December 14, 2021

CIRCULAR LETTER TO ALL MEMBER COMPANIES

Re: Workers Compensation Insurance
2021 Medical Data Report – North Carolina
Opioid Utilization Supplement – North Carolina

The North Carolina Rate Bureau is pleased to provide you with the 2021 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 represent medical transactions for service year 2020. This data considers transactions for medical services provided on all workers compensation claims less than 30 years old from January 1, 2020 through December 31, 2020. The data shows that in service year 2020, over $232 million was paid on 64,100 claims. This represents 93% 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. No data adjustments have been made for the reporting of COVID-19-related claims.

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

- Physician
- Hospital Outpatient
- Hospital Inpatient
- Ambulatory Surgical Centers
- Drugs
- Durable Medical Equipment, Prosthetics, Orthotics and Supplies (DMEPOS)
- Other

The Opioid Utilization Supplement Report includes sections on:

- Prescription Drug Statistics
- Opioid Clam Statistics
- Concurrent Use of Opioids and Benzodiazepines
- Changes in Opioid Prescribing Patterns
- Morphine Milligram Equivalents
- Claim Distribution by Claim Maturity
- Diagnosis Group and Body System Opioid Claim Experience

We trust that these reports will provide additional insight into the workers compensation cost drivers in North Carolina. Each report is attached for your review.

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

Sincerely,

Joanna Biliouris

Chief Operating Officer

JB:ko
Attachments
C-21-23

Medical Data Report

For the state of

NORTH CAROLINA

November 2021

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Introduction

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

This publication is a data source for regulators and others who are interested in the driving forces behind changing medical costs in WC 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 underlie the financial soundness of the WC system. When making comparisons to the region and countrywide (CW), it is important to note that some states in this report do not have a fee schedule.

Knowing how payments for different services contribute to WC 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, Prosthetics, Orthotics and Supplies (DMEPOS)
- Other

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

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.

The data contained in this report represents medical transactions for Service Year 2020 (medical services delivered from January 1, 2020, to December 31, 2020), except where otherwise noted. WC insurance carriers must report paid medical transactions if, over the most recent three years, they write at least 1% of the market share in any one state for which NCCI is the rating or advisory organization. Once a carrier meets the eligibility criteria, it is required to report for all applicable states in which it writes WC insurance. All carriers within an insurance group are required to report.

No data adjustments have been made for the reporting of COVID-19-related claims. For more information on impacts of COVID-19 on medical losses, please see the Medical Indicators & Trends dashboard[1] on **ncci.com**.

For North Carolina in Service Year 2020, the reported number of transactions was more than 1,426,000, with more than $232,480,700 paid, for more than 64,100 claims. This represents data from 93% of the workers compensation premium written, which includes experience for large-deductible policies. Bulk payments and lump-sum settlements are not required to be reported. Also, self-insured data is not included.

[1] www.ncci.com/Articles/Pages/Insights-Medical-Indicators-Trends-Dashboard.aspx

Unless otherwise noted, the source for all data in this report is:

- NCCI's Medical Data Call, Service Year 2020
- Region includes data from the following states: AL, AR, FL, GA, KY, LA, MS, SC, TN, VA, and WV.
- Countrywide includes data from 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, NJ, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV

