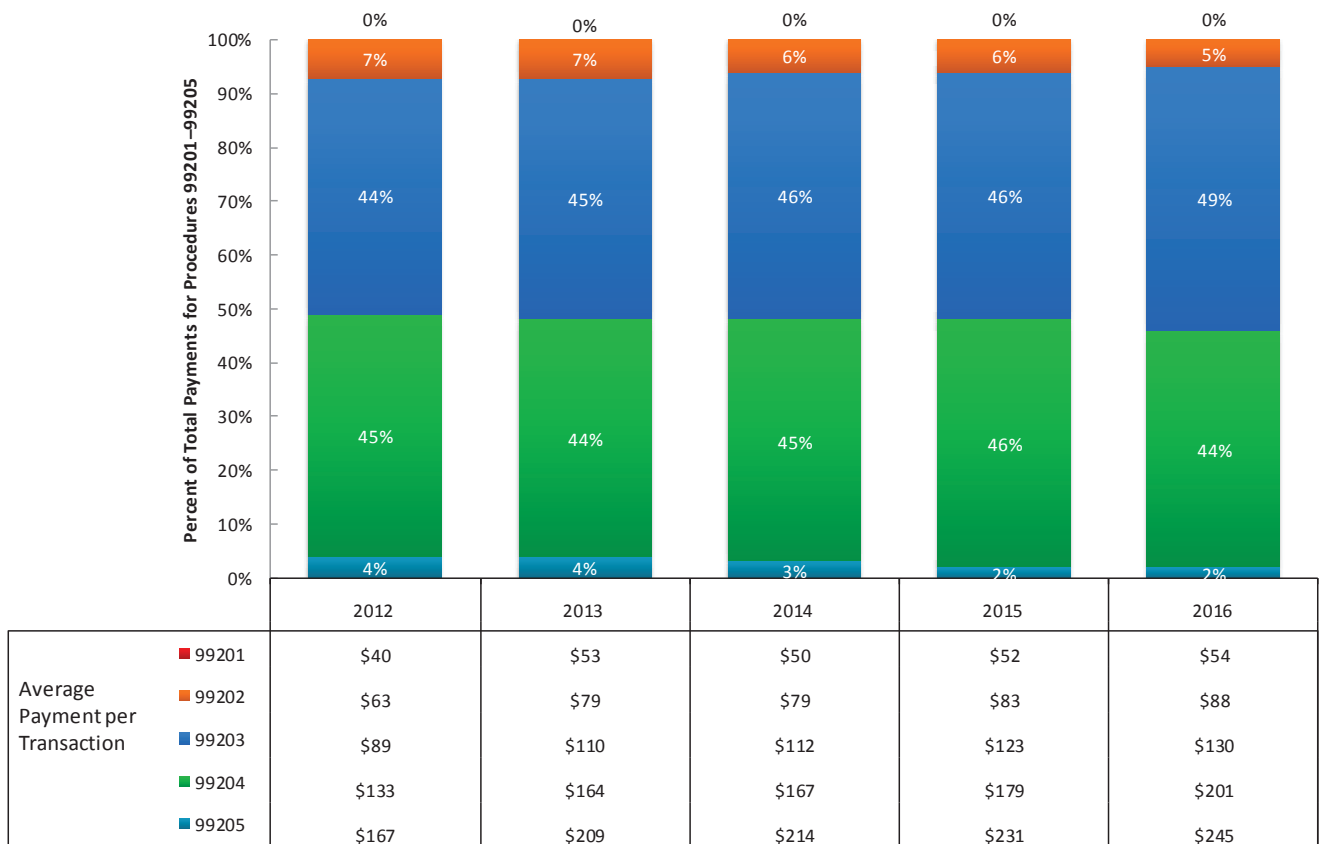


Evaluation and Management services consist largely of office or outpatient visits for new patients or an established patient.

There are five periods of time spent with a *new* patient, ranging from 10 minutes for Procedure Code 99201 to 60 minutes for Procedure Code 99205. Chart 15 shows a five-year snapshot of experience for each procedure type and the average payment per transaction.

Chart 15

Office or Other Outpatient Visit for the Evaluation and Management of a New Patient for North Carolina



Source: NCCI Medical Data Call, Service Year 2016.

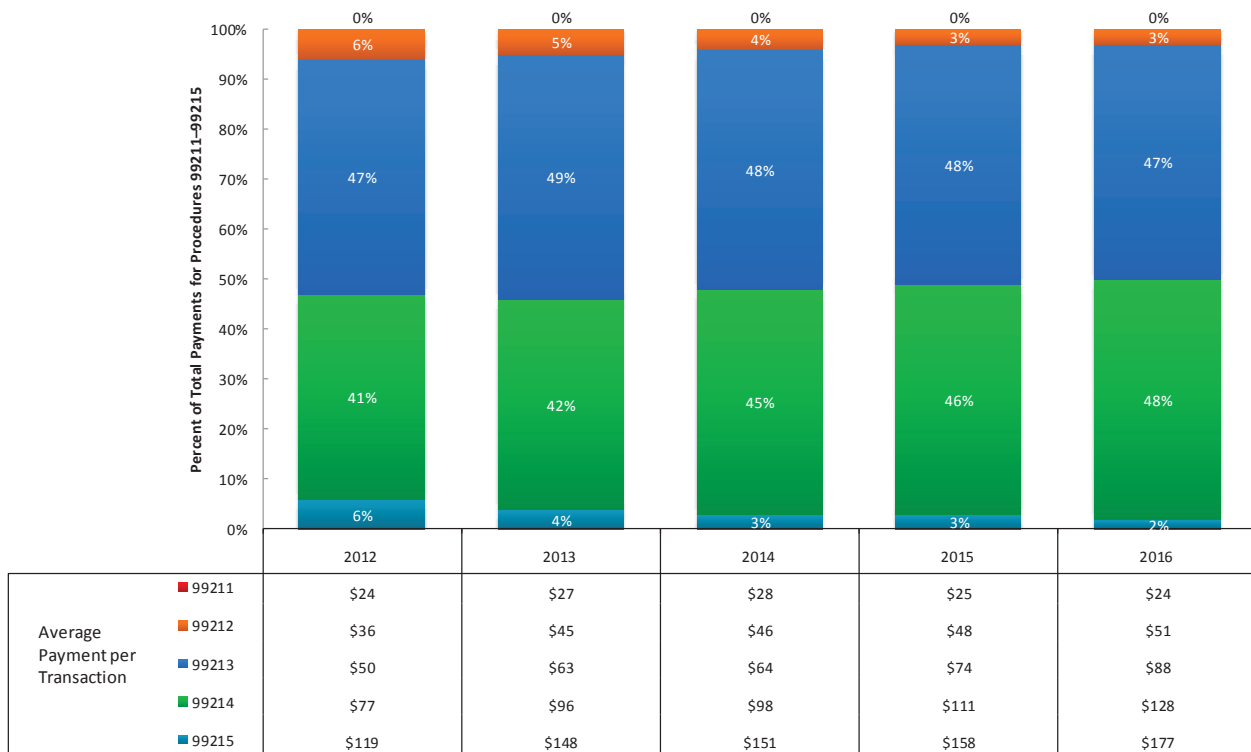
Code	Description
99201	Office or other outpatient visit for the evaluation and management of a new patient, for problems of low to moderate severity. Physicians typically spend 10 minutes face-to-face with the patient and/or family.
99202	Office or other outpatient visit for the evaluation and management of a new patient, for problems of low to moderate severity. Physicians typically spend 20 minutes face-to-face with the patient and/or family.
99203	Office or other outpatient visit for the evaluation and management of a new patient, for problems of moderate severity. Physicians typically spend 30 minutes face-to-face with the patient and/or family.
99204	Office or other outpatient visit for the evaluation and management of a new patient, for problems of moderate to high severity. Physicians typically spend 45 minutes face-to-face with the patient and/or family.
99205	Office or other outpatient visit for the evaluation and management of a new patient, for problems of moderate to high severity. Physicians typically spend 60 minutes face-to-face with the patient and/or family.



Similarly, for *established* patients, there are five periods of time spent with the patient, ranging from five minutes for Procedure Code 99211 to 40 minutes for Procedure Code 99215. Chart 16 shows a five-year snapshot of experience for each procedure type and the average payment per transaction.

Chart 16

Office or Other Outpatient Visit for the Evaluation and Management of an Established Patient for North Carolina



Source: NCCI Medical Data Call, Service Year 2016.

Code	Description
99211	Office or other outpatient visit for the evaluation and management of an established patient for problem(s) that are minimal. Typically 5 minutes are spent performing or supervising these services.
99212	Office or other outpatient visit for the evaluation and management of an established patient for problem(s) that are self limited or minor. Physicians typically spend 10 minutes face-to-face with the patient and/or family.
99213	Office or other outpatient visit for the evaluation and management of an established patient for problem(s) that are of low to moderate severity. Physicians typically spend 15 minutes face-to-face with the patient and/or family.
99214	Office or other outpatient visit for the evaluation and management of an established patient for problem(s) that are of moderate to high severity. Physicians typically spend 25 minutes face-to-face with the patient and/or family.
99215	Office or other outpatient visit for the evaluation and management of an established patient for problem(s) that are of moderate to high severity. Physicians typically spend 40 minutes face-to-face with the patient and/or family.



Payments attributed to facilities represent inpatient hospital services, outpatient hospital services, and ambulatory surgical center services. Payments are mapped to these categories based on a combination of data elements reported for each transaction, including:

- Taxonomy code
- Procedure code
- Place of service

General healthcare trends may be the primary driver of the cost distribution; however, the fee schedule may also play a role. In many states, the fee schedule varies by type of facility, which may help explain differences observed between states.

Hospital inpatient fee schedules in workers compensation were mostly established in the last decade. Several states remain without such regulation today. Unlike physician fee schedules, hospital inpatient fee schedules vary a great deal. Some are based on Medicare, others reflect a discount off the charge master established by the hospitals, and yet others are based on per diem rates.

A hospital inpatient stay is typically reported with one of two types of codes: a diagnosis related group (DRG) code or revenue code. Data reporters are instructed to report the code that is consistent with how the reimbursement was determined.

If the hospital inpatient fee schedule is a Medicare-based fee schedule, then a greater share of payments reported by DRG codes would be expected. DRG codes are a system of hospital payment classifications that group patients with similar clinical problems who are expected to require similar amounts of hospital resources. DRG codes provide detailed information about the type of services performed during the inpatient stay. In North Carolina, 54% of hospital inpatient payments are reported with a DRG code.

Due to differences in fee schedules, which may result in varied reporting of codes across jurisdictions, regional and countrywide, comparisons by procedure code for inpatient costs should be interpreted with caution. Some measures for hospital inpatient services include the average cost of an inpatient stay, the average length of stay, or the average cost per day.

A measure of workers compensation hospital inpatient costs is a comparison of current payments to the Medicare rates. The table below shows the average percentage of Medicare schedule reimbursement amounts for hospital inpatient payments for North Carolina, the region, and countrywide.

Medical Cost Category	NC	Region	Countrywide
Hospital Inpatient	178%	207%	201%

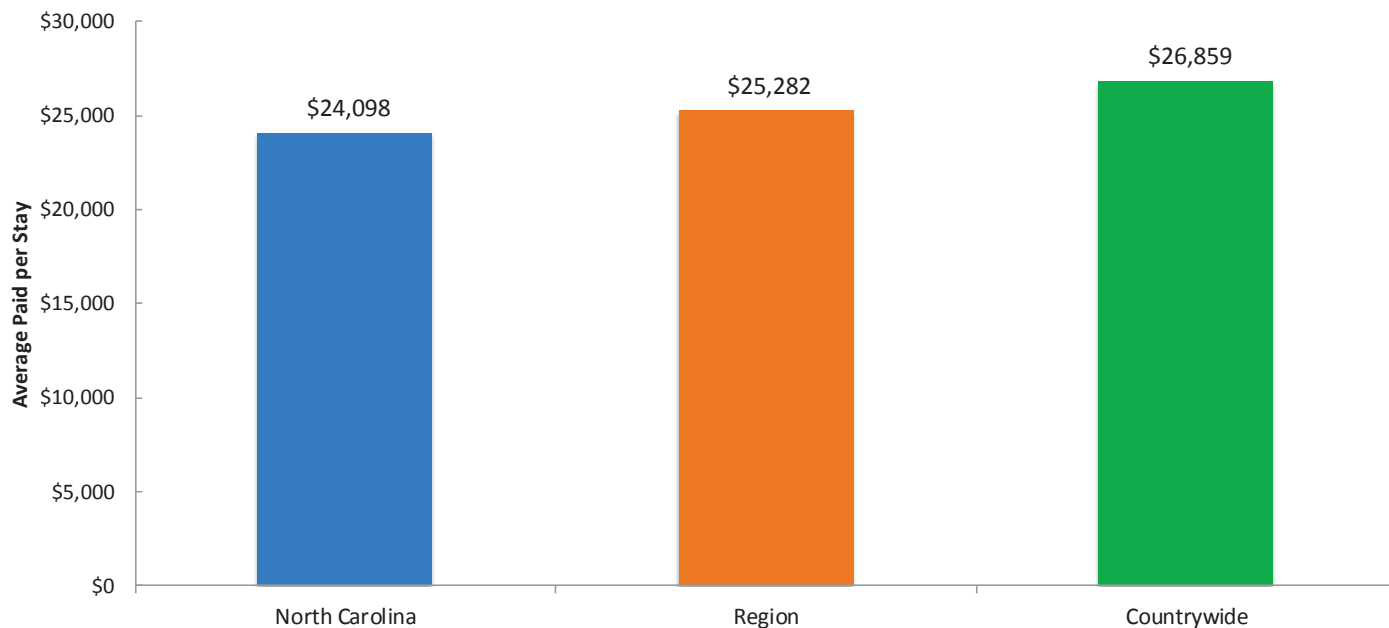


One comparative measure of inpatient service costs is the average payment per inpatient stay. An inpatient stay is defined as any hospital service or set of services provided to a claimant during the period of time when the claimant is in an inpatient setting, for a specific diagnosis. Any stay may have more than one procedure performed, and any claimant may have more than one stay.

Chart 17 displays the average paid amount per stay for hospital inpatient services for North Carolina, the region, and countrywide. Note that there are no controls for mix of diagnosis or severity of claims between jurisdictions.

Chart 17

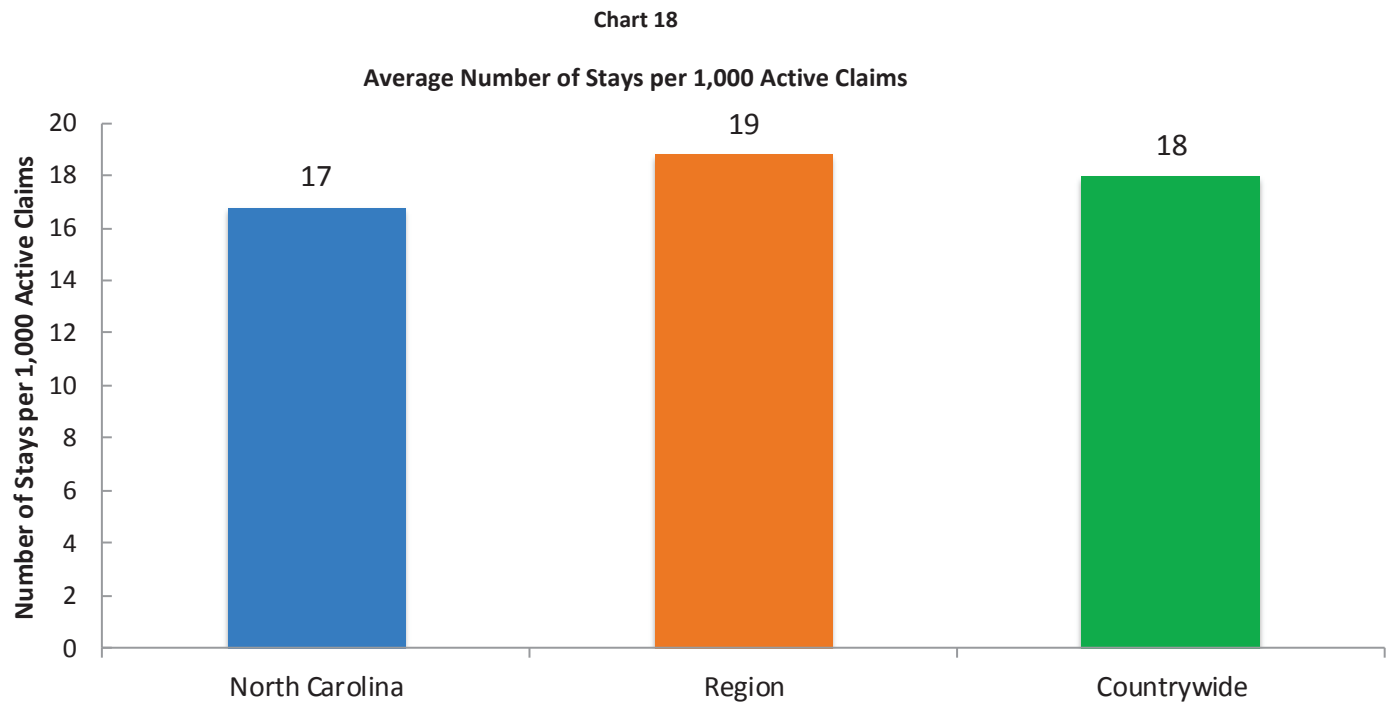
Average Paid Amount per Stay for Hospital Inpatient Services



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



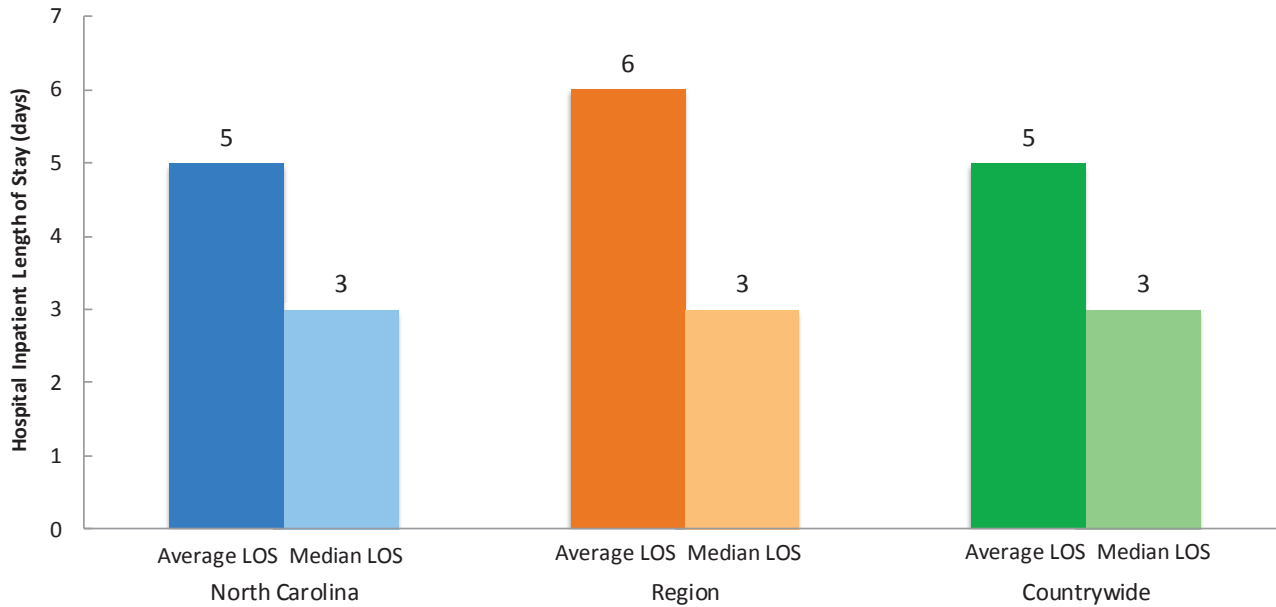
Chart 18 displays the average number of stays for hospital inpatient services per 1,000 active claims in 2016 for North Carolina, the region, and countrywide. An active claim is a workers compensation claim for which there is at least one medical service provided during that service year. Note that there are no controls for mix of diagnosis or severity of claims between jurisdictions.



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Chart 19 displays the average and median² length of stay (LOS) for hospital inpatient services for North Carolina, the region, and countrywide. Note that there are no controls for mix of diagnosis or severity of claims between jurisdictions.

Chart 19
Inpatient Length of Stay for Hospital Inpatient Services



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

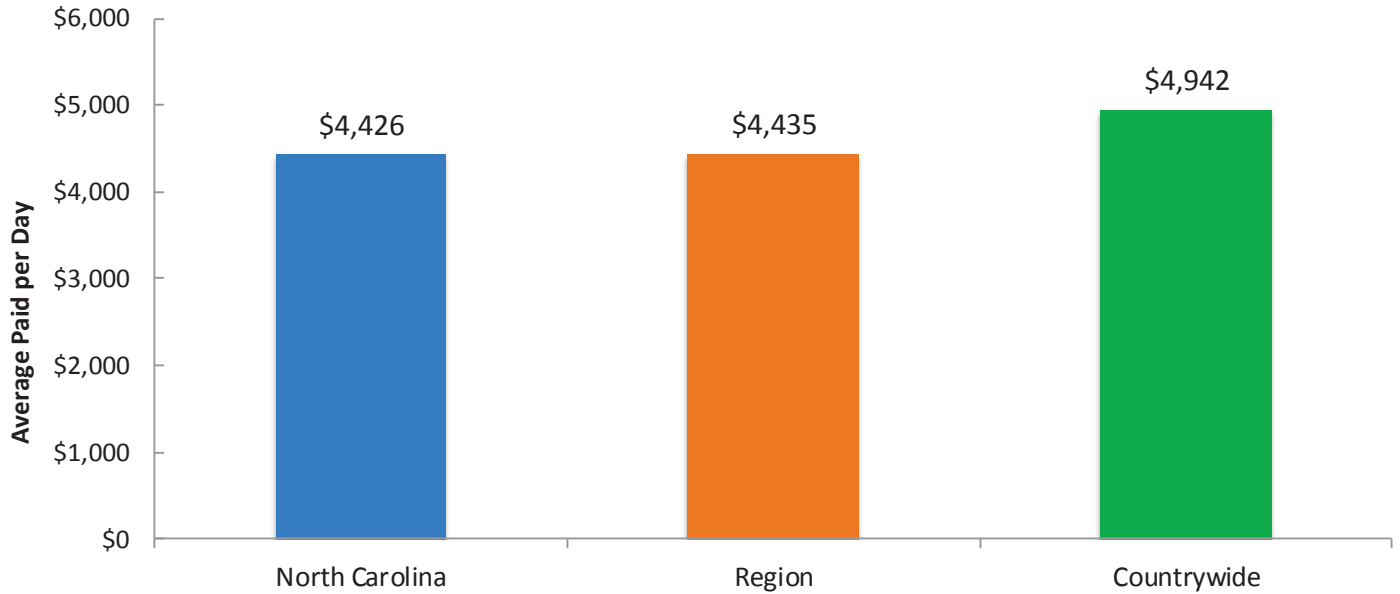
² The median LOS is the LOS where one-half of all LOS values is higher and one-half is lower. This statistic is less affected by extremely low or extremely high values.



Chart 20 displays the average paid amount per day for hospital inpatient services for North Carolina, the region, and countrywide. Note that there are no controls for mix of diagnosis or severity of claims between jurisdictions.

Chart 20

Average Paid Amount per Day for Hospital Inpatient Services



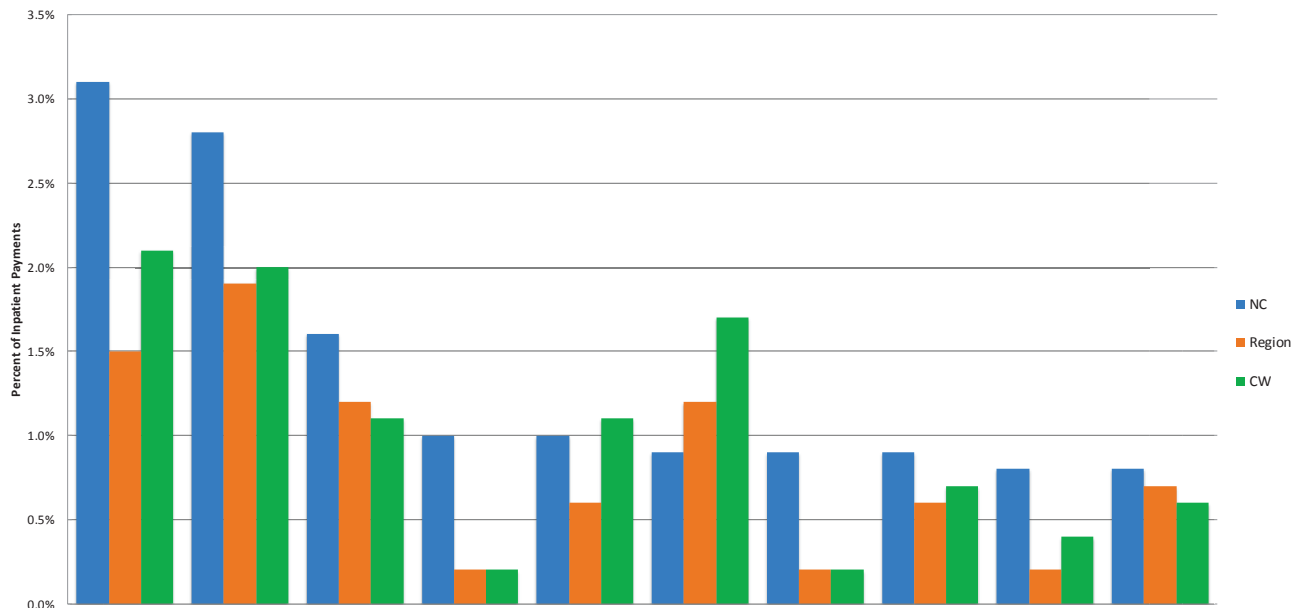
Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



Charts 21 and 22 display the top 10 diagnoses and top 10 DRG codes for hospital inpatient services, revealing the most prevalent types of hospital inpatient stays. The codes are ranked based on total payments in North Carolina. A brief description of each code is displayed in the tables below the charts.

Chart 21

Top 10 Diagnoses by Amount Paid for Hospital Inpatient Services for North Carolina



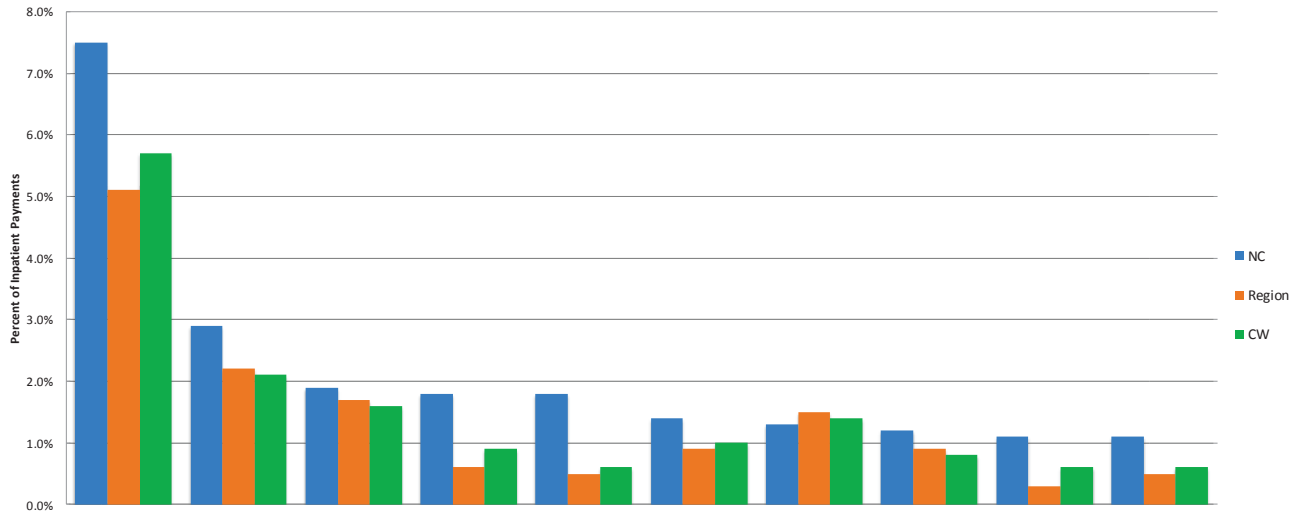
Diagnosis Code	NC	Reg	CW
Z51.89	\$17,512	\$12,845	\$14,844
M48.06	\$37,954	\$22,411	\$24,313
M17.9	\$16,883	\$15,465	\$17,689
S06	\$52,438	\$8,350	\$18,366
M51.3	\$15,531	\$24,232	\$30,740
M51.2	\$25,321	\$19,321	\$19,011
S22.42XA	\$15,056	\$22,372	\$13,779
S82	\$21,981	\$19,272	\$20,757
M51.36	\$47,084	\$24,269	\$28,660
M43.16	\$40,608	\$28,134	\$30,542

Source: NCCI Medical Data Call, Service Years 2015 and 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
Z51.89	3.1%	Encounter for other specified aftercare
M48.06	2.8%	Spinal stenosis, lumbar region
M17.9	1.6%	Osteoarthritis of knee, unspecified
S06	1.0%	Intracranial injury
M51.3	1.0%	Other thoracic, thoracolumbar, and lumbosacral intervertebral disc degeneration
M51.2	0.9%	Other thoracic, thoracolumbar, and lumbosacral intervertebral disc displacement
S22.42XA	0.9%	Multiple fractures of ribs, left side, initial encounter for closed fracture
S82	0.9%	Fracture of lower leg, including ankle
M51.36	0.8%	Other intervertebral disc degeneration, lumbar region
M43.16	0.8%	Spondylolisthesis, lumbar region

Chart 22

Top 10 DRG Codes by Amount Paid for Hospital Inpatient Services for North Carolina



Procedure Code		460	470	494	957	928	003	473	958	464	945
Median Payment per Hospital Inpatient Stay	NC	\$42,739	\$22,453	\$18,820	\$79,272	\$69,864	\$192,290	\$24,920	\$58,502	\$40,801	\$19,499
	Reg	\$31,278	\$17,360	\$16,086	\$72,537	\$66,157	\$162,773	\$18,273	\$40,102	\$28,079	\$7,895
	CW	\$38,890	\$21,176	\$17,641	\$96,953	\$65,170	\$197,881	\$19,931	\$60,287	\$37,445	\$15,843

Source: NCCI Medical Data Call, Service Years 2015 and 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
460	7.5%	Spinal fusion except cervical without major complications or comorbidities
470	2.9%	Major joint replacement or reattachment of lower extremity without major complications or comorbidities
494	1.9%	Lower extremity and humerus procedures except hip, foot, femur without complications or comorbidities/major complications or comorbidities
957	1.8%	Other operation room procedures for multiple significant trauma with major complications or comorbidities
928	1.8%	Full thickness burn with skin graft or inhalation injury with complications or comorbidities/major complications or comorbidities
003	1.4%	Extracorporeal membrane oxygenation (ECMO) or tracheostomy with mechanical ventilation 96+ hours or principal diagnosis except face, mouth, and neck with major operating room
473	1.3%	Cervical spinal fusion without complications or comorbidities/major complications or comorbidities
958	1.2%	Other operation room procedures for multiple significant trauma with complications or comorbidities
464	1.1%	Wound debridement and skin graft except hand for musculo-connective tissue disorders with complications or comorbidities
945	1.1%	Rehabilitation with complications or comorbidities/major complications or comorbidities



Hospital outpatient services are reported with several types of procedure codes. Data reporters are instructed to report the code that is consistent with the way the reimbursement was determined.

If the hospital outpatient fee schedule is a Medicare-based fee schedule, then a greater share of payments reported by CPT or other healthcare common procedure coding system (HCPCS) codes would be expected. These codes are very specific and provide detailed information about the actual services performed. Some payments are also reported by a specific ambulatory payment classification (APC) code. An APC code represents a group of services provided by the facility on an outpatient basis.

If the hospital outpatient fee schedule is based on a discount from charged amounts, then revenue codes may be the more prevalent code type. Revenue codes are very generic and do not provide much information about the specific services that were performed.

Due to these differences in fee schedules, which may result in varied reporting of codes across jurisdictions, the region, and countrywide, comparisons by procedure code for outpatient benefits should be interpreted with caution. One comparative measure of outpatient service costs is the average cost per outpatient visit. A visit is defined as any service or set of services provided to a claimant on a specific date. Any visit may have more than one procedure performed, and any claim may have more than one visit.

Hospital outpatient visits can vary in nature. A surgical visit includes at least one surgical service, while a nonsurgical visit does not. A surgical service is defined as “major surgery” or “minor surgery” within the surgical category defined by the AMA. In this section, we provide measures of hospital outpatient payments that take into account the type of visit, since the level of reimbursement varies considerably by type of visit.

One measure of workers compensation hospital outpatient costs is a comparison of current payments to the Medicare rates. The table below shows the average percentage of Medicare schedule reimbursement amounts for hospital outpatient payments for North Carolina, the region, and countrywide.

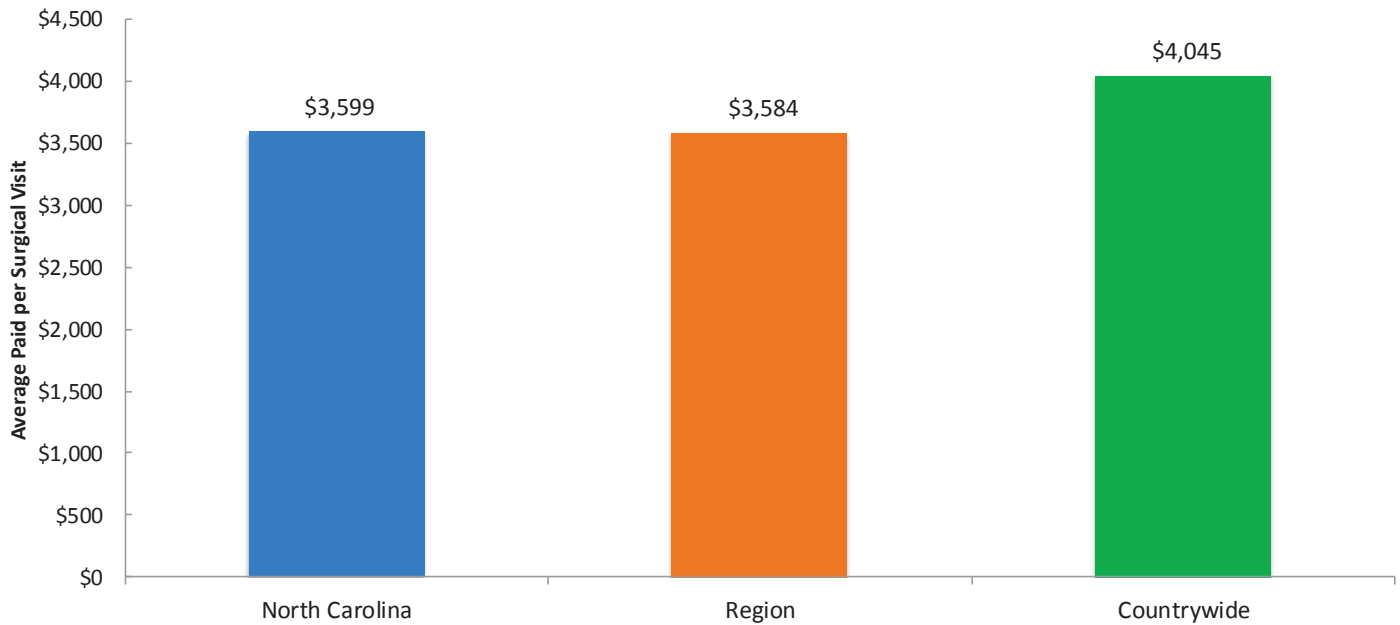
Medical Cost Category	NC	Region	Countrywide
Hospital Outpatient	129%	169%	192%



Chart 23 displays the average paid amount per visit for hospital outpatient surgical services for North Carolina, the region, and countrywide. Surgical services represent 62% of hospital outpatient payments in North Carolina. Note that there are no controls for mix of diagnosis or severity of claims between jurisdictions.

Chart 23

Average Paid Amount per Surgical Visit for Hospital Outpatient Services



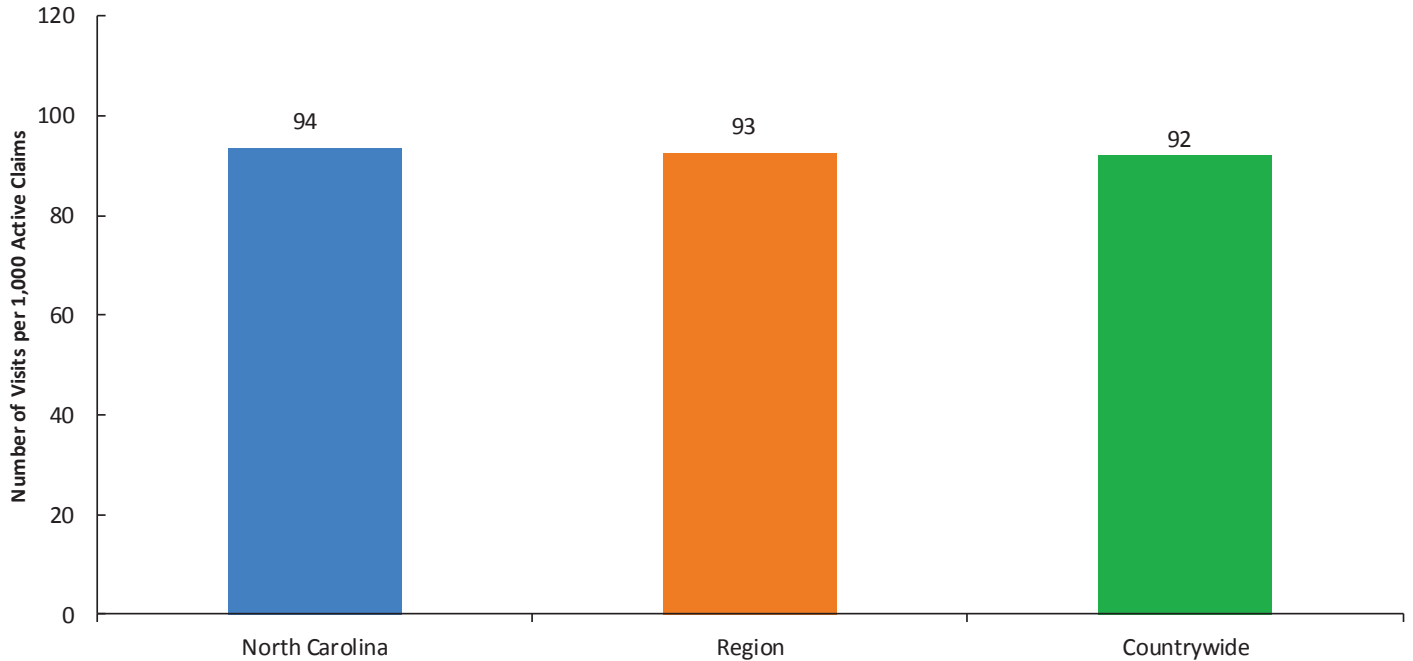
Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



Chart 24 displays the number of visits per year per 1,000 active claims for hospital outpatient surgical services for North Carolina, as well as the average visits per year per 1,000 active claims for the region and countrywide. An active claim is a workers compensation claim for which there is at least one medical service provided during that service year.

Chart 24

Average Number of Surgical Hospital Outpatient Visits per 1,000 Active Claims



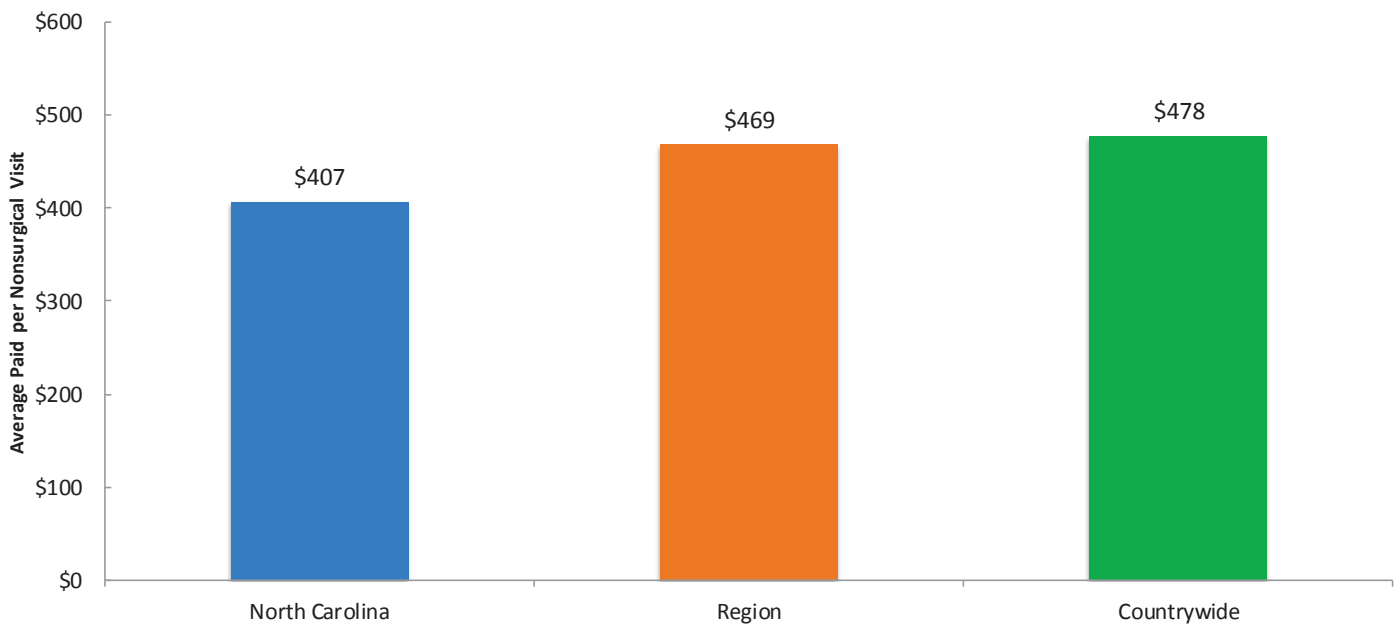
Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



Chart 25 displays the average paid amount per visit for hospital outpatient nonsurgical services (such as physical therapy) for North Carolina, the region, and countrywide. Nonsurgical services represent 38% of hospital outpatient payments in North Carolina. Note that there are no controls for mix of diagnosis or severity of claims between jurisdictions.

Chart 25

Average Paid Amount per Nonsurgical Visit for Hospital Outpatient Services



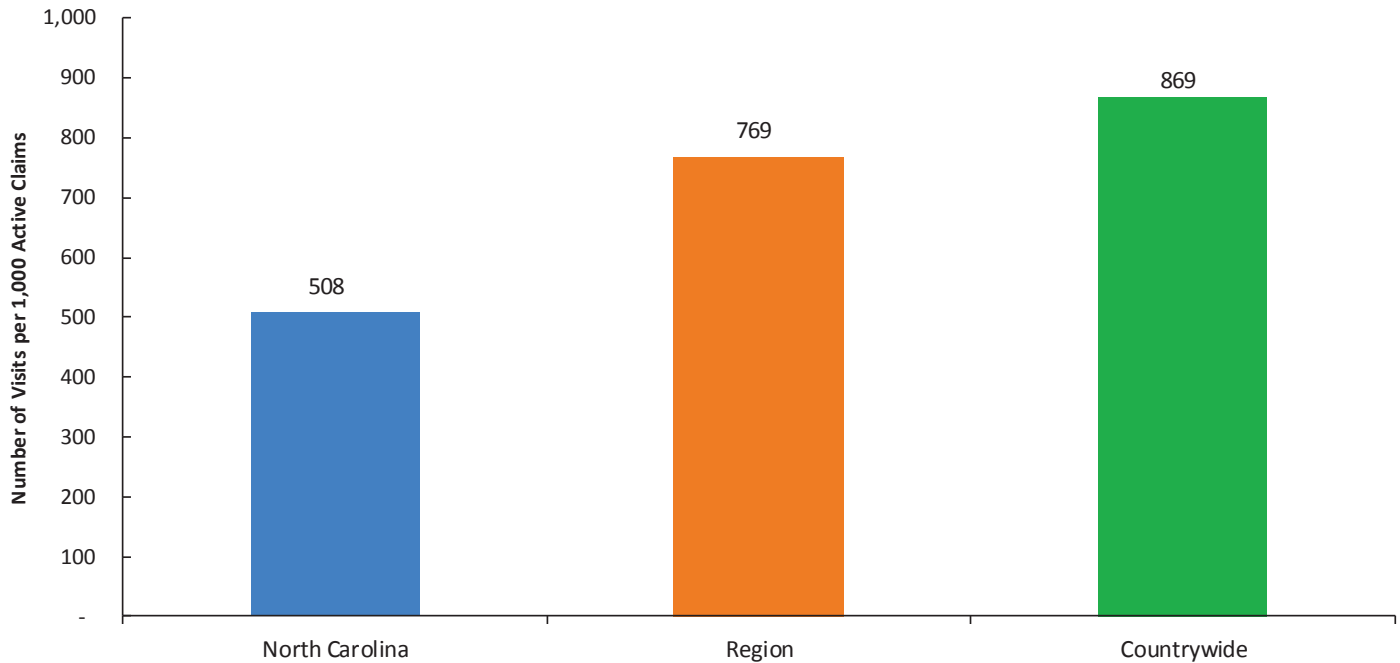
Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



Chart 26 displays the number of visits per year per 1,000 active claims for hospital outpatient nonsurgical services for North Carolina, as well as the average visits per year per 1,000 active claims for the region and countrywide. An active claim is a workers compensation claim for which there is at least one medical service provided during that service year.

Chart 26

Average Number of Nonsurgical Hospital Outpatient Visits per 1,000 Active Claims

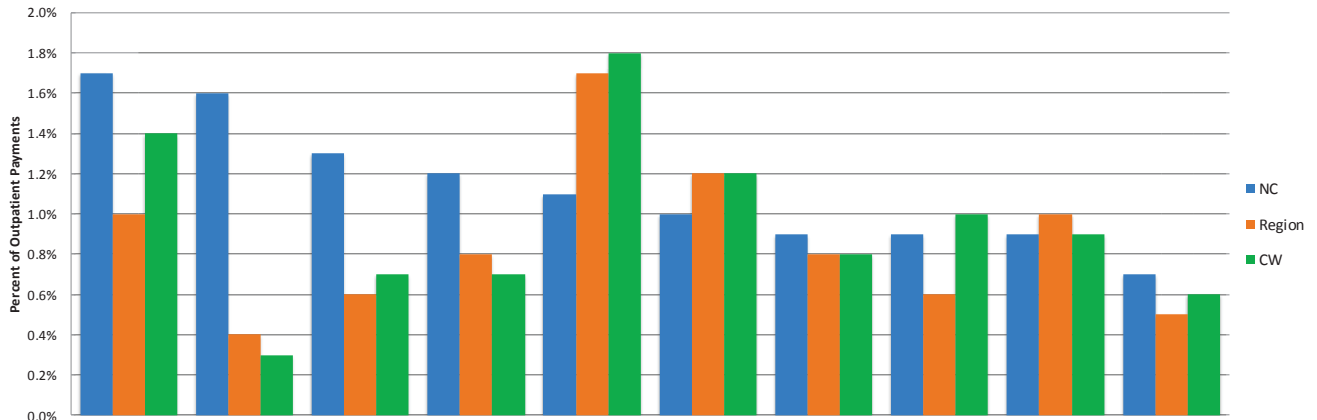


Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Chart 27 displays the average paid amount per visit for outpatient services in North Carolina, the region, and countrywide for the top 10 diagnoses in North Carolina. The codes are ranked based on total payments in North Carolina. A brief description of each code is displayed in the table below.