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

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Medical Cost Statistics

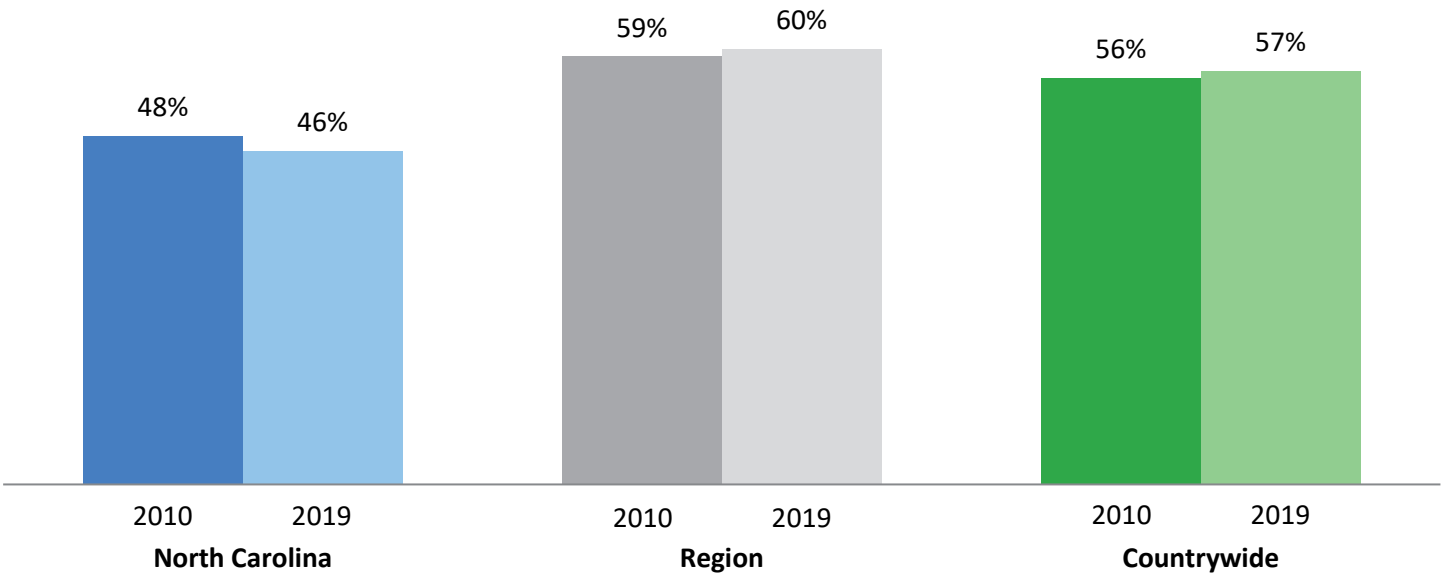
Traditional workers compensation policies cover two types of benefit payments: medical benefits and indemnity (lost wages) benefits.

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 share of medical benefit costs may vary across states. 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, the region, and countrywide for Accident Years 2010 and 2019.

Chart 1

Medical Share of Total Benefit Costs by Accident Year



Source: NCCI's Calendar-Accident Year Call for Compensation Experience. Region includes AL, AR, FL, GA, KY, LA, MS, SC, TN, VA, and WV. Countrywide data includes 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.