Chart 27

Top 10 Diagnoses by Amount Paid for Hospital Outpatient Services for North Carolina



Diagnosis Code	NC	Reg	CW
K40.90	\$4,178	\$341	\$3,038
F07.81	\$301	\$159	\$564
M75.121	\$3,038	\$306	\$170
M51.26	\$564	\$768	\$830
M54.5	\$170	\$416	\$1,103
S09.90XA	\$830	\$1,131	\$955
M51.16	\$1,103	\$200	\$2,373
S46.011A	\$955	\$296	\$232
M75.101	\$2,373	\$296	\$296
M54.16	\$232	\$272	\$272

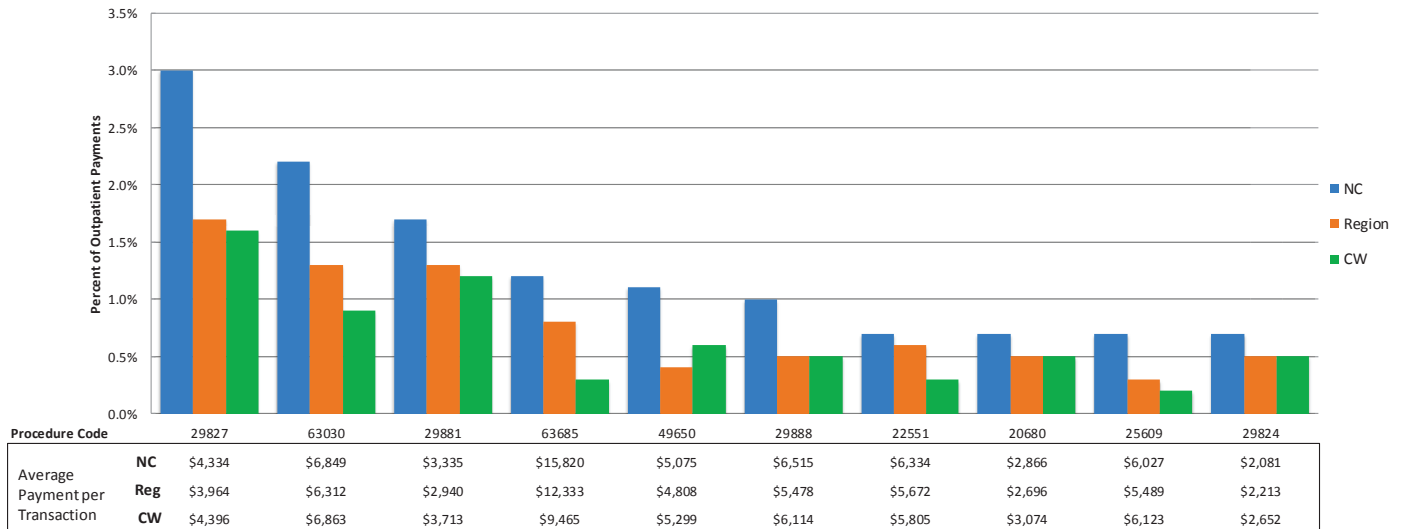
Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
K40.90	1.7%	Unilateral inguinal hernia, without obstruction or gangrene, not specified as recurrent
F07.81	1.6%	Postconcussional syndrome
M75.121	1.3%	Complete rotator cuff tear or rupture of right shoulder, not specified as traumatic
M51.26	1.2%	Other intervertebral disc displacement, lumbar region
M54.5	1.1%	Low back pain
S09.90XA	1.0%	Unspecified injury of head, initial encounter
M51.16	0.9%	Intervertebral disc disorders with radiculopathy, lumbar region
S46.011A	0.9%	Strain of muscle(s) and tendon(s) of the rotator cuff of right shoulder, initial encounter
M75.101	0.9%	Unspecified rotator cuff tear or rupture of right shoulder, not specified as traumatic
M54.16	0.7%	Radiculopathy, lumbar region

Charts 28 and 29 display the average paid amount per visit for outpatient services in North Carolina, the region, and countrywide for the top 10 surgery CPT and nonsurgery CPT codes in North Carolina. The codes are ranked based on total payments in North Carolina. A brief description of each code is displayed in the table below.

Chart 28

Top 10 Surgery Procedure Codes by Amount Paid for Hospital Outpatient Services for North Carolina



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
29827	3.0%	Arthroscopy shoulder surgical; with rotator cuff repair
63030	2.2%	Laminotomy (hemilaminectomy) with decompression of nerve root(s) including partial facetectomy, foraminotomy, and/or excision of herniated intervertebral disc; 1 interspace lumbar
29881	1.7%	Arthroscopy knee surgical; with meniscectomy (medial or lateral including any meniscal shaving) including debridement/shaving of articular cartilage
63685	1.2%	Insertion or replacement of spinal neurostimulator pulse generator or receiver, direct or inductive coupling
49650	1.1%	Laparoscopy, surgical; repair initial inguinal hernia
29888	1.0%	Arthroscopically aided anterior cruciate ligament repair/augmentation or reconstruction
22551	0.7%	Arthrodesis, anterior interbody, including disc space preparation, discectomy, osteophyctomy, and decompression of spinal cord and/or nerve roots; cervical below C2
20680	0.7%	Removal of implant; deep (e.g., buried wire, pin, screw, metal, band, nail, rod or plate)
25609	0.7%	Open treatment of distal radial intra-articular fracture or epiphyseal separation; with internal fixation of 3 or more fragments
29824	0.7%	Arthroscopy shoulder surgical; distal claviclectomy including distal articular surface (Mumford procedure)

Chart 29

Top 10 Nonsurgery Procedure Codes by Amount Paid for Hospital Outpatient Services for North Carolina



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
99283	5.9%	Emergency department visit. Usually the presenting problem(s) are of moderate severity.
99284	5.7%	Emergency department visit. Usually the presenting problem(s) are of high severity and require urgent evaluation by the physician but do not pose an immediate significant threat to life or physiologic function.
99285	2.4%	Emergency department visit. Usually the presenting problem(s) are of high severity and pose an immediate significant threat to life or physiologic function.
97110	2.2%	Therapeutic procedure, 1 or more areas, each 15 minutes; therapeutic exercises to develop strength and endurance range of motion and flexibility
G0463	1.8%	Hospital outpatient clinic visit for assessment and management of a patient
99199	1.3%	Unlisted special service procedure or report
70450	1.0%	Computed tomography (CT), head or brain; without contrast material
72125	0.8%	Computed tomography (CT), cervical spine; without contrast material
74177	0.7%	Computed tomography (CT), abdomen and pelvis; with contrast material
99282	0.7%	Emergency department visit. Usually the presenting problem(s) are of low to moderate severity.

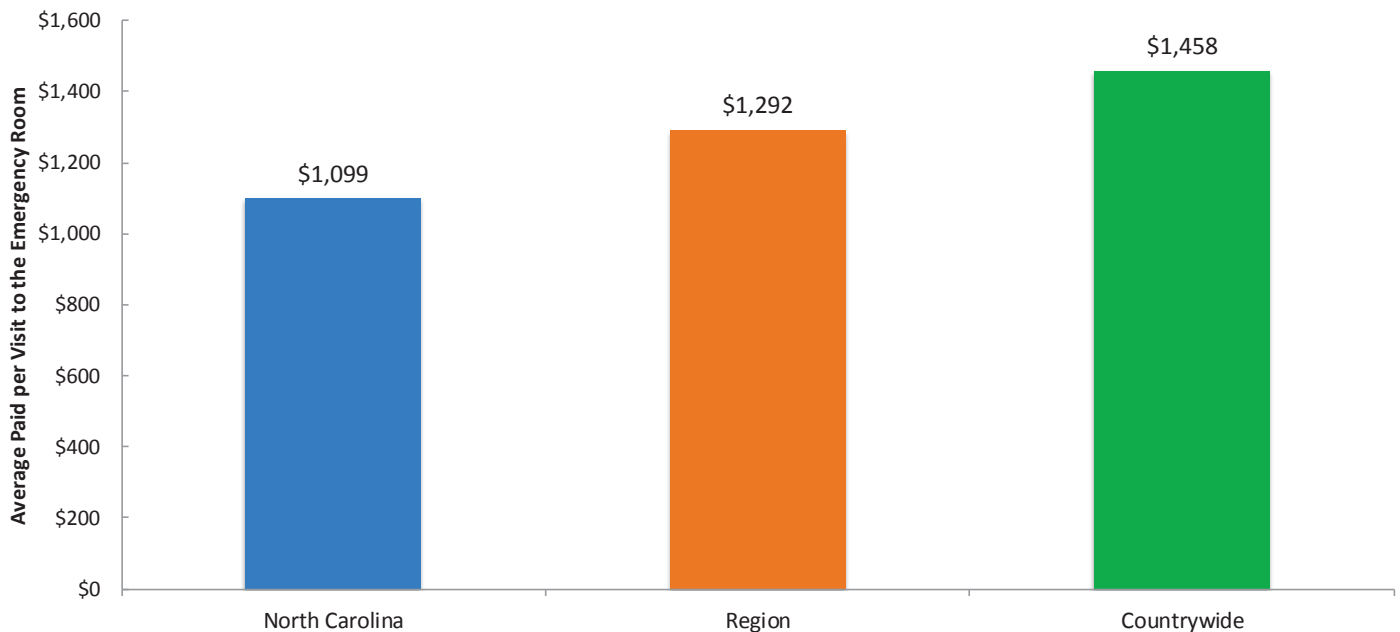


In North Carolina, 17% of the payments associated with facilities (ASC, hospital outpatient, and hospital inpatient) are for emergency room payments, compared to 17% countrywide.

Chart 30 displays the average paid amount per visit for emergency room services for North Carolina, the region, and countrywide. The average paid amount includes all payments for an emergency room visit such as payments for facility services, physician services, and drugs. Note that there are no controls for mix of diagnosis or severity of claims between jurisdictions.

Chart 30

Average Amount Paid per Emergency Room Visit



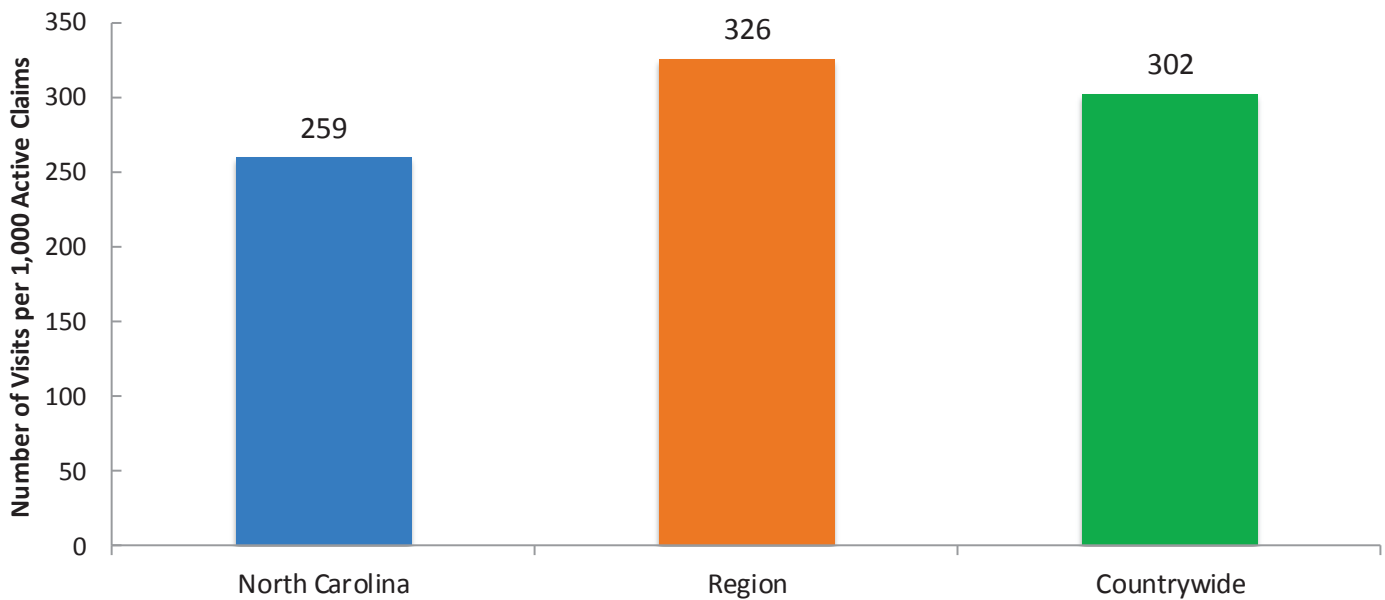
Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



Chart 31 displays the number of visits per year per 1,000 active claims for emergency room services for North Carolina, as well as the average visits per 1,000 active claims for the region and countrywide. An active claim is a workers compensation claim for which there is at least one medical service provided during that service year.

Chart 31

Average Number of Emergency Room Visits per 1,000 Active Claims



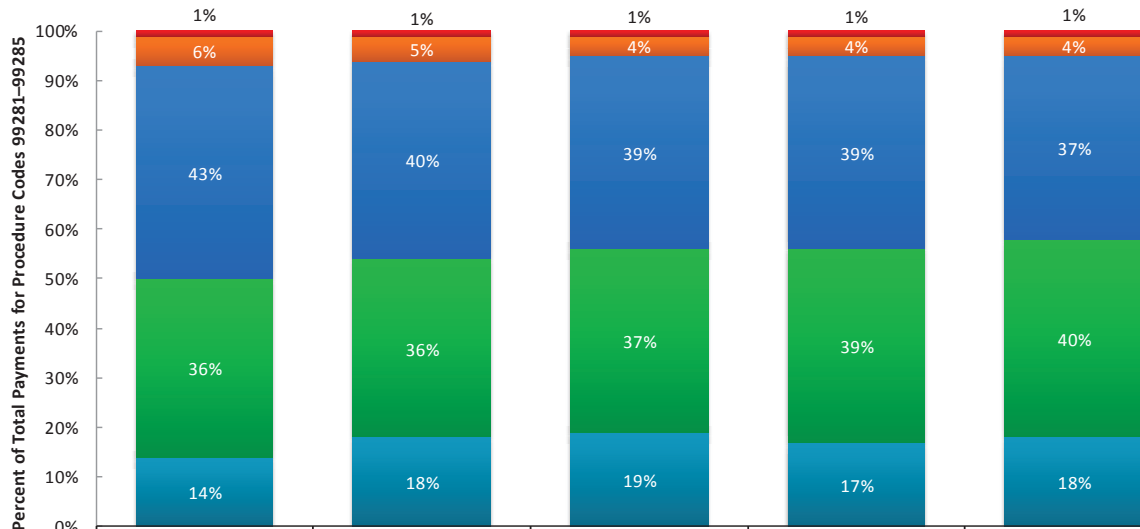
Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



For emergency room visits, there are five levels of severity, ranging from limited or minor problems reported with Procedure Code 99281 to life-threatening situations reported with Procedure Code 99285. Chart 32 shows a five-year snapshot of experience for each procedure type and the average payment per transaction.

Chart 32

Emergency Room Payments by Procedure Code for North Carolina



	2012	2013	2014	2015	2016
Average Payment per Transaction	\$94	\$93	\$95	\$92	\$91
99282	\$192	\$191	\$198	\$183	\$176
99283	\$265	\$270	\$301	\$276	\$273
99284	\$372	\$374	\$419	\$418	\$415
99285	\$464	\$546	\$616	\$565	\$588

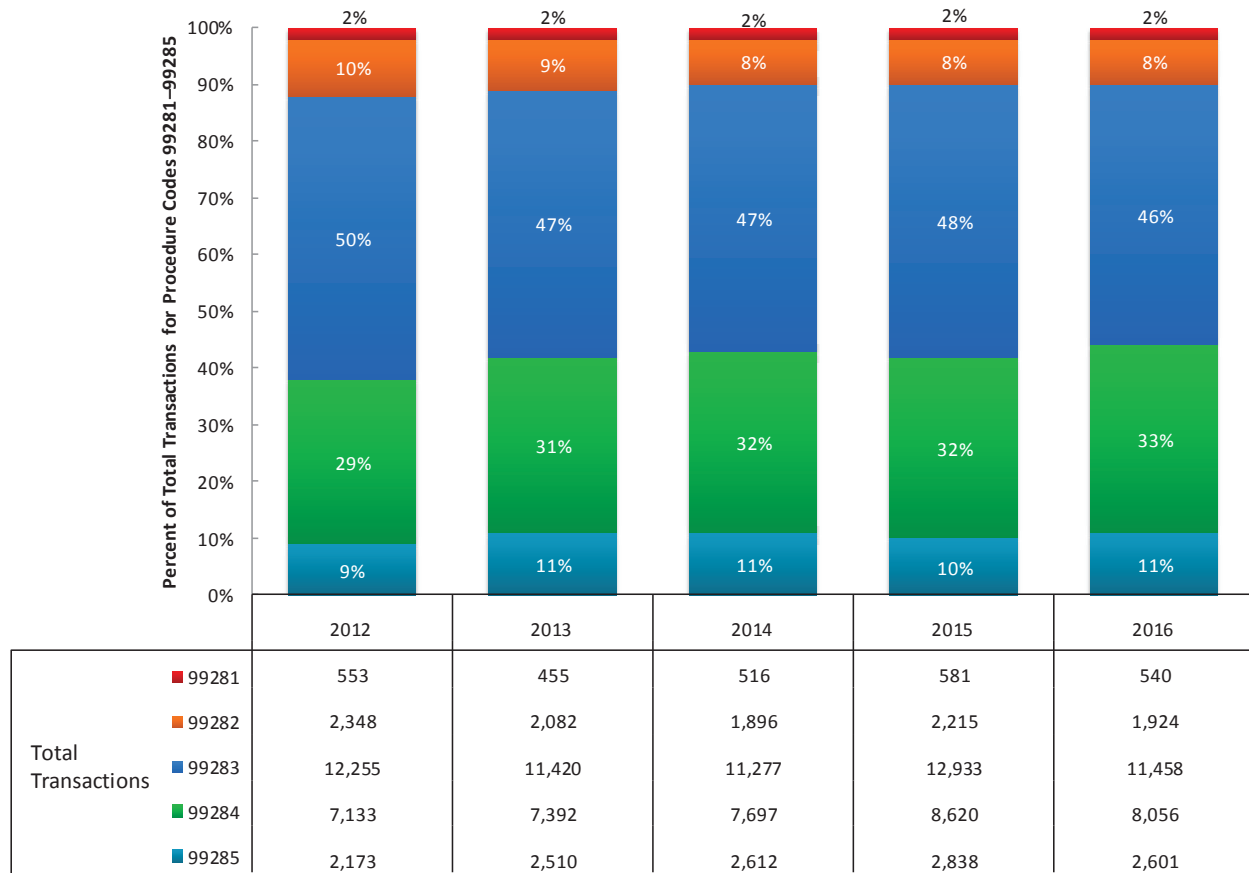
Source: NCCI Medical Data Call, Service Year 2016.

Code	Description
99281	Emergency department visit for the evaluation and management of a patient. Usually the presenting problem(s) are self limited or minor.
99282	Emergency department visit. Usually the presenting problem(s) are of low to moderate severity.
99283	Emergency department visit. Usually the presenting problem(s) are of moderate severity.
99284	Emergency department visit. Usually the presenting problem(s) are of high severity and require urgent evaluation by the physician but do not pose an immediate significant threat to life or physiologic function.
99285	Emergency department visit. Usually the presenting problem(s) are of high severity and pose an immediate significant threat to life or physiologic function.

Chart 33 shows a five-year snapshot of experience for each procedure type and the number of transactions per service year.

Chart 33

Emergency Room Transactions by Procedure Code for North Carolina



Source: NCCI Medical Data Call, Service Year 2016.

Code	Description
99281	Emergency department visit for the evaluation and management of a patient. Usually the presenting problem(s) are self limited or minor.
99282	Emergency department visit. Usually the presenting problem(s) are of low to moderate severity.
99283	Emergency department visit. Usually the presenting problem(s) are of moderate severity.
99284	Emergency department visit. Usually the presenting problem(s) are of high severity and require urgent evaluation by the physician but do not pose an immediate significant threat to life or physiologic function.
99285	Emergency department visit. Usually the presenting problem(s) are of high severity and pose an immediate significant threat to life or physiologic function.



Ambulatory surgical centers (ASC) are often used as an alternative facility to hospitals for conducting outpatient surgeries. One measure of workers compensation ASC costs is a comparison of current payments to the Medicare rates. The table below shows the average percentage of Medicare schedule reimbursement amounts for ASC payments for North Carolina, the region, and countrywide.

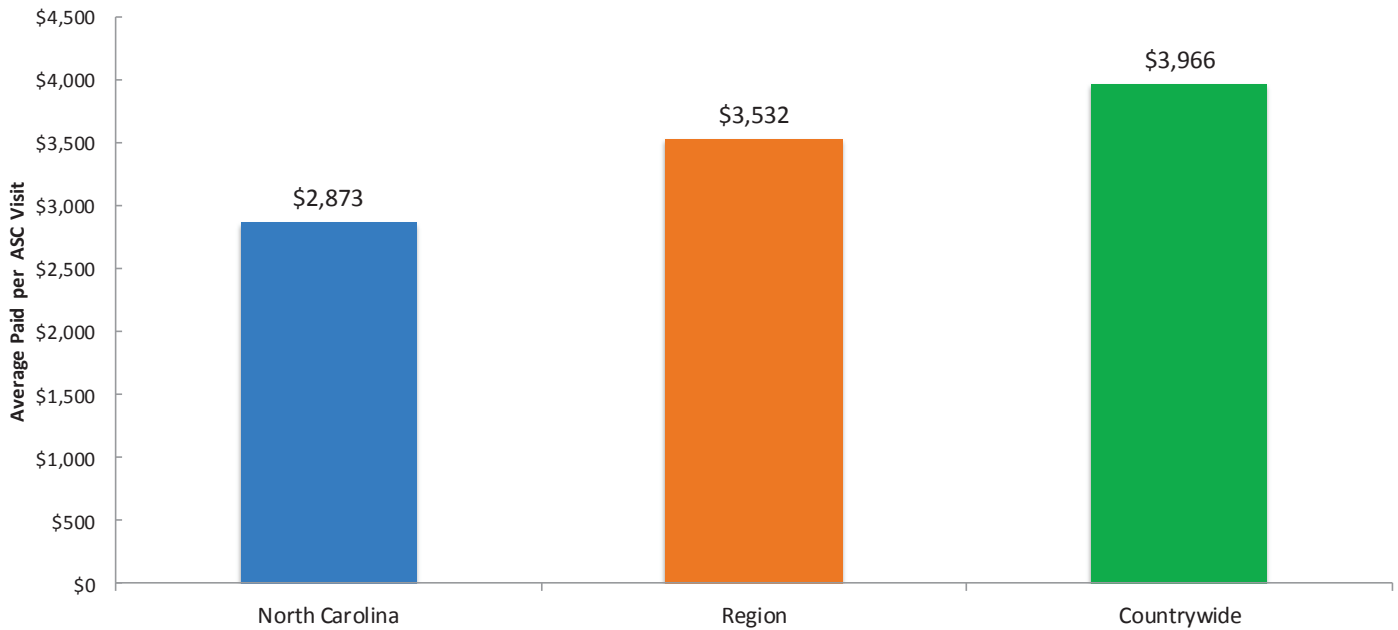
Medical Cost Category	NC	Region	Countrywide
Ambulatory Surgical Center	194%	271%	292%



Chart 34 displays the average paid amount per visit for ASC services for North Carolina, the region, and countrywide. Note that there are no controls for mix of diagnosis or severity of claims between jurisdictions.

Chart 34

Average Amount Paid per Visit for ASC Services



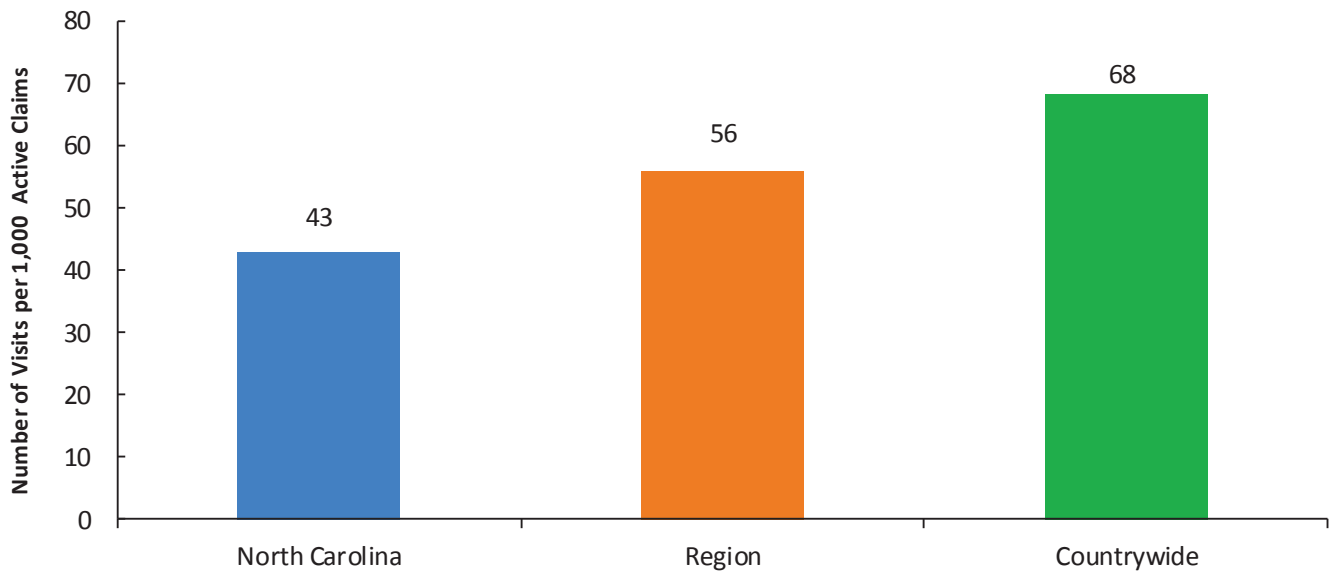
Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



Chart 35 displays the number of ASC visits per year per 1,000 active claims for North Carolina, as well as the average visits per 1,000 active claims for the region and countrywide. An active claim is a workers compensation claim for which there is at least one medical service provided during that service year.

Chart 35

Average Number of ASC Visits per 1,000 Active Claims

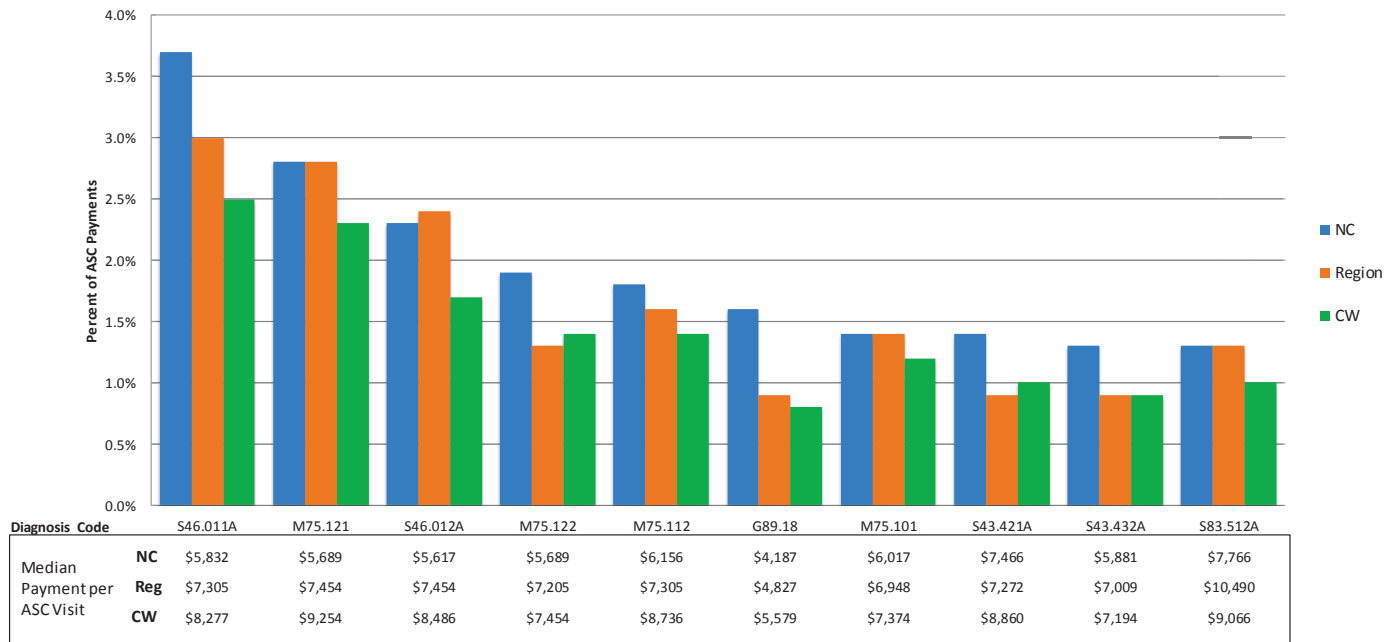


Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Chart 36 displays the top 10 diagnoses for ASC visits. The codes are ranked based on total payments in North Carolina. A brief description of each code is displayed in the table below.

Chart 36

Top 10 Diagnoses by Amount Paid for ASC Services for North Carolina



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

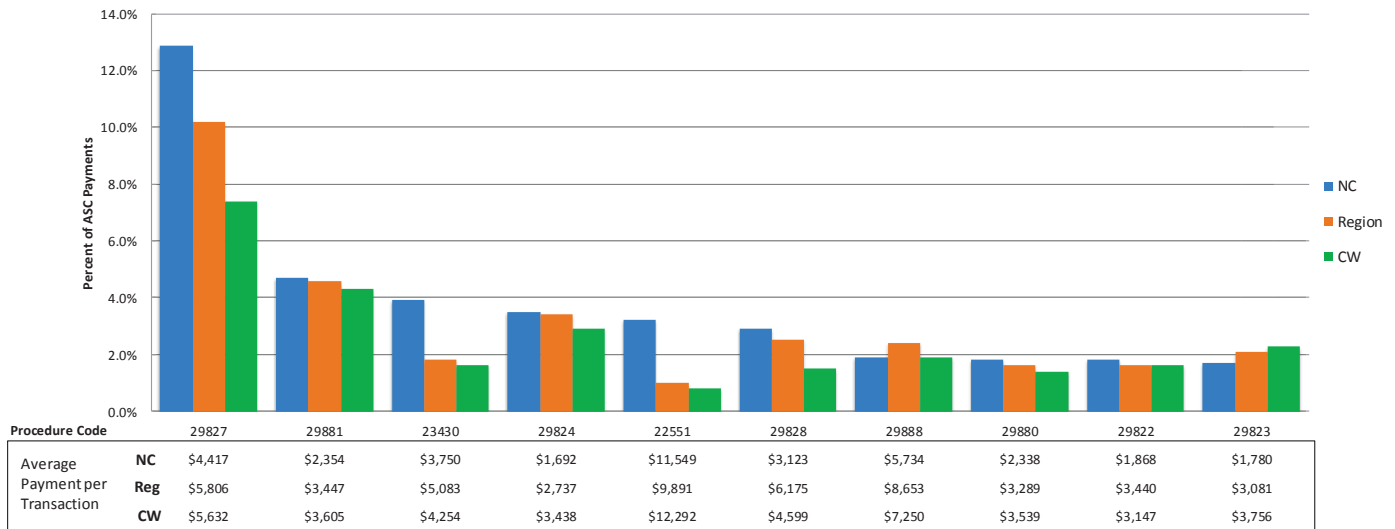
Code	% in NC	Description
S46.011A	3.7%	Strain of muscle(s) and tendon(s) of the rotator cuff of right shoulder, initial encounter
M75.121	2.8%	Complete rotator cuff tear or rupture of right shoulder, not specified as traumatic
S46.012A	2.3%	Strain of muscle(s) and tendon(s) of the rotator cuff of left shoulder, initial encounter
M75.122	1.9%	Complete rotator cuff tear or rupture of left shoulder, not specified as traumatic
M75.112	1.8%	Incomplete rotator cuff tear or rupture of left shoulder, not specified as traumatic
G89.18	1.6%	Other acute postprocedural pain
M75.101	1.4%	Unspecified rotator cuff tear or rupture of right shoulder, not specified as traumatic
S43.421A	1.4%	Sprain of right rotator cuff capsule, initial encounter
S43.432A	1.3%	Superior glenoid labrum lesion of left shoulder, initial encounter
S83.512A	1.3%	Sprain of anterior cruciate ligament of left knee, initial encounter

Typically, only surgery-related services are performed in ASCs. The most prevalent procedure code types reported are CPT codes and revenue codes. The predominant revenue code reported for ASC services is code 0490—Ambulatory Surgical Care. In North Carolina, code 0490 represents 89% of ASC payments reported by revenue codes.

Chart 37 displays the top 10 surgery CPT codes for ASC services. The procedure codes are ranked based on total payments in North Carolina. A brief description of each procedure code is displayed in the table below.

Chart 37

Top 10 Surgery Procedure Codes by Amount Paid for ASC Services for North Carolina



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
29827	12.9%	Arthroscopy shoulder surgical; with rotator cuff repair
29881	4.7%	Arthroscopy knee surgical; with meniscectomy (medial or lateral including any meniscal shaving) including debridement/shaving of articular cartilage
23430	3.9%	Tenodesis of long tendon of biceps
29824	3.5%	Arthroscopy shoulder surgical; distal claviclectomy including distal articular surface (Mumford procedure)
22551	3.2%	Arthrodesis, anterior interbody, including disc space preparation, discectomy, osteophyctomy, and decompression of spinal cord and/or nerve roots; cervical below C2
29828	2.9%	Arthroscopy, shoulder, surgical; biceps tenodesis
29888	1.9%	Arthroscopically aided anterior cruciate ligament repair/augmentation or reconstruction
29880	1.8%	Arthroscopy knee surgical; with meniscectomy (medial and lateral including any meniscal shaving) including debridement/shaving of articular cartilage
29822	1.8%	Arthroscopy shoulder surgical; debridement limited
29823	1.7%	Arthroscopy shoulder surgical; debridement extensive



According to NCCI's study, "Workers Compensation and Prescription Drugs: 2016 Update" (*Annual Issues Symposium*, May 2016), in 2014, the narcotics Oxycontin® and Oxycodone-Acetaminophen (commonly known as Percocet®) were among the most widely prescribed drugs in workers compensation.

Drugs are uniquely identified by a national drug code (NDC). Charts 38 through 43 provide greater detail on payments for prescription drugs reported with an NDC, whether the drugs were provided in a pharmacy, physician's office, hospital, or other place of service. Payments are categorized as drugs if the code reported on the transaction is an NDC. Payments for drugs can also be reported using codes other than NDCs, such as revenue codes, HCPCS codes, and other state-specific procedure codes. The results in these charts are based only on payments reported with an NDC.

Chart 38 displays the shares of the payments of prescription medication for the top 10 workers compensation drugs and whether the drugs are generic (G) or brand name (B). This method of ranking shows which drugs have the highest percentage share of payments. Also included is the amount paid per unit (PPU). (See Glossary for the definition of *unit*.)

Chart 38

Top 10 Workers Compensation Drugs by Amount Paid for North Carolina

Name of Drug	Type B/G	Category	% of Drug Payments	PPU North Carolina	PPU Region	PPU Countrywide
Lyrica®	B	Miscellaneous Central Nervous System Agents	7.6%	\$6.19	\$6.26	\$6.24
Oxycodone HCl-Acetaminophen	G	Analgesics/Antipyretics	3.9%	\$1.56	\$1.85	\$1.76
Oxycontin®	B	Analgesics/Antipyretics	3.6%	\$8.34	\$8.82	\$8.43
Gabapentin	G	Anticonvulsants	3.6%	\$1.05	\$1.27	\$1.20
Duloxetine HCl	G	Psychotherapeutic Agents	2.7%	\$5.10	\$5.25	\$5.28
Nucynta®	B	Analgesics/Antipyretics	2.4%	\$6.04	\$6.18	\$6.07
Meloxicam	G	Analgesics/Antipyretics	2.3%	\$2.65	\$3.00	\$3.29
Celecoxib	G	Analgesics/Antipyretics	2.3%	\$4.88	\$4.85	\$5.14
Lidocaine	G	Antipruritics/Local Anesthesia, Skin/Mucous Membrane	2.2%	\$6.39	\$6.88	\$7.01
Tramadol HCl	G	Analgesics/Antipyretics	2.0%	\$0.91	\$0.98	\$1.16

Top 10 Workers Compensation Drugs by Amount Paid for Countrywide

Name of Drug	Type B/G	Category	% of Drug Payments	PPU North Carolina	PPU Region	PPU Countrywide
Lyrica®	B	Miscellaneous Central Nervous System Agents	7.0%	\$6.19	\$6.26	\$6.24
Oxycontin®	B	Analgesics/Antipyretics	4.4%	\$8.34	\$8.82	\$8.43
Gabapentin	G	Anticonvulsants	4.2%	\$1.05	\$1.27	\$1.20
Oxycodone HCl-Acetaminophen	G	Analgesics/Antipyretics	3.7%	\$1.56	\$1.85	\$1.76
Meloxicam	G	Analgesics/Antipyretics	3.4%	\$2.65	\$3.00	\$3.29
Duloxetine HCl	G	Psychotherapeutic Agents	2.8%	\$5.10	\$5.25	\$5.28
Tramadol HCl	G	Analgesics/Antipyretics	2.7%	\$0.91	\$0.98	\$1.16
Hydrocodone Bitartrate-Acetaminophen	G	Analgesics/Antipyretics	2.5%	\$0.54	\$0.56	\$0.58
Lidocaine	G	Antipruritics/Local Anesthesia, Skin/Mucous Membrane	2.3%	\$6.39	\$6.88	\$7.01
Celecoxib	G	Analgesics/Antipyretics	2.3%	\$4.88	\$4.85	\$5.14

Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



Chart 39 displays the top 10 workers compensation drugs according to the number of prescriptions. This chart reveals the most frequently prescribed drugs and the amount PPU.

The results in this chart are based only on payments reported with an NDC.

Chart 39

Top 10 Workers Compensation Drugs by Prescription Counts for North Carolina

Name of Drug	Type B/G	Category	% of Drug Prescriptions	PPU North Carolina	PPU Region	PPU Countrywide
Hydrocodone Bitartrate-Acetaminophen	G	Analgesics/Antipyretics	8.9%	\$0.54	\$0.56	\$0.58
Oxycodone HCl-Acetaminophen	G	Analgesics/Antipyretics	5.8%	\$1.56	\$1.85	\$1.76
Tramadol HCl	G	Analgesics/Antipyretics	5.5%	\$0.91	\$0.98	\$1.16
Cyclobenzaprine HCl	G	Muscle Relaxants, Skeletal	5.1%	\$0.93	\$1.05	\$1.30
Gabapentin	G	Anticonvulsants	5.0%	\$1.05	\$1.27	\$1.20
Meloxicam	G	Analgesics/Antipyretics	3.7%	\$2.65	\$3.00	\$3.29
Ibuprofen	G	Analgesics/Antipyretics	3.6%	\$0.43	\$0.44	\$0.45
Oxycodone HCl	G	Analgesics/Antipyretics	3.2%	\$0.92	\$1.37	\$1.27
Naproxen	G	Analgesics/Antipyretics	2.4%	\$0.79	\$0.88	\$0.96
Lyrica®	B	Miscellaneous Central Nervous System Agents	2.4%	\$6.19	\$6.26	\$6.24

Top 10 Workers Compensation Drugs by Prescription Counts for Countrywide

Name of Drug	Type B/G	Category	% of Drug Prescriptions	PPU North Carolina	PPU Region	PPU Countrywide
Hydrocodone Bitartrate-Acetaminophen	G	Analgesics/Antipyretics	9.7%	\$0.54	\$0.56	\$0.58
Tramadol HCl	G	Analgesics/Antipyretics	5.1%	\$0.91	\$0.98	\$1.16
Cyclobenzaprine HCl	G	Muscle Relaxants, Skeletal	5.0%	\$0.93	\$1.05	\$1.30
Gabapentin	G	Anticonvulsants	4.9%	\$1.05	\$1.27	\$1.20
Oxycodone HCl-Acetaminophen	G	Analgesics/Antipyretics	4.7%	\$1.56	\$1.85	\$1.76
Meloxicam	G	Analgesics/Antipyretics	3.9%	\$2.65	\$3.00	\$3.29
Ibuprofen	G	Analgesics/Antipyretics	3.5%	\$0.43	\$0.44	\$0.45
Oxycodone HCl	G	Analgesics/Antipyretics	2.8%	\$0.92	\$1.37	\$1.27
Naproxen	G	Analgesics/Antipyretics	2.7%	\$0.79	\$0.88	\$0.96
Lyrica®	B	Miscellaneous Central Nervous System Agents	2.2%	\$6.19	\$6.26	\$6.24

Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

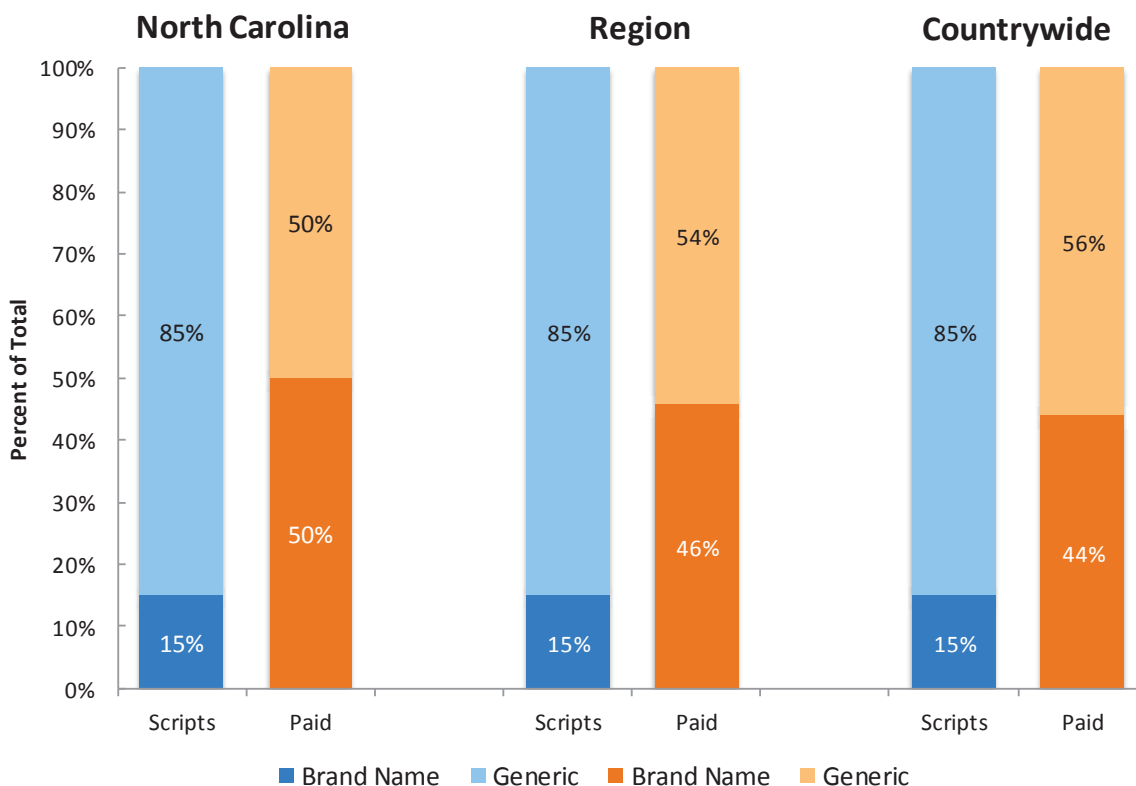


According to NCCI’s study, “Workers Compensation and Prescription Drugs: 2016 Update” (*Annual Issues Symposium*, May 2016), brand-name drug prices increased by 14% in 2014 while utilization was down 18%, resulting in a 7% decrease in brand-name drug payments.

Chart 40 shows the distribution of prescription drugs by brand name and generics for North Carolina, the region, and the countrywide average. The share between brand name and generics is displayed based on the prescription counts and the payments. Typically, a higher percentage of drugs is given in the generic form; however, higher costs occur when brand-name drugs are prescribed. In several states, a prescription drug fee schedule includes rules regarding the dispensing and reimbursement rates for brand-name and generic drugs. The results in this chart are based only on transactions reported with an NDC.

Chart 40

Distribution of Drugs by Brand Name and Generic



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

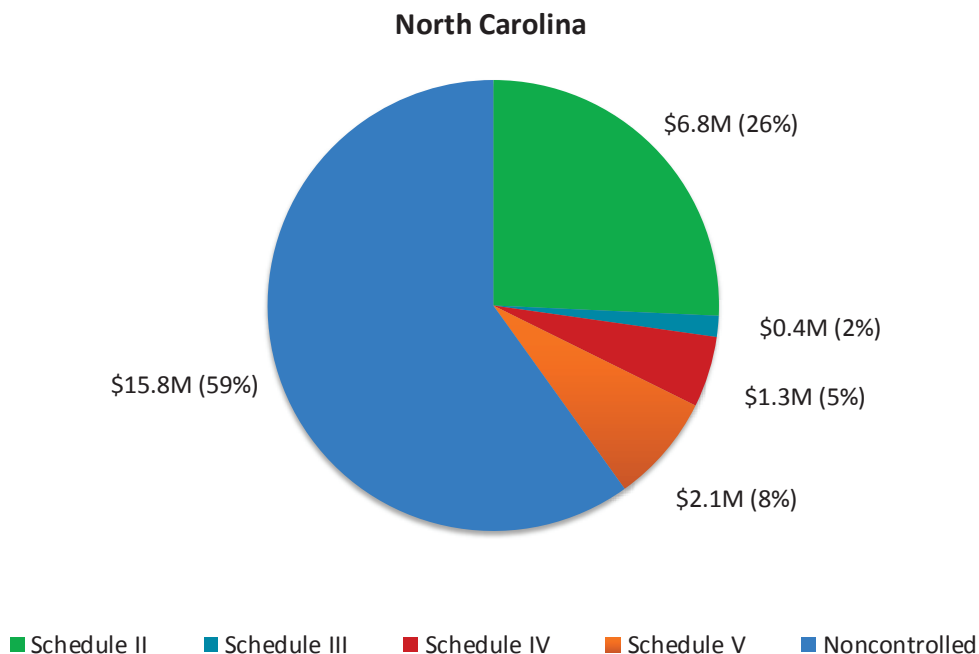
The Controlled Substance Act (CSA) was passed in 1970 to regulate the manufacture, distribution, possession, and use of certain drugs. There are five schedules, or groups, determined by varying qualifications, such as the drug’s medical uses, if any, and its potential for abuse. For example, Schedule V drugs have the lowest potential for abuse, while Schedule I drugs are illegal, mainly because they have no known medical uses.

The share of claims observed in Service Year 2016 with at least one controlled substance in North Carolina is 18%. This compares to the region and countrywide shares of 18% and 16% respectively.

According to NCCI’s study, “Workers Compensation and Prescription Drugs: 2016 Update” (*Annual Issues Symposium*, May 2016), controlled substance prices increased 16% in 2014 while utilization was down 7%, resulting in an 8% increase in controlled substance payments countrywide. In 2016, North Carolina spent \$7.2M on Schedule II and Schedule III drugs for workers compensation claims.