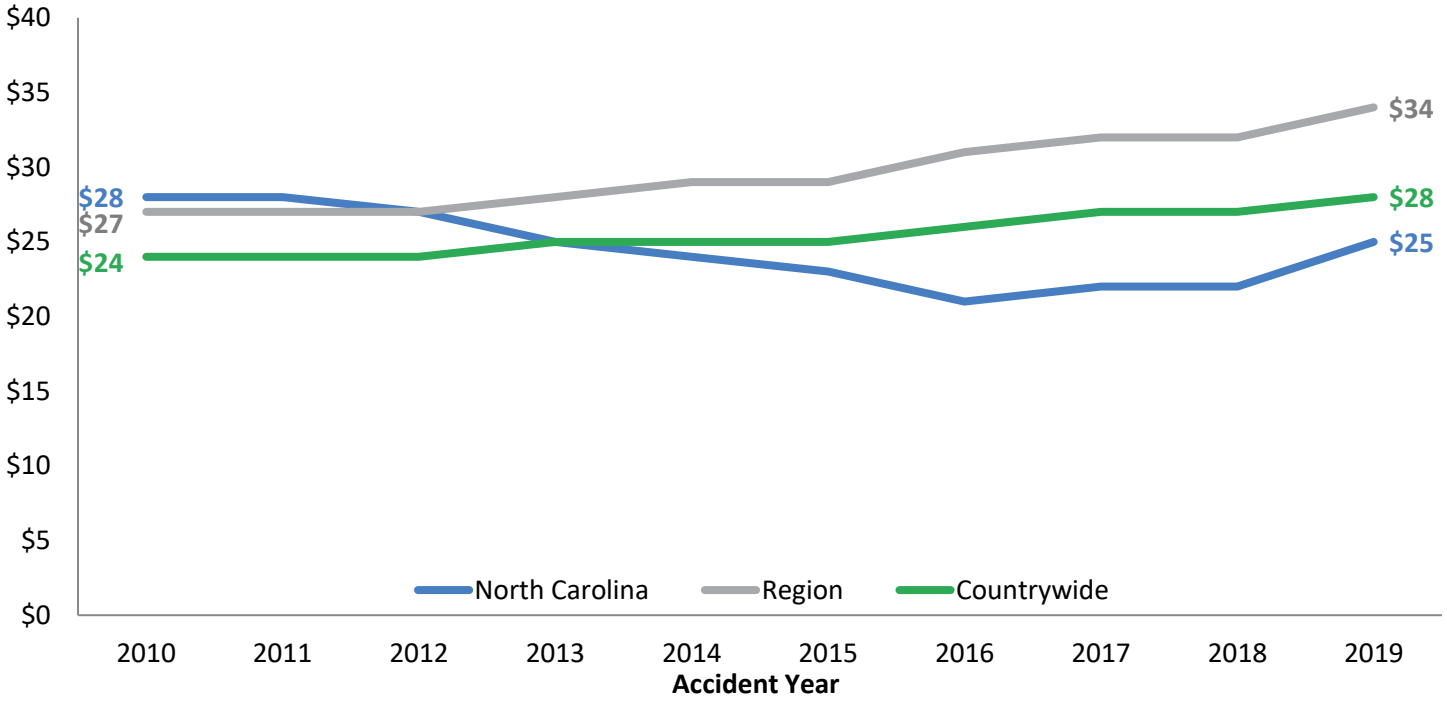
The countrywide overall medical average cost per claim has seen moderate increases in recent years, averaging about 2% from Accident Years 2010 to 2019; this has increased at a slightly higher rate than the United States Personal Healthcare Spending per capita.[2] Chart 2 displays the historical overall medical average cost per case (per lost-time claim) for the most recent 10 accident years. Results are displayed for North Carolina, the region, and countrywide.

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 regional and countrywide average for each individual accident year and allows for the comparison of the growth in average medical costs.

Chart 2

Overall Medical Average Cost per Lost-Time Claim (in 000s)



Source: NCCI's Calendar-Accident Year Call for Compensation Experience. Region includes AL, AR, FL, GA, KY, LA, MS, SC, TN, VA, and WV. Countrywide data includes 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.

[2] **State of the Line Report, *Annual Issues Symposium***, May 2021, www.ncci.com/Articles/Documents/AIS2021-SOTL-Presentation.pdf