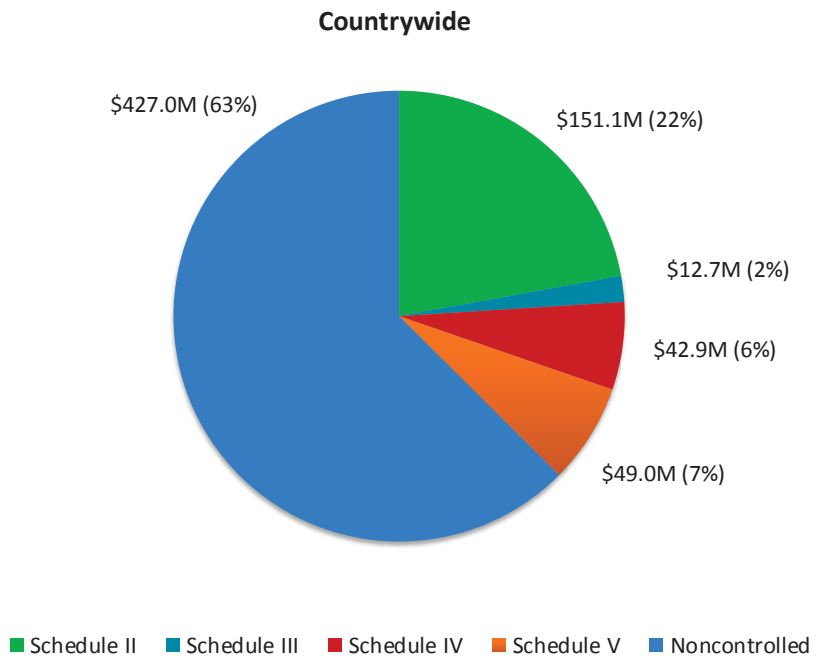
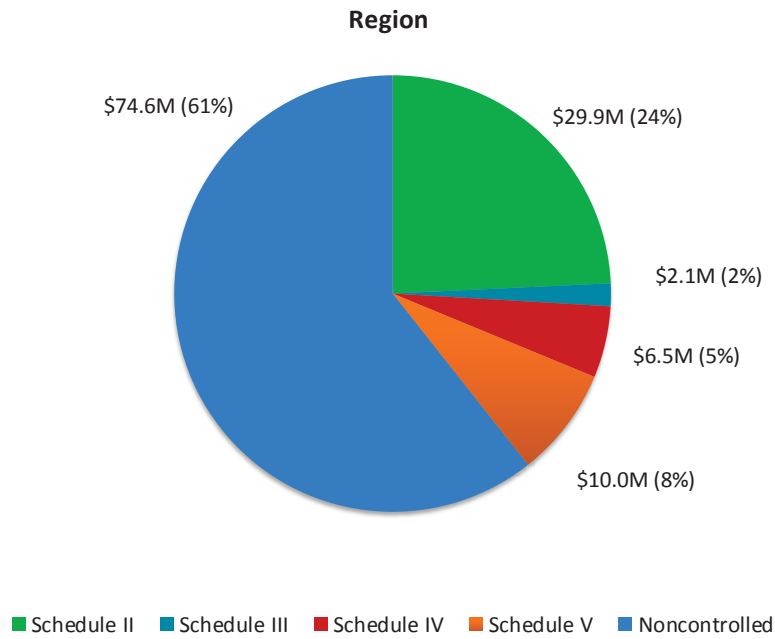
Chart 41 shows the distribution of prescription drug payments in North Carolina by CSA schedule (paid amounts shown in millions of dollars). The distributions for the region and countrywide are also shown.

Chart 41
Distribution of Prescription Drug Payments by CSA Schedule





Distribution of Prescription Drug Payments by CSA Schedule (cont'd)



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



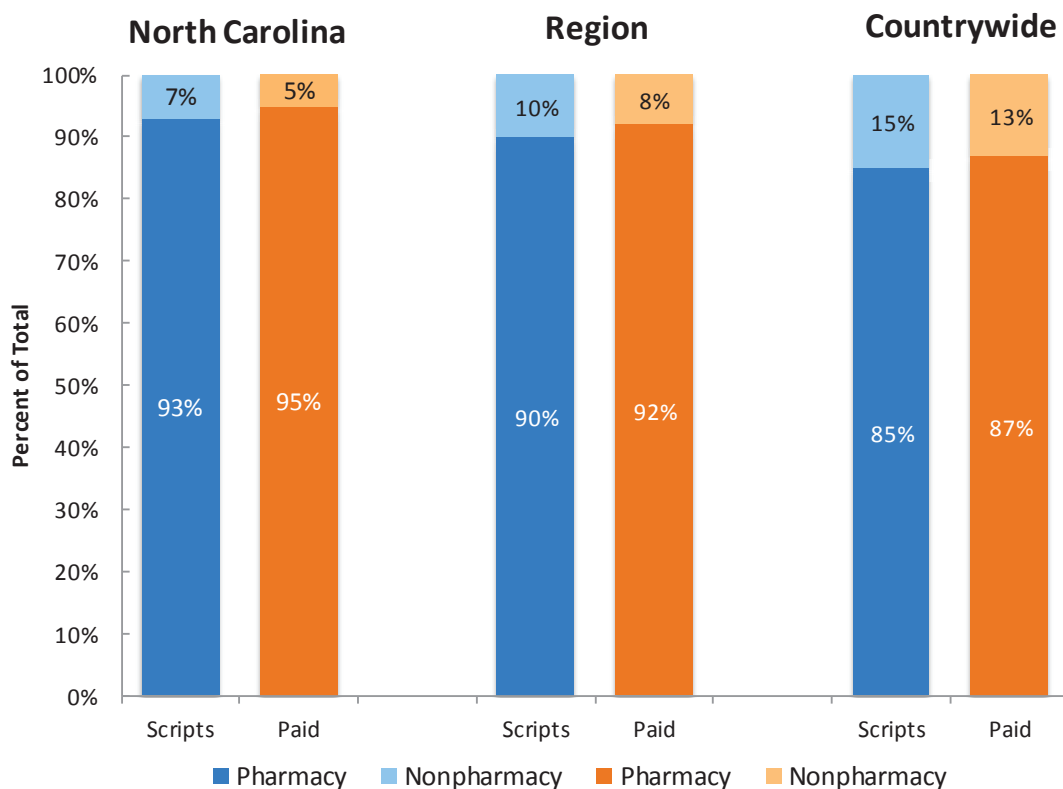
The rules on drug dispensing vary from state to state. Some states allow physician dispensing of drugs, while other states place limits or prohibit physician dispensing. Analysis of the share of drugs dispensed from a pharmacy and from a nonpharmacy (e.g., physicians and hospitals) may provide insight into the drivers of drug costs.

According to NCCI’s study, “Workers Compensation and Prescription Drugs: 2016 Update” (*Annual Issues Symposium*, May 2016), physician-dispensed prescription drug prices and utilization increased 4% each in 2014, resulting in an 8% increase in physician-dispensed prescription drug payments countrywide.

Chart 42 shows the distribution of prescription drugs dispensed by pharmacies and nonpharmacies. The share between pharmacy-dispensed and nonpharmacy-dispensed is displayed, based on both prescription counts and payments, for North Carolina, the region, and the countrywide average. The results in this chart are based only on transactions reported with an NDC.

Chart 42

Distribution of Drugs by Pharmacy and Nonpharmacy by Scripts and Amount Paid



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

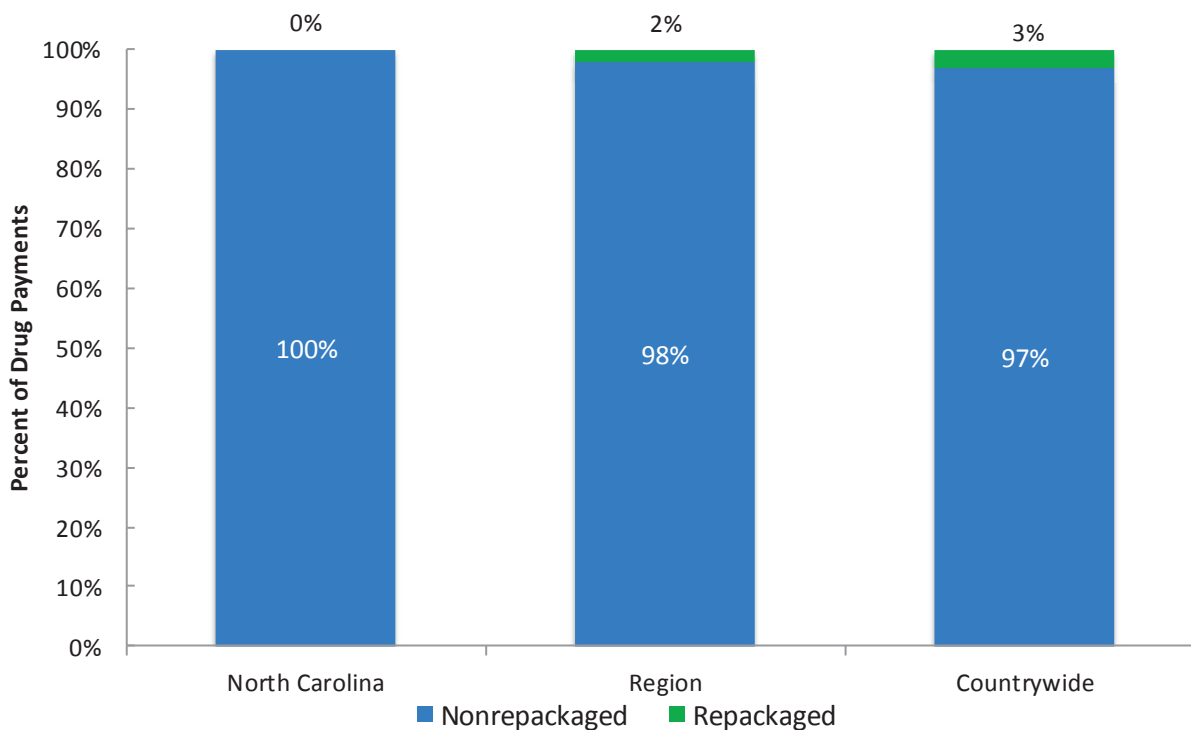
NDCs are specific not only to the product (including strength and formulation) and the package size but also to the labeler. Labelers are manufacturers, repackagers, and distributors.

Workers compensation drug fee schedules are typically based on Average Wholesale Price (AWP). Because each NDC comes with a unique AWP, any firm that repackages a drug can set both a new NDC and a new, possibly higher, AWP. As a result, workers compensation costs for repackaged drugs had grown out of proportion to the number of prescriptions written for repackaged drugs. Repackaged drugs now represent a small portion of overall drug payments because several states have implemented regulation on their reimbursement.

Chart 43 shows the distribution of payments for repackaged and nonrepackaged drugs. The results in this chart are based only on payments reported with an NDC.

Chart 43

Distribution of Drug Payments by Repackaged and Nonrepackaged



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

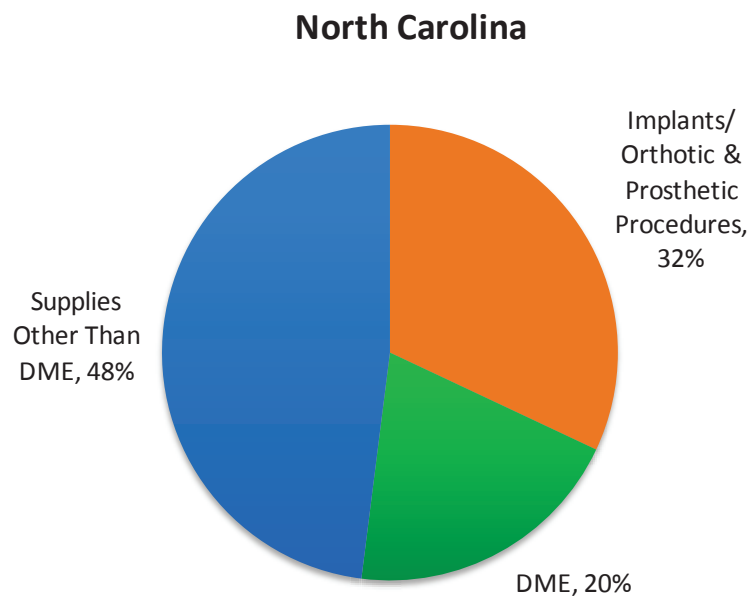
Chart 44 displays the distribution of payments among three separate categories:

- Implants/Orthotic and Prosthetic Procedures
- Durable Medical Equipment (DME)
- Supplies Other Than DME

Payments are mapped to each of these categories based on the procedure code reported, regardless of who provides the service or where the service is performed.

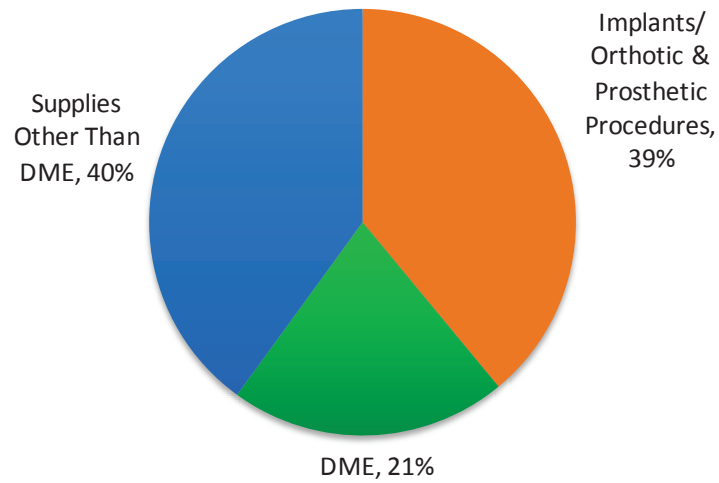
Chart 44

Distribution of Payments by DME, Supplies, and Implants

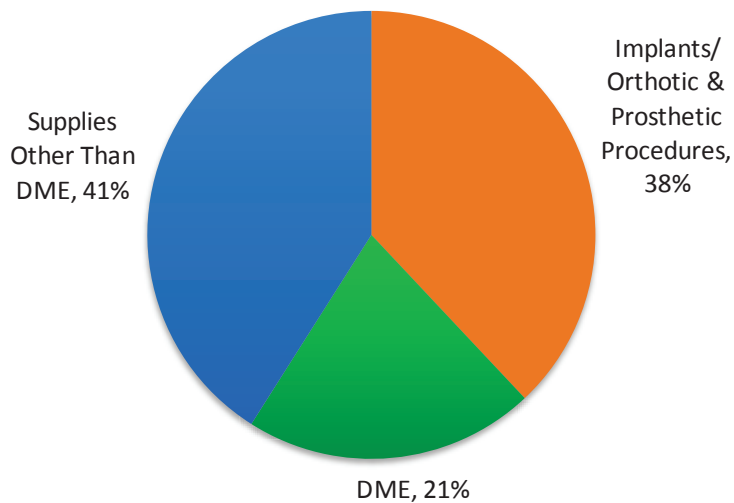


Distribution of Payments by DME, Supplies, and Implants (cont'd)

Region



Countrywide



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



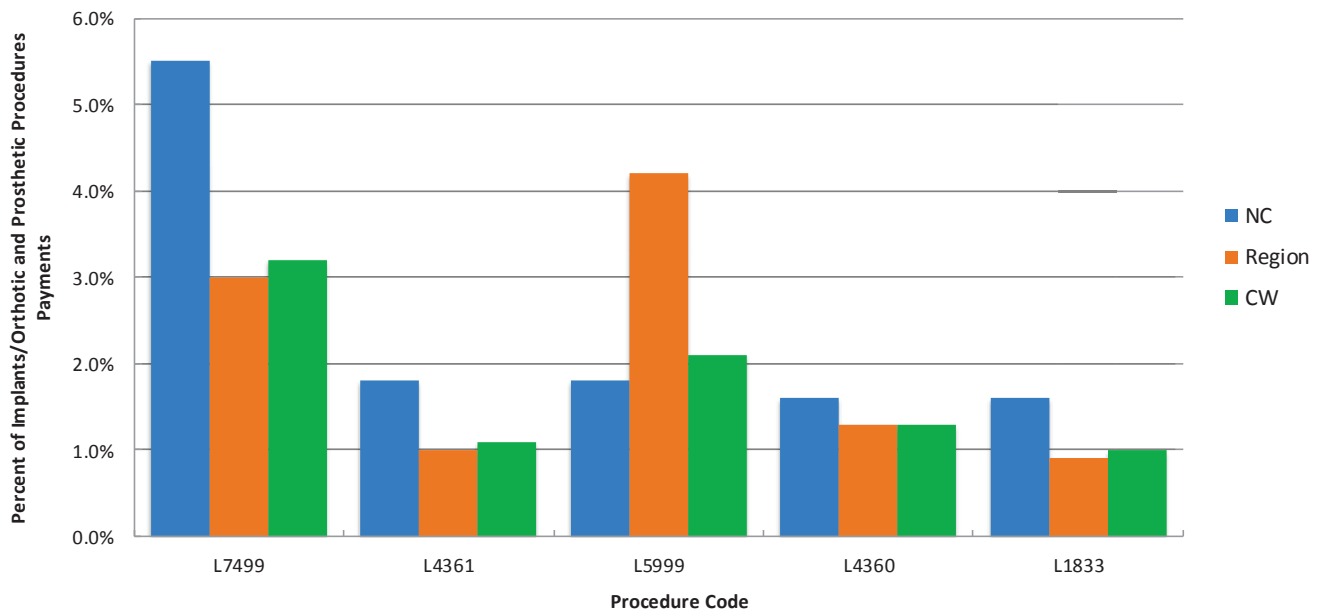
The most prevalent procedure code types reported for Implants/Orthotic and Prosthetic Procedures are HCPCS codes and revenue codes. Revenue codes represent 52% of Implants/Orthotic and Prosthetic Procedures payments, while HCPCS codes represent 48%.

The predominant revenue code reported for Implants/Orthotic and Prosthetic Procedures is code 0278—Medical/Surgical Supplies: Other implants. In North Carolina, payments for code 0278 represent 51% of Implants/Orthotic and Prosthetic Procedures payments.

Chart 45 displays the top five HCPCS codes for Implants/Orthotic and Prosthetic Procedures. The procedure codes are ranked based on total payments in North Carolina. A brief description of each HCPCS code is displayed in the table below.

Chart 45

Top Five Implants/Orthotic and Prosthetic Procedures Codes by Amount Paid for North Carolina



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

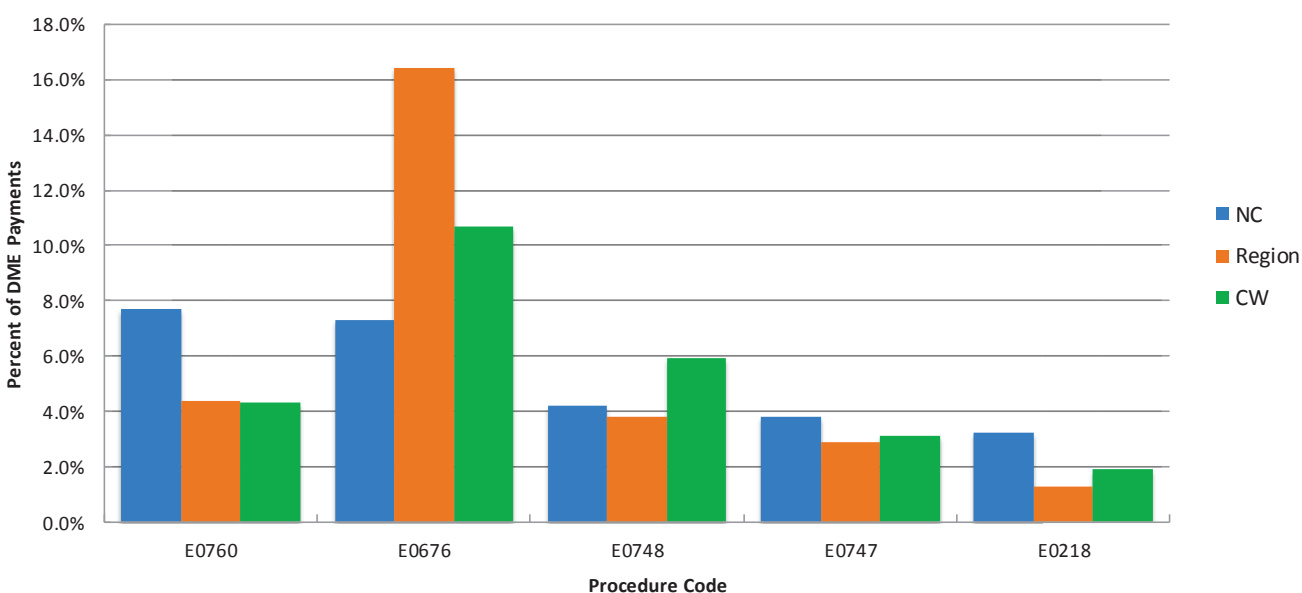
Code	% in NC	Description
L7499	5.5%	Upper extremity prosthesis, not otherwise specified
L4361	1.8%	Walking boot, pneumatic and/or vacuum, with or without joints, with or without interface material, prefabricated, off-the-shelf
L5999	1.8%	Lower extremity prosthesis, not otherwise specified
L4360	1.6%	Walking boot, pneumatic and/or vacuum, with or without joints, with or without interface material, prefabricated item that has been trimmed, bent, molded, assembled, or otherwise customized to fit a specific patient by an individual with expertise
L1833	1.6%	Knee orthosis, adjustable knee joints (unicentric or polycentric), positional orthosis, rigid support, prefabricated, off-the shelf

The most prevalent procedure code types reported for DMEs are HCPCS codes. The predominant HCPCS code reported for DMEs is E1399—Durable Medical Equipment, Miscellaneous. In North Carolina, code E1399 represents 41% of DME payments.

Chart 46 displays the top five procedure codes for DME other than code E1399. The procedure codes are ranked based on total payments in North Carolina. A brief description of each procedure code is displayed in the table below.

Chart 46

Top Five DME Codes by Amount Paid for North Carolina



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
E0760	7.7%	Osteogenesis stimulator, low intensity ultrasound, noninvasive
E0676	7.3%	Intermittent limb compression device (includes all accessories), not otherwise specified
E0748	4.2%	Osteogenesis stimulator, electrical, noninvasive, spinal applications
E0747	3.8%	Osteogenesis stimulator, electrical, noninvasive, other than spinal applications
E0218	3.2%	Water circulating cold pad with pump

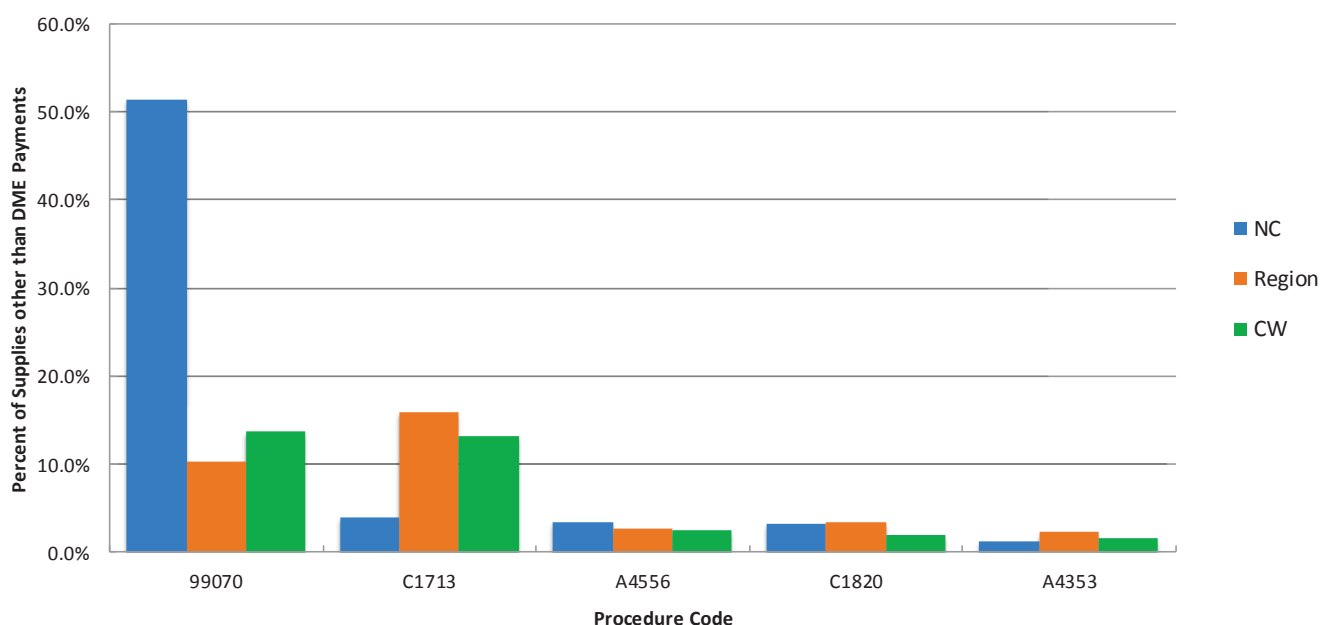


The most prevalent procedure code types reported for Supplies other than DME are HCPCS codes and revenue codes. HCPCS codes represent 24% of Supplies other than DME payments, while revenue and other codes represent the other 76%.

Chart 47 displays the top five procedure codes for Supplies other than DME. The procedure codes are ranked based on total payments in North Carolina. A brief description of each procedure code is displayed in the table below.