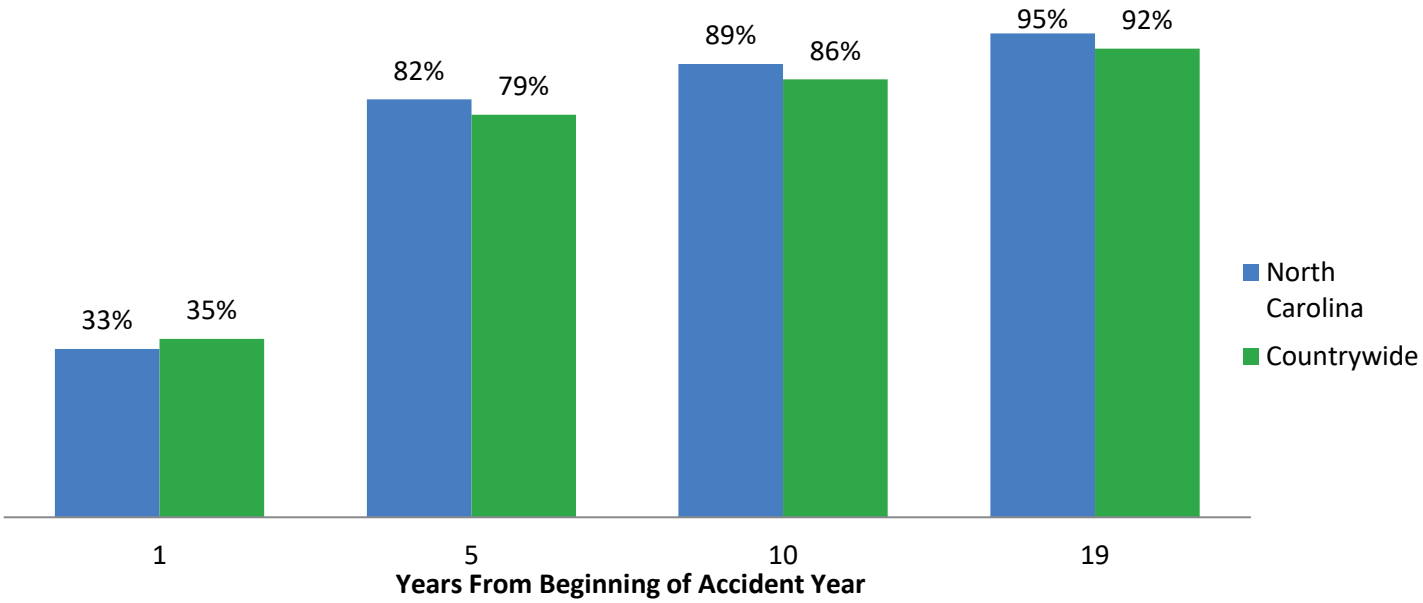
One factor that impacts medical costs is the time over which medical services are used. Payments on a workers compensation claim often continue for many years. NCCI research has found that it is likely that about 10% of the cost of medical benefits for workplace injuries that occur this year will be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

Chart 3

Percentage of Medical Paid by Claim Maturity



Source: NCCI's Calendar-Accident Year Call for Compensation Experience. Countrywide data includes 