Chart 47

Top Five Supplies other than DME Codes by Amount Paid for North Carolina



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
99070	51.3%	Supplies and materials (except spectacles), provided by the physician or other qualified health care professional over and above those usually included with the office visit or other services rendered
C1713	3.9%	Anchor/screw for opposing bone-to-bone or soft tissue-to-bone (implantable)
A4556	3.3%	Electrodes (e.g., apnea monitor), per pair
C1820	3.2%	Generator, neurostimulator (implantable), with rechargeable battery and charging system
A4353	1.3%	Intermittent urinary catheter, with insertion supplies



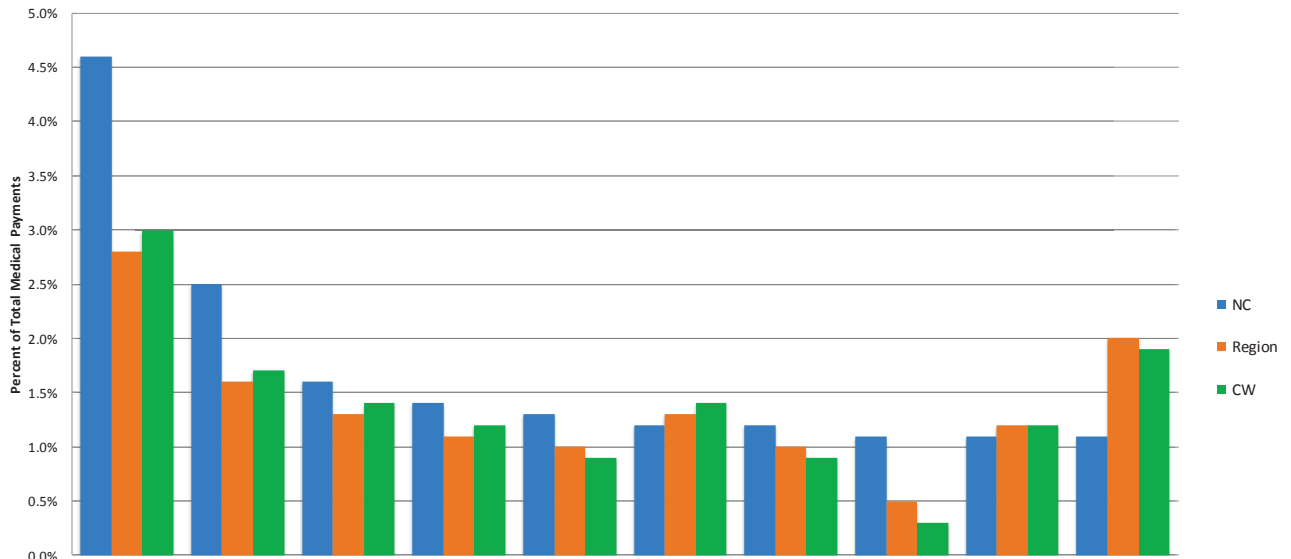
Chart 48 displays the top 10 diagnoses, identified by the ICD-10 (International Classification of Diseases) codes. The ICD-10 code indicates the condition for which the care is provided. NCCI assigns an ICD-10 code to each workers compensation claim based on the severity of the ICD-10 codes reported on bills by medical providers for services provided to the injured worker.

The top 10 diagnosis codes are ranked by total claim payments for North Carolina. This method of ranking shows which diagnostic codes have the highest percentage share of payments. Payments are based on claims with dates of injury between January 1, 2015, and December 31, 2015, and they include all reported services provided for those claims through December 31, 2016. As these claims mature, the mix of ICD-10 codes may change, thus impacting the percentage share of payments for a specific code over time. This mix may also affect how costs per code in North Carolina compare to countrywide costs. The state, region, and countrywide average payments per claim are also displayed for each diagnostic code. A brief description of each diagnostic code is displayed in the table below the chart.



Chart 48

Top 10 ICD-10 Codes by Amount Paid for Dates of Injury in 2015 for North Carolina



Diagnosis Code		M54.5	T14.90	S62	M54.2	S52.509A	S61.209A	I10	T22	M25.519	S43.429A
Average Payment per Claim	NC	\$2,603	\$2,731	\$3,982	\$2,991	\$13,246	\$598	\$4,437	\$7,441	\$1,871	\$13,376
	Reg	\$2,517	\$2,152	\$4,150	\$3,015	\$10,794	\$780	\$4,018	\$4,425	\$2,333	\$16,804
	CW	\$2,960	\$2,562	\$4,963	\$3,550	\$13,351	\$812	\$5,361	\$2,523	\$2,753	\$18,185

Source: NCCI Medical Data Call, Dates of Injury in 2015. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Code	% in NC	Description
M54.5	4.6%	Low back pain
T14.90	2.5%	Injury, unspecified
S62	1.6%	Fracture at wrist and hand level
M54.2	1.4%	Cervicalgia
S52.509A	1.3%	Unspecified fracture of the lower end of unspecified radius, initial encounter for closed fracture
S61.209A	1.2%	Unspecified open wound of unspecified finger without damage to nail, initial encounter
I10	1.2%	Essential (primary) hypertension
T22	1.1%	Burn and corrosion of shoulder and upper limb, except wrist and hand
M25.519	1.1%	Pain in unspecified shoulder
S43.429A	1.1%	Sprain of unspecified rotator cuff capsule, initial encounter



Comparison of Selected Results by Service Year

The tables in this section provide a comparison of results for North Carolina for the latest five service years. Analysis in the growth of shares may provide additional insight into medical cost drivers above and beyond an analysis at a specific point in time. The oldest data available from the Medical Data Call is for Service Year 2011 because this is the first full service year of data since the inception of the Call.

Results in the charts below may vary compared to medical reports from previous years. This is due to a lag in reporting, as well as improved derivations affecting categories for certain charts.

Distribution of Medical Payments for North Carolina (Chart 4)

Medical Category	2012	2013	2014	2015	2016
Physician	31%	32%	32%	36%	41%
Hospital Outpatient	21%	21%	21%	17%	16%
Hospital Inpatient	16%	13%	13%	14%	12%
ASC	5%	6%	6%	5%	4%
Drugs	12%	12%	13%	12%	12%
DME, Supplies, and Implants	10%	11%	10%	10%	9%
Other	5%	5%	5%	6%	6%

Distribution of Physician Payments by AMA Service Category for North Carolina (Chart 5)

AMA Service Category	2012	2013	2014	2015	2016
Anesthesia	4%	3%	3%	3%	3%
Surgery	26%	26%	25%	23%	20%
Radiology	14%	13%	13%	11%	9%
Pathology	2%	2%	2%	2%	1%
Physical Medicine	27%	29%	28%	32%	37%
General Medicine	4%	4%	4%	3%	3%
Evaluation and Management	19%	21%	22%	23%	25%
Other	4%	2%	3%	3%	2%



Hospital Inpatient Statistics for North Carolina (Charts 17 and 18)

Hospital Inpatient Statistics	2012	2013	2014	2015	2016
Average Payment Per Stay	\$30,891	\$27,521	\$28,332	\$26,149	\$24,098
Number of Stays per 1,000 Active Claims	18	18	18	19	17

Distribution of Hospital Outpatient Payments by Surgery and Nonsurgery for North Carolina

Visit Type	2012	2013	2014	2015	2016
Surgery	54%	53%	54%	59%	62%
Nonsurgery	46%	47%	46%	41%	38%

Hospital Outpatient Surgery Statistics for North Carolina (Charts 23 and 24)

Hospital Outpatient Surgery Statistics	2012	2013	2014	2015	2016
Average Payment Per Visit	\$4,529	\$4,382	\$4,492	\$3,795	\$3,599
Number of Visits per 1,000 Active Claims	98	100	99	100	94

Hospital Outpatient Nonsurgery Statistics for North Carolina (Charts 25 and 26)

Hospital Outpatient Nonsurgery Statistics	2012	2013	2014	2015	2016
Average Payment Per Visit	\$588	\$572	\$585	\$458	\$407
Number of Visits per 1,000 Active Claims	653	669	648	565	508

Emergency Room Statistics for North Carolina (Charts 30 and 31)

Emergency Room Statistics	2012	2013	2014	2015	2016
Average Payment Per Visit	\$1,530	\$1,613	\$1,662	\$1,300	\$1,099
Number of Visits per 1,000 Active Claims	290	277	276	277	259



ASC Statistics for North Carolina (Charts 34 and 35)

ASC Statistics	2012	2013	2014	2015	2016
Average Payment Per Visit	\$4,789	\$4,811	\$4,850	\$3,640	\$2,873
Number of Visits per 1,000 Active Claims	37	45	48	46	43

Distribution of Drug Payments by Brand Name and Generic for North Carolina (Chart 40)

Type of Drug	2012	2013	2014	2015	2016
Brand Name	54%	54%	49%	48%	50%
Generic	46%	46%	51%	52%	50%

Distribution of Drug Payments by Pharmacy and Nonpharmacy for North Carolina (Chart 42)

Type of Provider	2012	2013	2014	2015	2016
Pharmacy	91%	93%	93%	95%	95%
Nonpharmacy	9%	7%	7%	5%	5%

Distribution of Drug Payments by Repackaged and Nonrepackaged for North Carolina (Chart 43)

Type of Drug	2012	2013	2014	2015	2016
Repackaged	9%	6%	4%	0%	0%
Nonrepackaged	91%	94%	96%	100%	100%

Distribution of Payments by DME, Supplies, and Implants for North Carolina (Chart 44)

Category	2012	2013	2014	2015	2016
Implants/Orthotic and Prosthetic Procedures	41%	33%	32%	30%	32%
DME	11%	11%	13%	15%	20%
Supplies Other Than DME	48%	56%	55%	55%	48%



Glossary

Accident Year: A loss accounting definition in which experience is summarized by the calendar year in which an accident occurred.

Ambulatory Payment Classification (APC): Unit of payment under Medicare's Outpatient Prospective Payment System (OPPS) for hospital outpatient services where individual services are grouped based on similar characteristics and similar costs.

Ambulatory Surgical Center (ASC): A state-licensed facility that is used mainly to perform outpatient surgery, has a staff of physicians, has continuous physician and nursing care, and does not provide for overnight stays. An ASC can bill for facility fees much like a hospital, but generally has a separate fee schedule.

Controlled Substance: Drugs that are regulated by the Controlled Substance Act (CSA) of 1970. Each controlled substance is contained in one of five schedules based on its medical use(s) and its potential for abuse and addiction.

CPT Code Modifiers: Modifiers are codes added to a CPT code that further describe the procedure performed without changing the meaning of the original code.

Current Procedure Terminology (CPT): A numeric coding system maintained by the American Medical Association (AMA). The CPT coding system consists of five-digit codes that are primarily used to identify medical services and procedures performed by physicians and other healthcare professionals.

Diagnosis Related Groups (DRG): A system of hospital payment classification that groups patients with similar clinical problems who are expected to require similar amounts of hospital resources.

Drugs: Includes any data reported by a National Drug Code (NDC). Also included are data for revenue codes, the Healthcare Common Procedure Code System (HCPCS), and other state-specific codes that represent drugs.

Durable Medical Equipment (DME): Equipment that is primarily and customarily used to serve a medical purpose, can withstand repeated use, could normally be rented and used by successive patients, is appropriate for use in the home, and is not generally useful to a person in the absence of an illness or injury.

Emergency Room Services: Services performed in a hospital for patients requiring immediate attention.

Healthcare Common Procedure Coding System (HCPCS): Alphanumeric codes that include mostly nonphysician items or services such as medical supplies, ambulatory services, prostheses, etc. These are items and services not covered by Current Procedure Terminology (CPT) procedures.

Inpatient Hospital Service: Services for a patient who is admitted to a hospital for treatment that requires at least one overnight stay (more than 24 hours in a hospital).

Inpatient Hospital Stay: A hospital admission of a patient requiring hospitalization of at least one 24-hour period.

Length of Stay: The amount of time, in days, between admission to a hospital and discharge.

Medical Data Call: Captures transaction-level detail for medical billings that were processed on or after July 1, 2010. All medical transactions with the jurisdiction state in any applicable Medical Data Call state are reportable. This includes all workers compensation claims, including medical-only claims.

Outpatient Hospital Service: Any type of medical or surgical care performed at a hospital that is not expected to result in an overnight hospital stay (less than 24 hours in a hospital).



(Paid) Procedure Code: A code from the jurisdiction-approved code table that identifies the procedure associated with the reimbursement. Examples include CPT code or revenue code.

Revenue Code: A numeric coding system used in hospital billings that provides broad classifications of the types of services provided. Some examples are emergency room, operating room, recovery room, room and board, and supplies.

Service Year: A loss accounting definition where experience is summarized by the calendar year in which a medical service was provided.

Surgery Visit: A visit in which at least one surgery procedure is performed based on the reported procedure code.

Taxonomy Code: A code that identifies the type of provider that billed for, and is being paid for, a medical service. Data reporters are instructed to use the provider taxonomy list of standard codes maintained by the National Uniform Claim Committee.

Transaction: A line item of a medical bill.

Units: The number of units of service performed or the quantity of drugs dispensed. For Paid Procedure Codes related to medications, the quantity/units depend on the type of drug:

- For tablets, capsules, suppositories, nonfilled syringes, etc., *units* represents the actual number of the drug provided. For example, a bottle of 30 pills would have 30 units.
- For liquids, suspensions, solutions, creams, ointments, bulk powders, etc. dispensed in standard packages, the units are specified by the procedure code. For example, a cream is dispensed in a standard tube, which is defined as a single unit.
- For liquids, suspensions, solutions, creams, ointments, bulk powders, etc. that are not dispensed in standard packages, the number of units is the amount provided in its standard unit of measurement (e.g., milliliters, grams, ounces). For example, codeine cough syrup dispensed by a pharmacist into a four-ounce bottle would be reported as four units.

Visit: Any hospital outpatient or ASC service or set of services provided to a claimant on a specific date. Any visit may have more than one procedure performed, and any claimant may have more than one visit.



Appendix

The data contained in this report represents medical transactions for Service Year 2016 (medical services delivered from January 1, 2016, to December 31, 2016), except where otherwise noted. Insurance carriers must report paid medical transactions if they write at least 1% of the market share in any one state for which NCCI is the advisory organization. Once a carrier meets the eligibility criteria, the carrier will be required to report for all applicable states in which it writes, even if an individual state's market share is below the threshold. All carriers within a group are required to report, regardless of whether they write less than 1% of the market share in the state.

The data is reported under the jurisdiction state—the state under whose Workers Compensation Act the claimant's benefits are being paid. Medical transactions must continue to be reported until the transactions no longer occur (i.e., the claim is closed) or 30 years from the accident date. There are nearly 30 data elements reported.

For the state of North Carolina in Service Year 2016, the reported number of transactions was more than 1,627,300, with more than \$259,250,100 paid, for more than 77,100 claims, representing data from 88% of the workers compensation premium written, which includes experience for large-deductible policies. Lump-sum settlements are not required to be reported. Also, self-insured data is not included.

Wherever possible, standard industry codes are used because they provide a clear definition of the data, increase efficiency of computer systems, and improve the accuracy and quality of the data.

Carriers differ in their handling of medical data reporting. Some carriers retain all medical claims handling internally and submit the data themselves. Others use business partners for various aspects of medical claim handling, such as third party administrators, medical bill review vendors, etc. It is possible for a carrier to authorize its vendor to report the data on its behalf. Some carriers may use a combination of direct reporting and using vendors. Although data may have been provided by an authorized vendor on behalf of a carrier, the quality, timeliness, and completeness of the data is the responsibility of the carrier.

Before a medical data provider can send files, each submitter's electronic data file must pass certification testing. This ensures that all connections, data files, and systems are functioning and processing correctly. Each medical data provider within a reporting group is required to pass certification testing. If a medical data provider reports data for more than one reporting group, that data must be certified for each group.

For more information about the Medical Data Call, please refer to the ***Medical Data Call Reporting Guidebook*** on **ncci.com**.



Medical Data Report
Opioid Utilization Supplement

For the state of:

NORTH CAROLINA

September 2017



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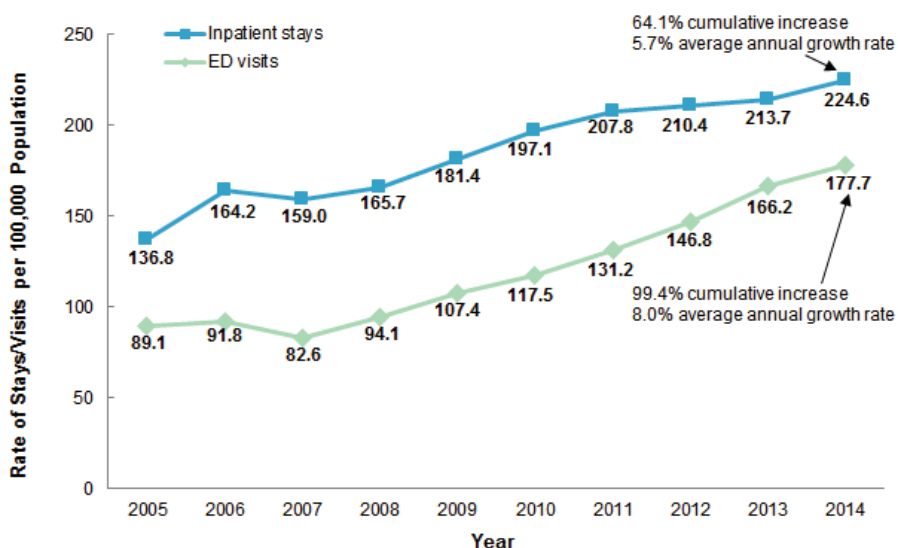
Introduction

Prescription opioids are a class of drugs used to treat moderate to severe pain, particularly chronic intractable pain. According to the [Centers for Disease Control and Prevention \(CDC\)](http://www.cdc.gov)¹, “Opioids (including prescription opioids and heroin) killed more than 33,000 people in 2015, more than any year on record. Nearly half of all opioid overdose deaths involve a prescription opioid.”

The opioid epidemic in the United States has a far-reaching impact on the workers compensation system. Results from the 2015 National Survey on Drug Use and Health² reveal that of the 20.8 million people aged 12 or older who had a past year substance use disorder in 2015, 1.9 million adults had misused prescription pain relievers.

The use of opioids can have unintended consequences that severely impact the injured worker, the employer and the workers compensation system at large. One measure of the severity of increased use of opioids over time is the number of opioid-related emergency department visits (ED visits) or hospital inpatient stays. The chart below from the Healthcare Cost and Utilization Project (H-CUP)³ illustrates the significant growth in opioid-related hospital visits during the last decade.

National rate of opioid-related inpatient stays and emergency department visits



In response to the opioid crisis, several states have established laws and regulations to address opioid prescribing patterns for the population at large as well as in workers compensation. This Opioid Utilization Supplement is a data source for regulators and others who are interested in monitoring opioid utilization in workers compensation. The information in this report provides important benchmarks and gives valuable insight into the opioid prescribing patterns that threaten not only the lives of injured workers, but also the financial soundness of the workers compensation system.

¹ <https://www.cdc.gov/drugoverdose/index.html>

² Center for Behavioral Health Statistics and Quality. (2016). *Key substance use and mental health indicators in the United States: Results from the 2015 National Survey on Drug Use and Health* (HHS Publication No. SMA 164984, NSDUH Series H51). Retrieved from <http://www.samhsa.gov/data/>

³ Healthcare Cost and Utilization Project. (2017) *Opioid Related Inpatient Stays and Emergency Department Visits by State, 2009-2014*, Statistical Brief #219. Retrieved from <https://www.hcup-us.ahrq.gov/>



Each calendar year, NCCI produces, publishes, and delivers the Medical Data Report to regulators, which is also made available to authenticated users on ncci.com. This publication is a supplement to the Medical Data Report and is intended to serve as a data resource for regulators and others who are interested in the prescription drug component of medical costs in workers compensation claims. Specifically, this report focuses on opioid prescriptions costs and utilization rates at the aggregate level for state, region, and countrywide analysis. It is delivered to regulators along with the Medical Data Report and is available on ncci.com.

This report has five (5) sections:

- Prescription Drug Statistics
- Opioid Claim Statistics
- Concurrent Usage of Opioids and Benzodiazepines
- Changes in Opioid Prescribing Patterns
- Opioids and the Morphine Milligram Equivalents

The report drills down on these sections to provide details on payments and prescribing patterns.

One important caveat: Information in this report may not coincide with an analysis of a legislative provision or rule change performed in the future. Such an analysis would require evaluation of the specific drugs covered by the rule, which may be different from the way that payments or prescriptions for the drugs are categorized in this report.



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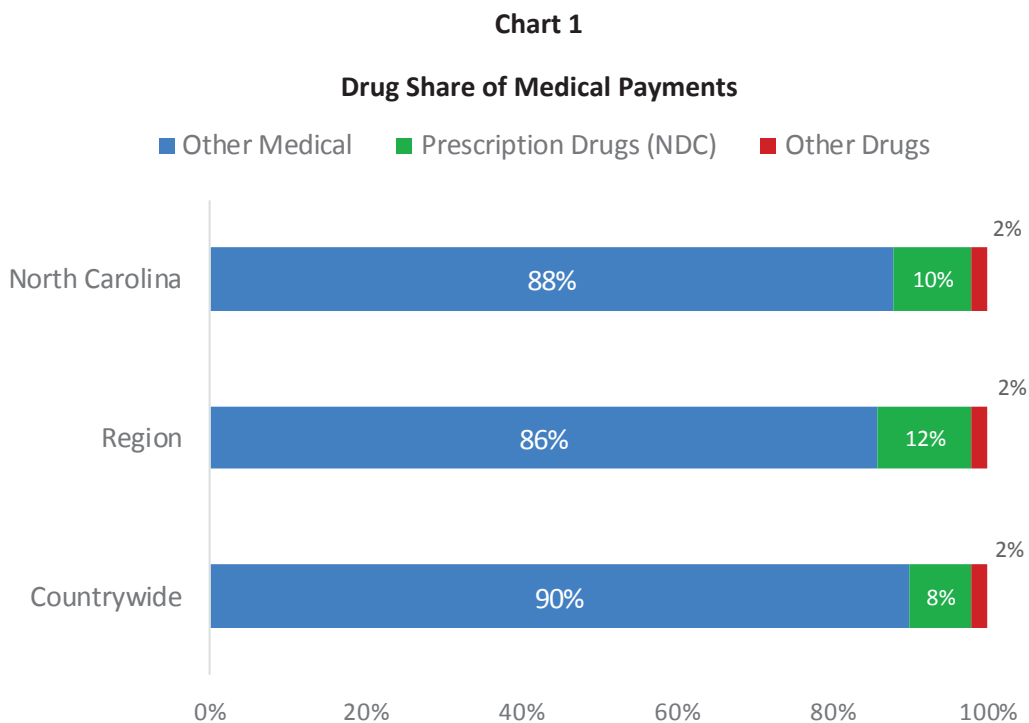
Prescription Drug Statistics

According to NCCI’s study, “Workers Compensation and Prescription Drugs: 2016 Update” (*Annual Issues Symposium*, May 2016), the narcotics Oxycontin® and Oxycodone-Acetaminophen (commonly known as Percocet®) were among the most widely prescribed drugs in workers compensation for Service Year (SY) 2014.

Drugs are uniquely identified by a national drug code (NDC). Charts 1 through 3 provide greater detail on payments for prescription drugs reported with an NDC, whether the drugs were provided in a pharmacy, physician’s office, hospital, or other place of service. Payments are categorized as drugs if the code reported on the transaction is an NDC. Payments for drugs can also be reported using codes other than NDCs, such as revenue codes, Healthcare Common Procedure Coding System (HCPCS) codes, and other state-specific procedure codes. These are referred to as “Other Drugs” in Chart 1.

For Service Year (SY) 2016, North Carolina spent \$26 million on 173,000 prescriptions for workers compensation claims.

Chart 1 displays the prescription drug shares of medical payments for North Carolina, the region, and countrywide.



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.



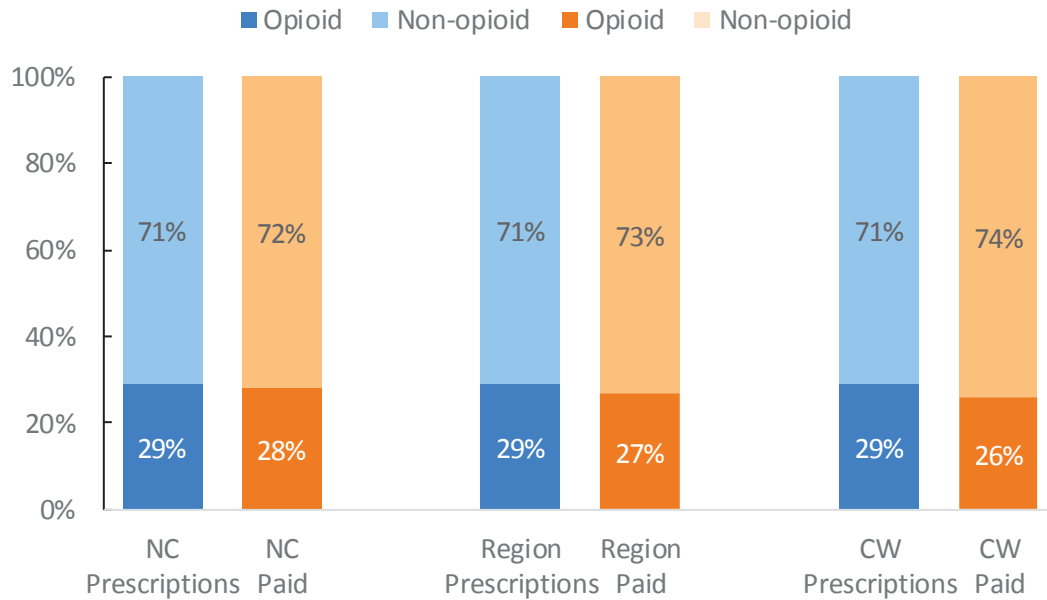
The results in the charts that follow are based only on payments reported with an NDC.

In 2016, North Carolina spent \$7 million on 51,000 opioid prescriptions; 4 of the top 10 drugs by amount paid are opioids and account for 12% of drug payments.

Chart 2 shows the proportion of drug payments and prescription counts for opioids in North Carolina, the region, and countrywide.

Chart 2

Opioid Distribution of Prescriptions and Payments



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

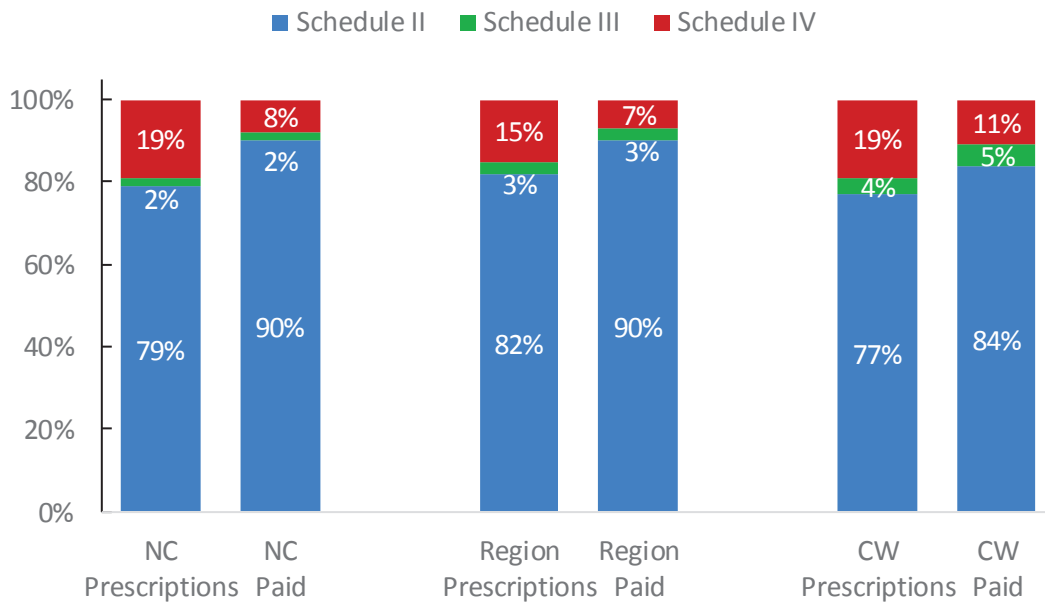
Opioids are drugs subject to the Controlled Substance Act (CSA), passed in 1970 to regulate the manufacture, distribution, possession, and use of certain drugs. There are five controlled substance schedules, or groups, determined by varying qualifications, such as the drug’s medical uses, if any, and its potential for abuse. For example, Schedule V drugs have the lowest potential for abuse, while Schedule I drugs are illegal as they are deemed to have no known medical uses.

According to the Diversion Control Division of the Drug Enforcement Administration⁴, schedule drug prescribing must adhere to certain rules. A prescription for a schedule drug must be written in ink or indelible pencil or typewritten and must be manually signed by the practitioner or their designee. A schedule II prescription must be signed by the practitioner. While prescriptions for schedules III and IV controlled substances may be refilled up to five times in six months, a schedule II prescription may not be refilled. A new prescription must be issued each time.

Opioids are largely Schedule II and Schedule III drugs. Chart 3 shows the percentage of opioid payments and opioid prescriptions by schedule for North Carolina, the region, and countrywide.

Chart 3

Distribution of Opioids by Drug Schedule



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

⁴ <https://www.deadiversion.usdoj.gov/faq/prescriptions.htm#rx-2>

Charts 4 and 5 provide greater detail on payments for opioid prescription drugs.

Chart 4 displays the shares of the payments of prescription medication for the top 10 workers compensation opioid drugs and whether the drugs are generic (G) or brand name (B). This method of ranking shows which drugs have the highest percentage share of payments. Also included is the amount paid per unit (PPU).

Chart 4

Top 10 Workers Compensation Opioid Drugs by Amount Paid for North Carolina

Name of Opioid Drug	Type B/G	% of Drug Payments	PPU North Carolina	PPU Region	PPU Countrywide
Oxycodone HCl-Acetaminophen	G	3.9%	\$1.56	\$1.85	\$1.76
Oxycontin®	B	3.6%	\$8.34	\$8.82	\$8.43
Nucynta®	B	2.4%	\$6.04	\$6.18	\$6.07
Tramadol HCl	G	2.0%	\$0.91	\$0.98	\$1.16
Hydrocodone Bitartrate-Acetaminophen	G	1.7%	\$0.54	\$0.56	\$0.58
Oxycodone HCl	G	1.7%	\$0.92	\$1.37	\$1.27
Subsys®	B	1.5%	\$110.23	\$131.54	\$118.33
Nucynta ER®	B	1.4%	\$11.34	\$11.67	\$11.65
Opana ER®	B	1.3%	\$10.44	\$10.52	\$10.31
Actiq®	B	1.1%	\$152.28	N/A	\$135.90

Top 10 Workers Compensation Opioid Drugs by Amount Paid for Countrywide

Name of Opioid Drug	Type B/G	% of Drug Payments	PPU North Carolina	PPU Region	PPU Countrywide
Oxycontin®	B	4.4%	\$8.34	\$8.82	\$8.43
Oxycodone HCl-Acetaminophen	G	3.7%	\$1.56	\$1.85	\$1.76
Tramadol HCl	G	2.7%	\$0.91	\$0.98	\$1.16
Hydrocodone Bitartrate-Acetaminophen	G	2.5%	\$0.54	\$0.56	\$0.58
Oxycodone HCl	G	2.2%	\$0.92	\$1.37	\$1.27
Morphine Sulfate	G	1.2%	\$2.81	\$2.44	\$2.24
Nucynta®	B	1.0%	\$6.04	\$6.18	\$6.07
Percocet®	B	0.9%	\$15.56	\$16.09	\$15.49
Opana ER®	B	0.9%	\$10.44	\$10.52	\$10.31
Nucynta ER®	B	0.8%	\$11.34	\$11.67	\$11.65

Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Chart 5 displays the top 10 workers compensation opioid drugs according to the number of prescriptions. This chart reveals the most frequently prescribed opioids and the amount paid per unit (PPU).

Chart 5

Top 10 Workers Compensation Opioid Drugs by Prescription Counts for North Carolina

Name of Opioid Drug	Type B/G	% of Drug Prescriptions	PPU North Carolina	PPU Region	PPU Countrywide
Hydrocodone Bitartrate-Acetaminophen	G	8.9%	\$0.54	\$0.56	\$0.58
Oxycodone HCl-Acetaminophen	G	5.8%	\$1.56	\$1.85	\$1.76
Tramadol HCl	G	5.5%	\$0.91	\$0.98	\$1.16
Oxycodone HCl	G	3.2%	\$0.92	\$1.37	\$1.27
Oxycontin®	B	1.0%	\$8.34	\$8.82	\$8.43
Nucynta®	B	0.7%	\$6.04	\$6.18	\$6.07
Hydromorphone HCl	G	0.6%	\$2.09	\$2.84	\$1.97
Morphine Sulfate	G	0.6%	\$2.81	\$2.44	\$2.24
Acetaminophen-Codeine Phosphate	G	0.5%	\$0.37	\$0.44	\$0.47
Nucynta ER®	B	0.3%	\$11.34	\$11.67	\$11.65

Top 10 Workers Compensation Opioid Drugs by Prescription Counts for Countrywide

Name of Opioid Drug	Type B/G	% of Drug Prescriptions	PPU North Carolina	PPU Region	PPU Countrywide
Hydrocodone Bitartrate-Acetaminophen	G	9.7%	\$0.54	\$0.56	\$0.58
Tramadol HCl	G	5.1%	\$0.91	\$0.98	\$1.16
Oxycodone HCl-Acetaminophen	G	4.7%	\$1.56	\$1.85	\$1.76
Oxycodone HCl	G	2.8%	\$0.92	\$1.37	\$1.27
Oxycontin®	B	1.2%	\$8.34	\$8.82	\$8.43
Morphine Sulfate	G	1.1%	\$2.81	\$2.44	\$2.24
Acetaminophen-Codeine Phosphate	G	0.6%	\$0.37	\$0.44	\$0.47
Hydromorphone HCl	G	0.4%	\$2.09	\$2.84	\$1.97
Fentanyl Transdermal System	G	0.3%	\$18.58	\$20.69	\$21.89
Methadone HCl	G	0.3%	\$0.26	\$0.24	\$0.24

Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Opioid Claim Statistics

In addition to providing information on workers compensation claims with opioids, this report also provides information on workers compensation claims with concurrent use of opioids and benzodiazepines (benzos). A benzodiazepine, typically a Schedule IV drug, produces central nervous system (CNS) depression (as do opioids) and is most commonly used to treat insomnia and anxiety. Two examples of widely used benzos are Xanax® and Ativan®.

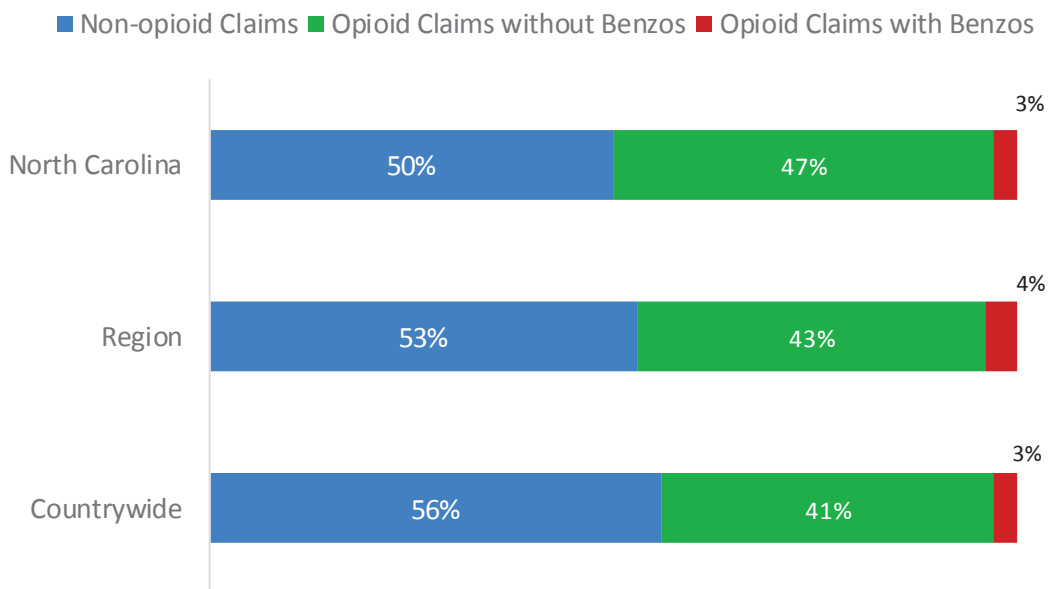
Several types of workers compensation claims are referenced in this report:

- **Rx Claim** – a WC claim that had at least one prescription during the period
- **Opioid claim** – a WC claim that had at least one opioid prescription during the period
- **Non-opioid claim** – a WC claim that had at least one prescription but no opioids during the period
- **Opioid claim with benzos** – a WC claim that had at least one opioid prescription and at least one benzo prescription during the period
- **Opioid claim without benzos** – a WC claim that had at least one opioid prescription and no benzo prescriptions during the period

Chart 6 displays the distribution of Rx claims for North Carolina, the region, and countrywide.

Chart 6

Rx Claim Distributions



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

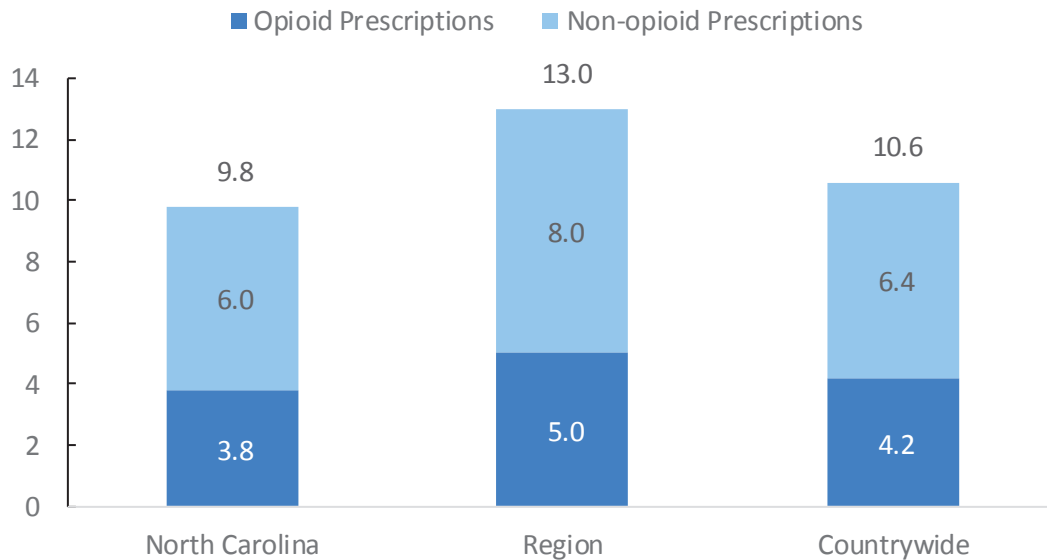


Injured workers who have been prescribed opioids are, on average, prescribed a greater number of prescriptions than those who have not. In North Carolina, a non-opioid claim has an average number of 3.1 prescriptions compared to 3.7 in the region and 3.1 countrywide.

Chart 7 shows the average number of opioid and non-opioid prescriptions per opioid claim (a claim with at least one opioid prescription) for North Carolina, the region, and countrywide.

Chart 7

Average Number of Prescriptions per Opioid Claim

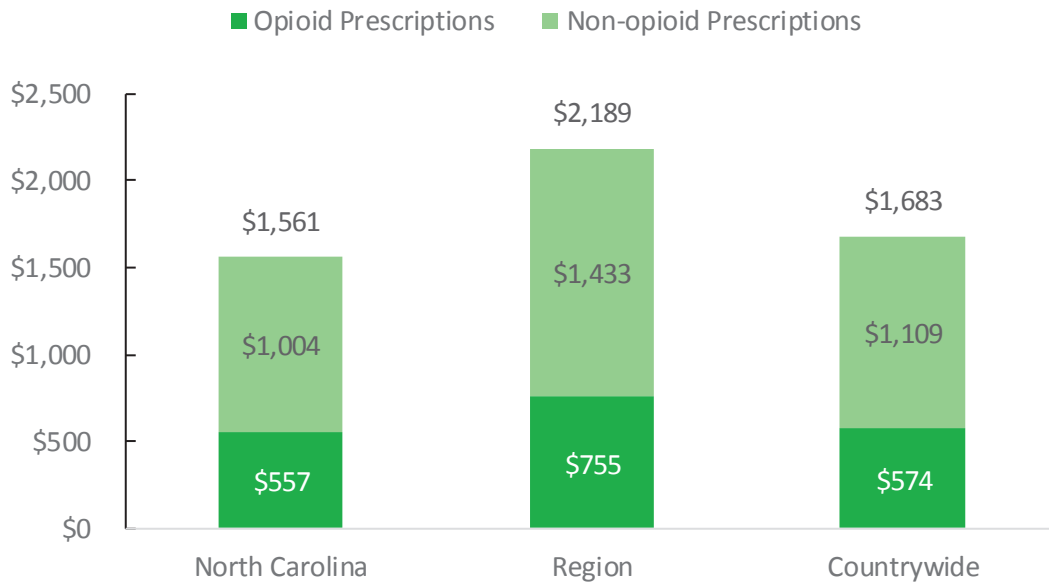


Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Chart 8 shows the average payment for prescriptions per opioid claim for North Carolina, the region, and countrywide.

Chart 8

Average Payment for Prescription Drugs per Opioid Claim



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

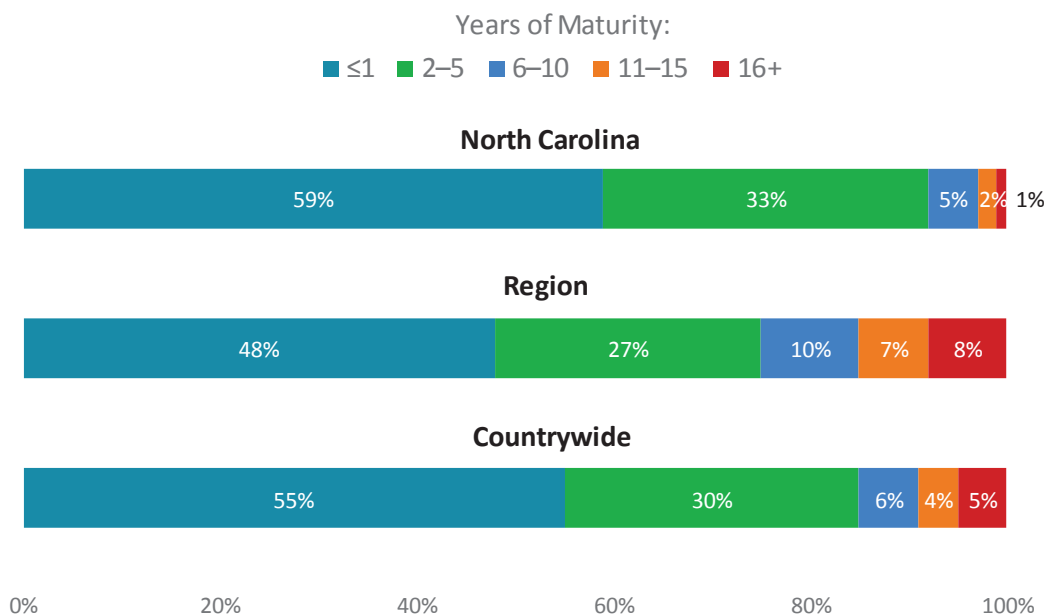


Workers compensation insurance is considered to have a long tail of liability, meaning that injured workers continue to receive medical benefits over a long period of time, sometimes 30 years or more. Observing opioid claims by claim maturity provides insight into the long-lasting usage of opioid prescriptions and their prevalence among injured workers at various stages of their disability.

Chart 9 shows the distribution of opioid claims by claim maturity for North Carolina, the region, and countrywide, where maturity is measured by the number of years from the date of injury.

Chart 9

Opioid Claim Distribution by Claim Maturity



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

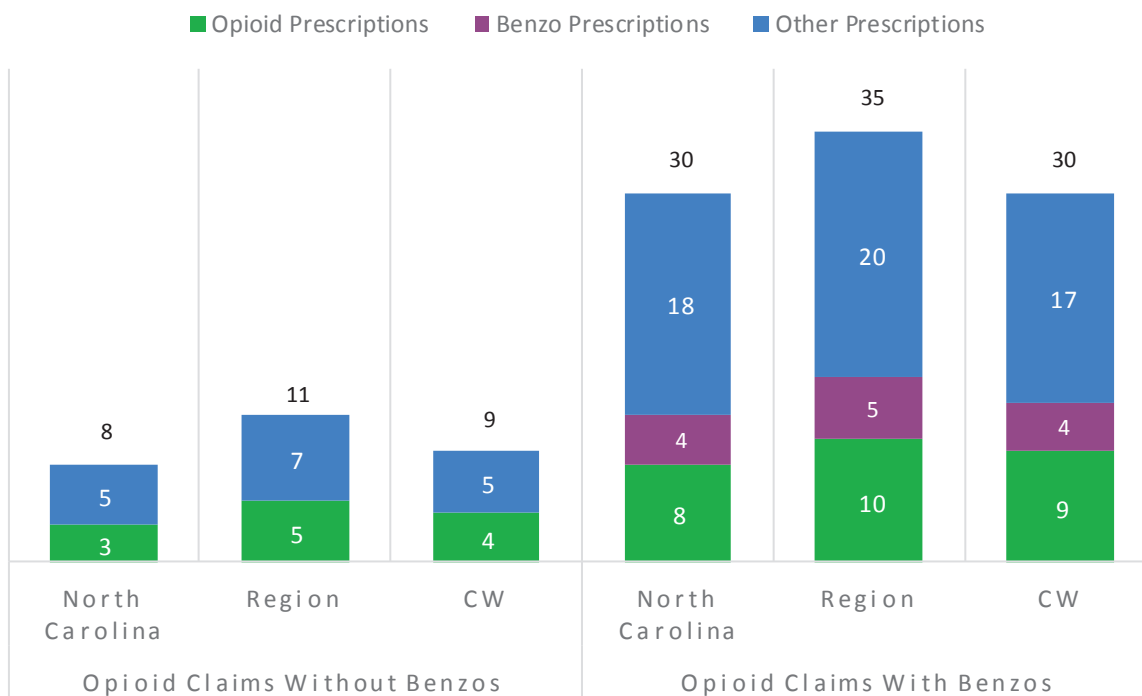
Concurrent Usage of Opioids and Benzodiazepines

According to a study⁵ on opioid abuse published by the British Medical Journal, of “2,400 veterans in the population who died because of a drug overdose while taking opioid painkiller prescriptions, 49 percent had been concurrently prescribed benzodiazepines.” In workers compensation, while the number of injured workers who concurrently are prescribed both an opioid and a benzo is relatively small, the proportion of prescription drugs and their associated costs for those injured workers are considerably high.

Chart 10 displays the average number of opioid, benzo and other prescriptions for opioid claims with and without benzos for North Carolina, the region, and countrywide.

Chart 10

Average Number of Prescriptions by Claim Type



Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

⁵ "Dangers of Mixing Opiates & Benzos: Vicodin, Xanax, Oxycodone, Valium." American Addiction Centers. N.p., n.d. Web. 16 Nov. 2016.



Chart 11 shows the top 5 benzos concurrently used with opioids for North Carolina, along with the PPU for North Carolina, the region, and countrywide.

Chart 11

Top 5 Workers Compensation Benzos by Amount Paid for North Carolina

Name of Benzo Drug	Type B/G	% of Benzo Payments	PPU North Carolina	PPU Region	PPU Countrywide
Alprazolam	G	17.1%	\$0.81	\$0.73	\$0.76
Clonazepam	G	14.9%	\$0.56	\$0.60	\$0.59
Ativan®	B	11.9%	\$27.66	\$36.88	\$30.09
Valium®	B	10.7%	\$6.04	\$7.96	\$7.16
Temazepam	G	8.3%	\$1.35	\$0.88	\$1.05

Source: NCCI Medical Data Call, Service Year 2016. Region includes KY, SC, TN, VA, and WV. Countrywide includes data for the following states: AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Changes in Opioid Prescribing Patterns

According to the U.S. Department of Health and Human Services (HHS)⁶, “Our nation is in the midst of an unprecedented opioid epidemic.” One initiative the HHS is using to target this problem is improving prescribing practices. In March 2016, the CDC released its *Guideline for Prescribing Opioids for Chronic Pain*, which provides recommendations for the prescribing of opioid pain medication for patients 18 and older in primary care settings.