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, 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.

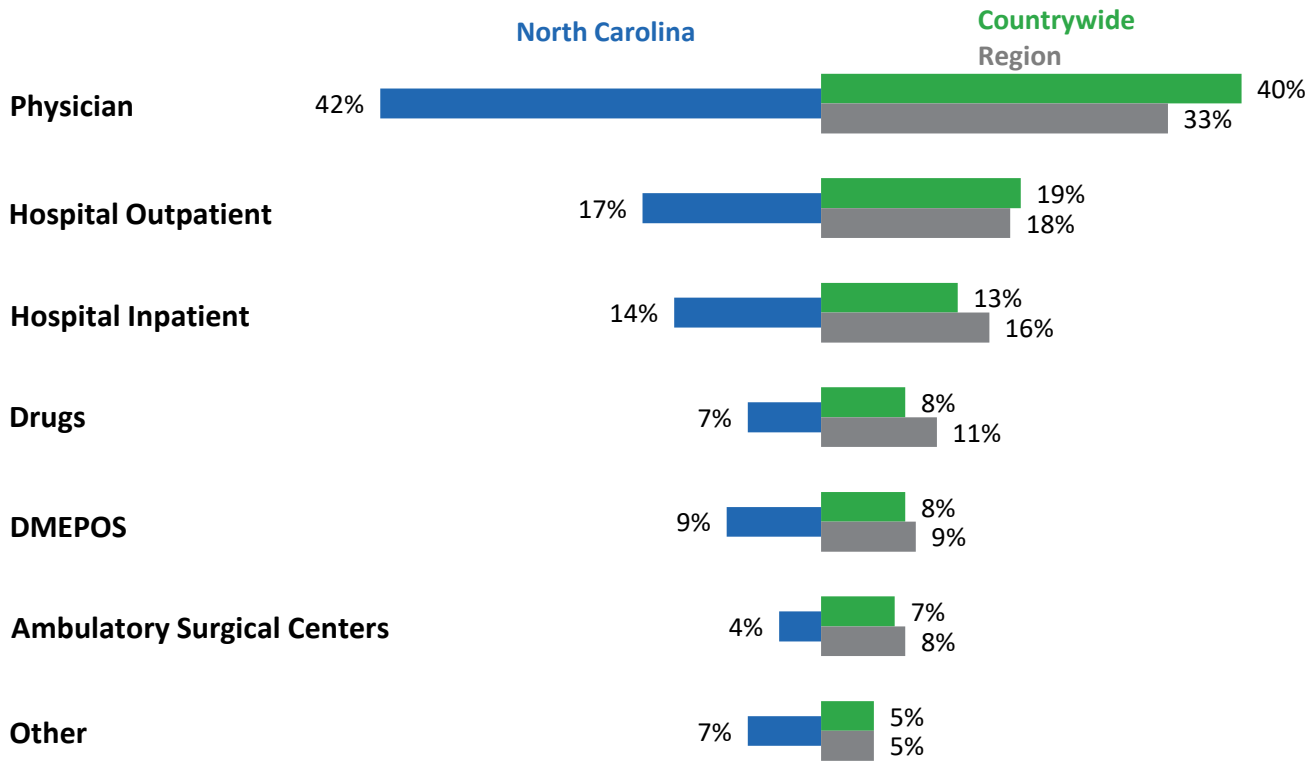
Payments are categorized as Drugs; DME, Supplies, and Implants; and Other (includes home health, transportation, vision, and dental services), based on the procedure code reported. Payments are mapped to these categories regardless of who provides the service or where the service is performed. For the 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
- 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 or ambulatory surgical center)