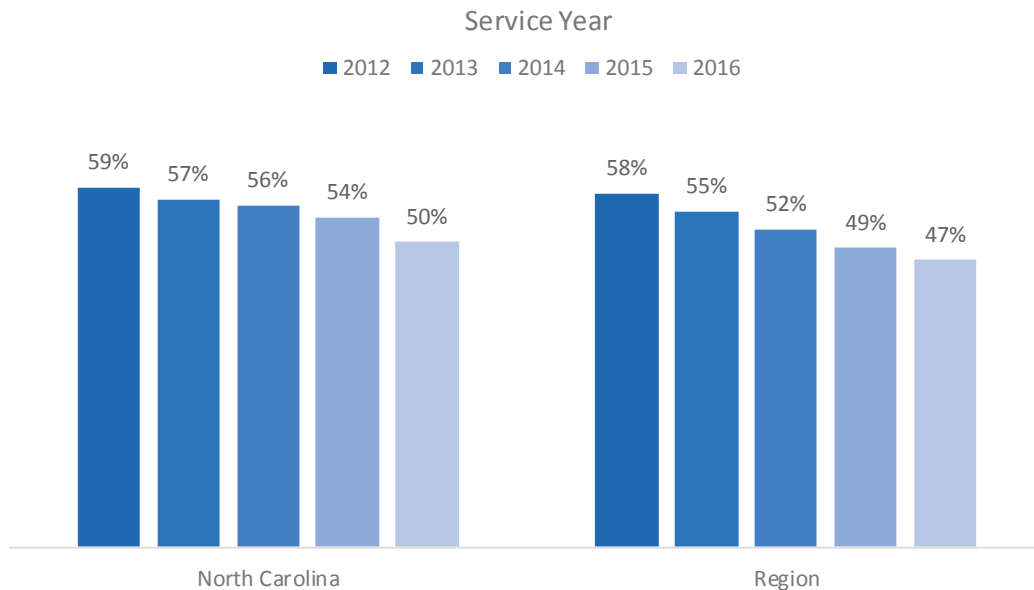
Prescribing patterns for workers compensation claims reflect concerted efforts by the various stakeholders to respond to the opioid crisis, be it through rules employed by regulatory agencies, guidelines for prescribing opioids, or greater attention paid by the prescribing physicians and employers to the injured workers who are being prescribed and are taking the drugs.

The share of Rx claims that are also opioid claims has decreased nationally from 55% in Service Year 2012 to 44% in Service Year 2016.

Chart 12 shows the share of opioid claims over the latest five service years for North Carolina and the region.

Chart 12

Share of Drug Claims With At Least One Opioid Prescription



Source: NCCI Medical Data Call. Region includes KY, SC, TN, VA, and WV.

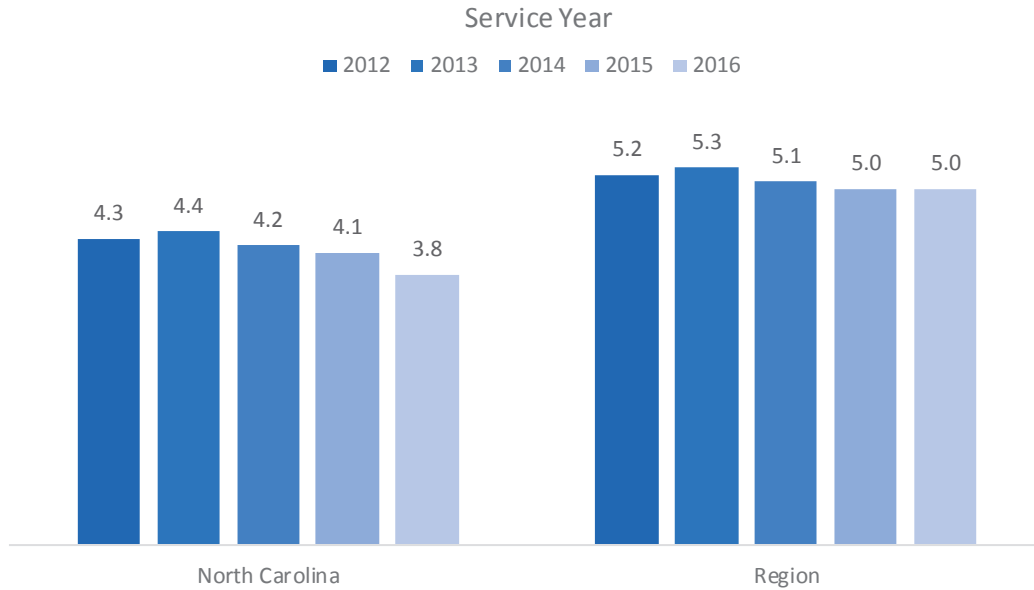
⁶ The Opioid Epidemic: By the Numbers, HHS Factsheet, June 2016



Furthermore, the average number of opioid prescriptions per opioid claim has also declined nationally from 4.6 prescriptions in SY 2012 to 4.2 in SY 2016. Chart 13 reflects the change in the average number of opioid prescriptions per opioid claim over the latest five service years in North Carolina and the region.

Chart 13

Average Number of Opioid Prescriptions per Opioid Claim



Source: NCCI Medical Data Call. Region includes KY, SC, TN, VA, and WV.

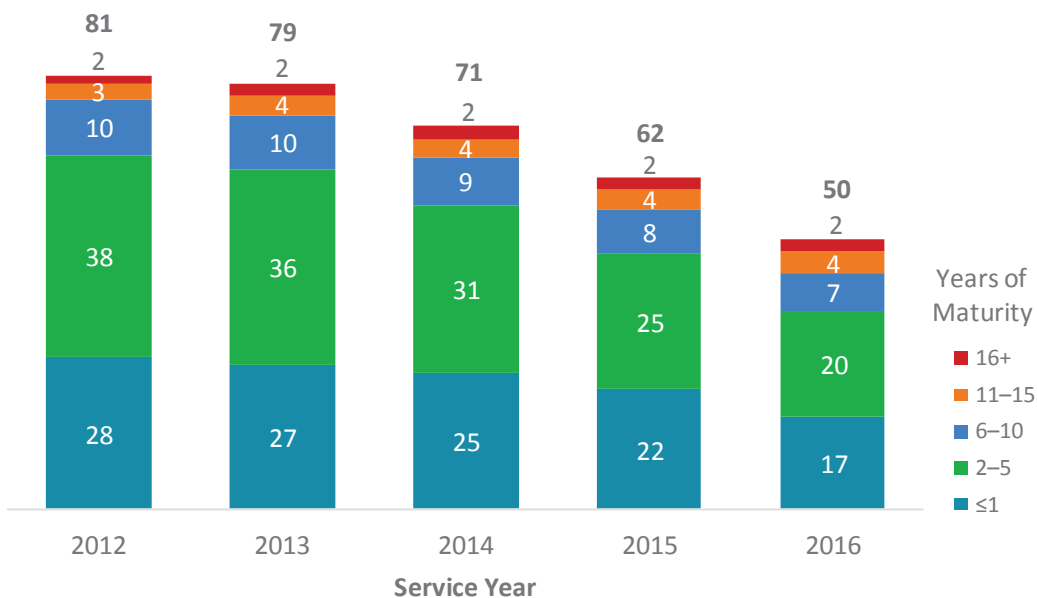


The decrease in the number of opioid prescriptions is most prominent for opioid claims at the earlier years of maturity.

Chart 14 shows the change in the total number of opioid prescriptions by claim maturity for North Carolina.

Chart 14

Total Number of Opioid Prescriptions (in '000s) by Opioid Claim Maturity for North Carolina



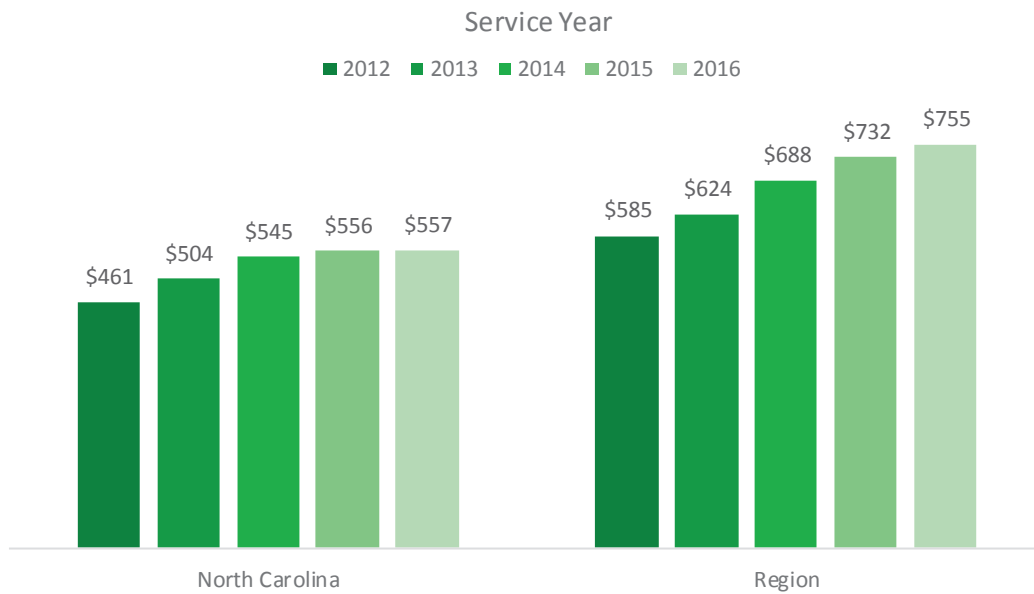
Source: NCCI Medical Data Call



NCCI's study on prescription drugs [Workers Compensation and Prescription Drugs: 2016 Update](#) concluded that in 2014, controlled substance prices increased 16% countrywide. Opioid prices over the latest five years have increased, causing the average countrywide opioid payment per opioid claim to grow from \$460 in SY 2012 to \$574 in SY 2016. Chart 15 displays the change in the average opioid payment per opioid claim over the last five service years for North Carolina and the region.

Chart 15

Average Opioid Payment per Opioid Claim by Service Year



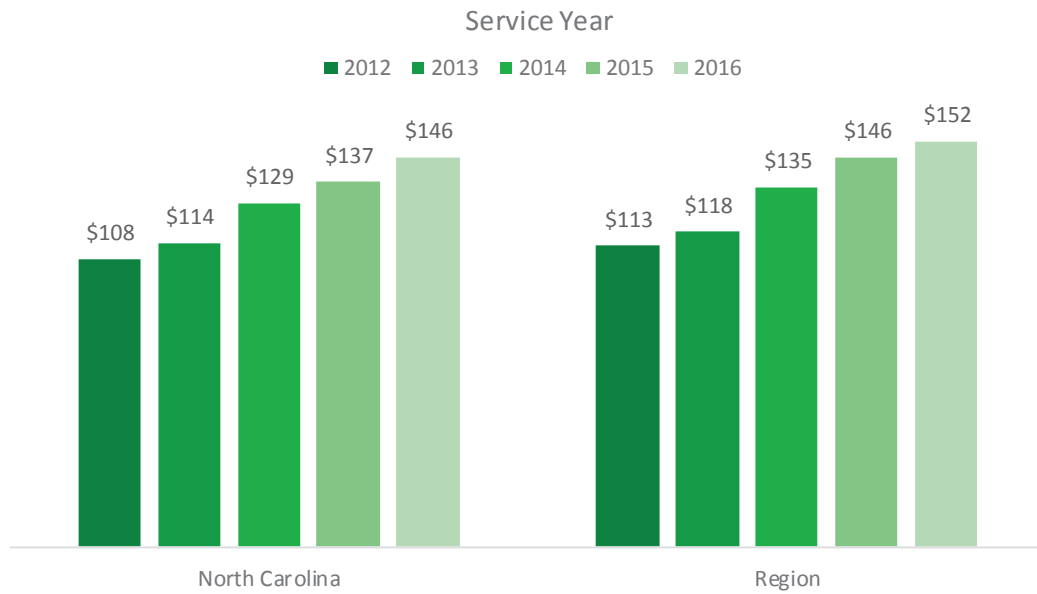
Source: NCCI Medical Data Call. Region includes KY, SC, TN, VA, and WV.

Furthermore, the average opioid payment per opioid prescription reflects the growing price of opioids. In fact, the countrywide average payment for an opioid prescription has increased from \$101 in SY 2012 to \$137 in SY 2016.

Chart 16 displays the change in the average payment per opioid prescription over the last five service years for North Carolina and the region.

Chart 16

Average Payment per Opioid Prescription by Service Year



Source: NCCI Medical Data Call. Region includes KY, SC, TN, VA, and WV.

Opioids and the Morphine Milligram Equivalents

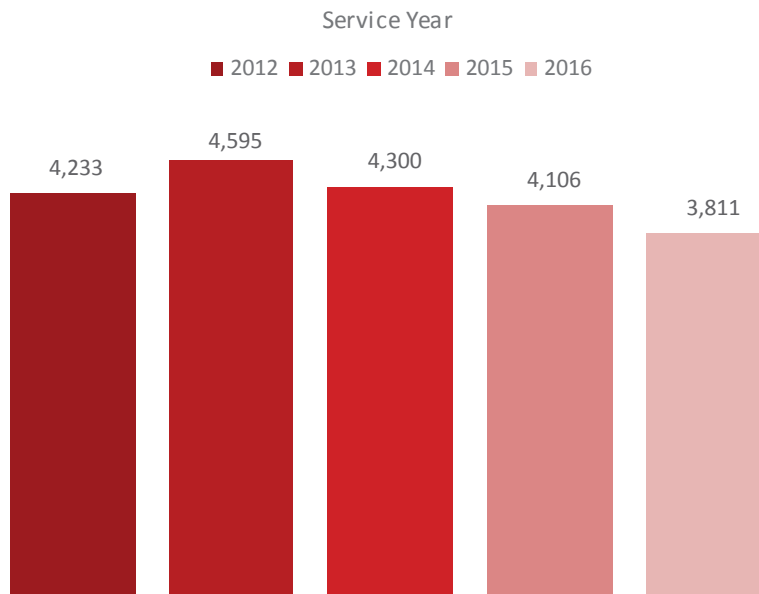
Price inflation of prescription drugs is one factor that impacts payments over time. The content of prescriptions and dosages can also impact the payments made. Not all prescriptions are equal, and not all opioids are equal. Consequently, a comparison of prescriptions or opioid payments with a common unit of comparison can add clarity to the observed experience.

The CDC⁷ provides a way to convert daily, or hourly, doses of opioids to an equivalent daily dose of morphine by assigning a conversion factor to each type of drug, thus deriving the Morphine Milligram Equivalents (MME) for any opioid prescription, based on the number of units (pills for example) prescribed and the drug formulation. For example, one milligram per day of Oxycodone for instance is assigned a MME factor of 1.5; one milligram per day of codeine, on the other hand, is assigned a MME factor of 0.15.

Chart 17 displays the average yearly amount of MME prescribed per claimant with at least one opioid prescription for the latest five service years in North Carolina.

Chart 17

Average Yearly MME per Opioid Claim for North Carolina



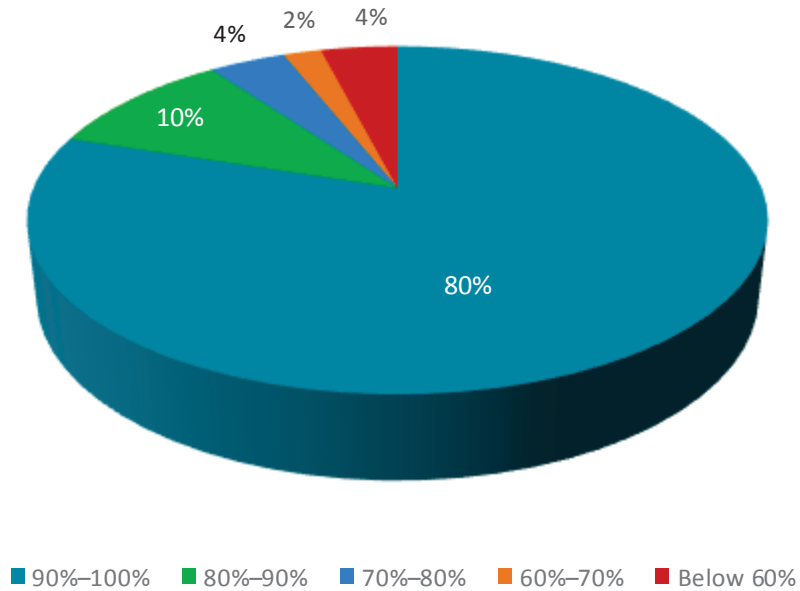
Source: NCCI Medical Data Call.

⁷ https://www.cdc.gov/drugoverdose/pdf/calculating_total_daily_dose-a.pdf

One way to recognize the extensive use of opioids is to classify claims into groups with different levels of opioid utilization. Chart 18 shows the distribution of MME by opioid claim deciles⁸ in North Carolina. For example, the top 20% of claims in North Carolina included approximately 90% of the total MME prescribed during Service Year 2016.

Chart 18

Distribution of MME by Claim Decile for North Carolina



Source: NCCI Medical Data Call, Service Year 2016.

⁸ A decile is one of ten equal groups into which a population is divided according to the distribution of values of a particular variable.



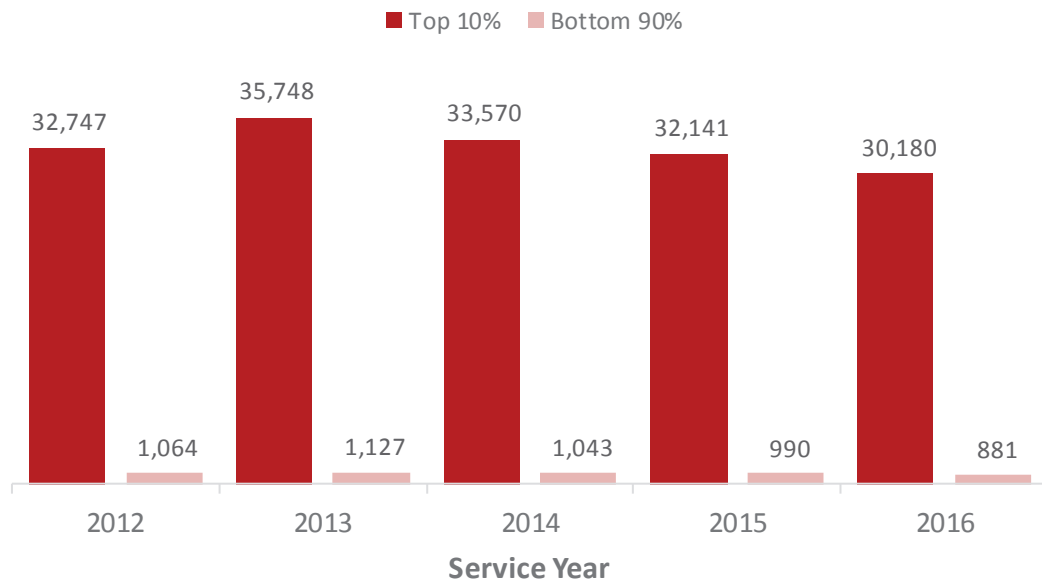
According to the [CDC Guideline for Prescribing Opioids for Chronic Pain](#)⁹, clinicians “should avoid increasing dosage to ≥ 90 MME/day or carefully justify a decision to titrate dosage to ≥ 90 MME/day.”

A claimant who consumes 100 MME per day for each day of the year would have a yearly MME consumption of 36,500. In SY 2016, average “heavy users” (top 10% of opioid claimants) were prescribed approximately 83% of the MME of such a claimant in North Carolina.

Chart 19 shows the average yearly MME consumption per opioid claim for the top 10% of claimants in North Carolina in comparison to the bottom 90% for the latest five years.

Chart 19

Average Yearly MME Prescribed per Opioid Claim for North Carolina



Source: NCCI Medical Data Call.

⁹ https://www.cdc.gov/drugoverdose/pdf/guidelines_at-a-glance-a.pdf



Glossary

Benzodiazepines (Benzos): Benzodiazepines are a class of drugs that produce central nervous system (CNS) depression and that are most commonly used to treat insomnia and anxiety.

Controlled Substance: Drugs that are regulated by the Controlled Substance Act (CSA) of 1970. Each controlled substance is contained in one of five schedules based on its medical use(s) and its potential for abuse and addiction.

Current Procedure Terminology (CPT): A numeric coding system maintained by the American Medical Association (AMA). The CPT coding system consists of five-digit codes that are primarily used to identify medical services and procedures performed by physicians and other healthcare professionals.

Drugs: Includes any data reported by a National Drug Code (NDC). Also included are data for revenue codes, the Healthcare Common Procedure Code System (HCPCS), and other state-specific codes that represent drugs.

Healthcare Common Procedure Coding System (HCPCS): Alphanumeric codes that include mostly nonphysician items or services such as medical supplies, ambulatory services, prostheses, etc. These are items and services not covered by Current Procedure Terminology (CPT) procedures.

Medical Data Call: Captures transaction-level detail for medical billings that were processed on or after July 1, 2010. All medical transactions with the jurisdiction state in any applicable Medical Data Call state are reportable. This includes all workers compensation claims, including medical-only claims.

National Drug Code (NDC): A universal product identifier for human drugs in the United States. Each NDC code uniquely identifies a drug product based on by key characteristics such as the labeler (manufacturer/distributor), active ingredients, strength, dosage form, and package form.

Opioids: Prescription opioids are a class of drugs used to treat moderate to severe pain, particularly chronic intractable pain.

Prescription: NCCI defines a "Prescription" to be synonymous with a transaction. Therefore, a refill on a prescribed drug is considered a separate prescription.

(Paid) Procedure Code: A code from the jurisdiction-approved code table that identifies the procedure associated with the reimbursement. Examples include CPT code or revenue code.

Revenue Code: A numeric coding system used in hospital billings that provides broad classifications of the types of services provided. Some examples are emergency room, operating room, recovery room, room and board, and supplies.

Service Year: A loss accounting definition where experience is summarized by the calendar year in which a medical service was provided.

Transaction: A line item of a medical bill.

Units: The number of units of service performed or the quantity of drugs dispensed. For Paid Procedure Codes related to medications, the quantity/units depend on the type of drug:

- For tablets, capsules, suppositories, nonfilled syringes, etc., it represents the actual number of the drug provided. For example, a bottle of 30 pills would have 30 units.
- For liquids, suspensions, solutions, creams, ointments, bulk powders, etc., dispensed in standard packages, the units are specified by the procedure code. For example, a cream is dispensed in a standard tube, which is defined as a single unit.
- For liquids, suspensions, solutions, creams, ointments, bulk powders, etc. that are not dispensed in standard packages, the number of units is the amount provided in its standard unit of measurement (e.g., milliliters, grams, ounces). For example, codeine cough syrup dispensed by a pharmacist into a four-ounce bottle would be reported as four units.



Appendix

The data contained in this report represents medical transactions for Service Year 2016 (medical services delivered from January 1, 2016, to December 31, 2016). Insurance carriers must report paid medical transactions if they write at least 1% of the market share in any one state for which NCCI is the advisory organization. Once a carrier meets the eligibility criteria, the carrier will be required to report for all applicable states in which it writes, even if an individual state's market share is below the threshold. All carriers within a group are required to report, regardless of whether they write less than 1% of the market share in the state.

The data is reported under the jurisdiction state—the state under whose Workers Compensation Act the claimant's benefits are being paid. Medical transactions must continue to be reported until the transactions no longer occur (i.e., the claim is closed) or 30 years from the accident date. There are nearly 30 data elements reported.

For the state of North Carolina in Service Year 2016, the reported number of transactions was more than 1,627,300, with more than \$259,250,100 paid, for more than 77,100 claims, representing data from 88% of the workers compensation premium written, which includes experience for large-deductible policies. Lump-sum settlements are not required to be reported. Also, self-insured data is not included.

Wherever possible, standard industry codes are used because they provide a clear definition of the data, increase efficiency of computer systems, and improve the accuracy and quality of the data.

Carriers differ in their handling of medical data reporting. Some carriers retain all medical claims handling internally and submit the data themselves. Others use business partners for various aspects of medical claim handling, such as third party administrators, medical bill review vendors, etc. It is possible for a carrier to authorize its vendor to report the data on its behalf. Some carriers may use a combination of direct reporting and using vendors. Although data may have been provided by an authorized vendor on behalf of a carrier, the quality, timeliness, and completeness of the data is the responsibility of the carrier.

Before a medical data provider can send files, each submitter's electronic data file must pass certification testing. This ensures that all connections, data files, and systems are functioning and processing correctly. Each medical data provider within a reporting group is required to pass certification testing. If a medical data provider reports data for more than one reporting group, that data must be certified for each group.

For more information about the Medical Data Call, please refer to the *Medical Data Call Reporting Guidebook* on ncci.com.

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