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

Chart 4

Distribution of Medical Payments



Physicians

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. NCCI's most recent study, "The Impact of Fee Schedule Updates on Physician Payments" (December 2018), shows that:

- Approximately 80% of any change in the maximum allowable reimbursement (MAR) for a physician service will be realized as a change in prices paid
- Most of the impact of a MAR change on prices paid is realized within one year from the date of a fee schedule change

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

The chart below shows the average percentage of Medicare schedule reimbursement[3] amounts for physician payments by category for North Carolina, the region, and countrywide. Note that "all physician services" in Chart 5 below refers only to the categories listed in the chart, and the state comparison reflects Medicare's geographic adjustments. In North Carolina, 88% of "all physician services" payments are included in the chart below.

Chart 5

Physician Payments as a Percentage of Medicare

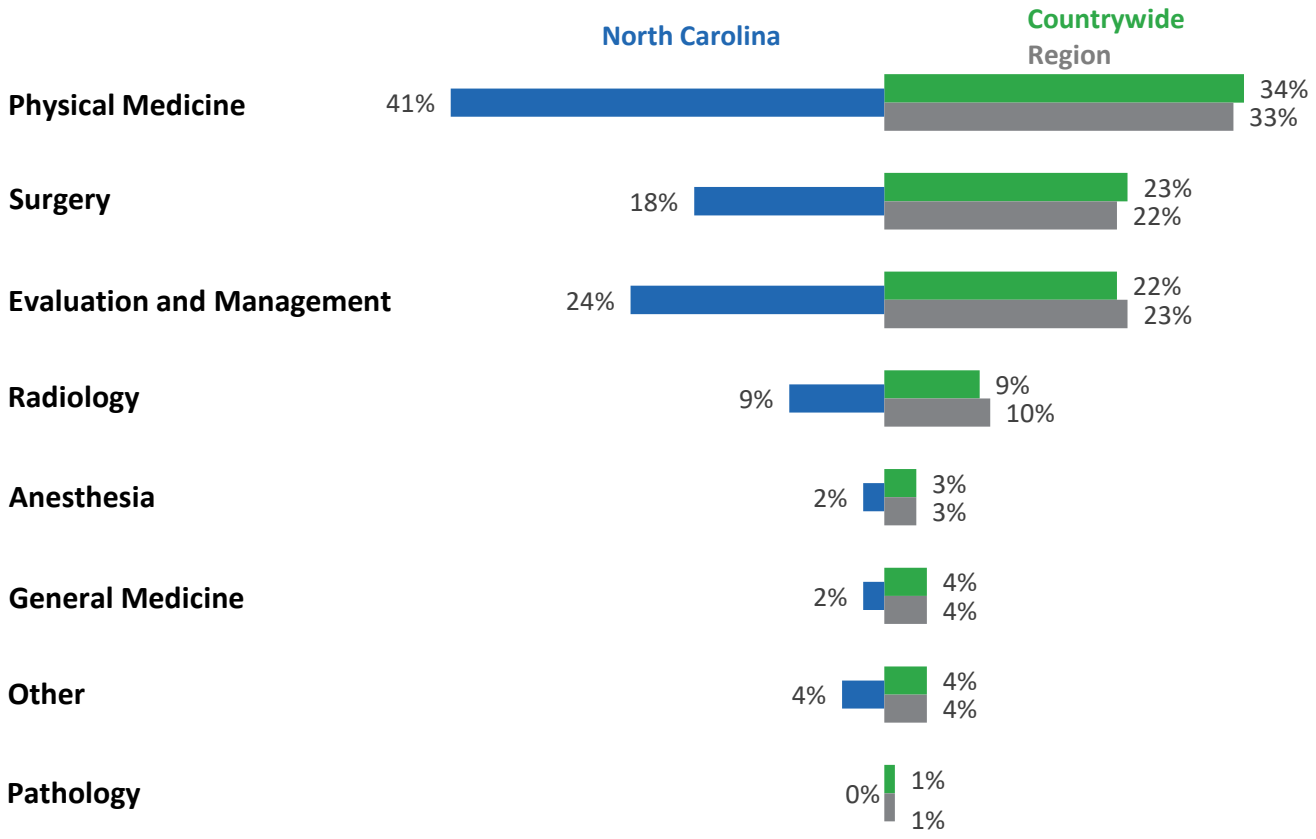
Physician Service Category	North Carolina	Region	Countrywide
General and Physical Medicine	115%	109%	132%
Surgery	173%	207%	270%
Evaluation and Management	129%	120%	144%
Radiology	181%	186%	227%
Anesthesia	223%	212%	309%
All Physician Services	**133%**	**136%**	**167%**

[3] The calculation for Surgery takes into account Medicare's endoscopic procedures reimbursement rules.

Chart 6 displays the distribution of physician payments by service category for North Carolina, the region, and countrywide.

Chart 6

Distribution of Physician Payments by AMA Service Category



In 2019, NCCI conducted a review of physician costs in workers compensation as compared to group health (GH). Results[4] show that WC physician costs are 77% higher than GH in general, with variation across states ranging from 0% to 200%. The difference in costs for physician services is due to both prices and utilization of services. Most notably, physical medicine services in WC are almost three times the costs of physical medicine services in GH, largely due to the number of services provided.

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. The charts below display the top 10 procedure codes reported by physicians for the following service categories: anesthesia, surgery, radiology, physical and general medicine, and evaluation and management. A brief description of each procedure code is displayed in the corresponding table below each chart.

Except for anesthesia codes and physical & general medicine codes, the charts also include the average amount paid per transaction (PPT) for these codes in North Carolina, in the region, and countrywide. The average PPT 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, and quantity/units, may need to be considered when evaluating average payments per service. The charts for the top 10 anesthesia codes and physical & general medicine codes include the average amount paid per unit (PPU) for the codes in North Carolina, in the region, and countrywide. The PPU is calculated by taking the total payments for the procedure code and dividing by the number of units for the procedure code. For these codes, a unit is typically a measurement of time (15-minute increment, 30-minute increment, 1-hour increment, etc.) but can also be one transaction. The procedure code description will indicate the unit measurement.

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.

Additional charts show time until first treatment and results for telemedicine services. Time to initial treatment (TTT) is a measure of the availability of medical services and is measured by the number of days between the date of injury and the date on which the worker first received medical services. Telemedicine services charts are based on transactions reported with a telemedicine-specific procedure code, modifier, or place of service and show the distribution, as well as the top 10 procedure codes, for telemedicine service.

[4] Lipton, Barry, *Work Comp vs. Group Health—The Price We Pay* (Channel NCCI, video file), May 23, 2019, www.youtube/fb3tnbQoMSY

In North Carolina, physician payments for anesthesia services provided in 2020 are, on average, 223% of Medicare-scheduled reimbursement amounts, compared to 212% in the region and 309% countrywide. Payments for these services comprise 2% of physician payments, compared to 3% in the region and 3% countrywide.

Chart 7

Top Anesthesia Procedure Codes by Amount Paid

Code	Paid Share	Description
ANT01	60.5%	Anesthesia administered by anesthesiologist, per minute
ANT02	33.2%	Anesthesia administered by certified registered nurse anesthetist (CRNA), per minute
All Other Anesthesia Codes	6.3%	

Chart 8

Top Anesthesia Procedure Codes by Transaction Counts

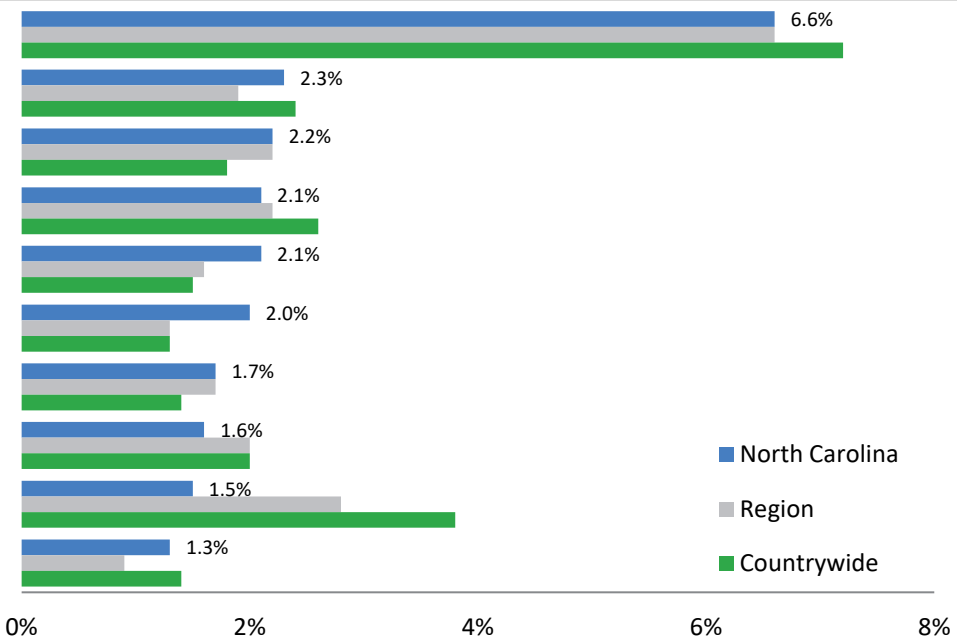
Code	Paid Share	Description
ANT01	51.6%	Anesthesia administered by anesthesiologist, per minute
ANT02	42.8%	Anesthesia administered by certified registered nurse anesthetist (CRNA), per minute
All Other Anesthesia Codes	5.6%	

In North Carolina, physician payments for surgery services provided in 2020 are, on average, 173% of Medicare-scheduled reimbursement amounts, compared to 207% in the region and 270% countrywide. Payments for these services comprise 18% of physician payments, compared to 22% in the region and 23% countrywide.

Chart 9

Top 10 Surgery Procedure Codes by Amount Paid

Code	Average PPT NC	Region	CW
29827	$1,403	$1,745	$2,155
29823	$559	$752	$1,043
64483	$362	$474	$576
29881	$869	$1,049	$1,500
29824	$660	$690	$822
29828	$955	$996	$1,211
20610	$85	$103	$131
22551	$2,251	$2,564	$4,075
29826	$234	$655	$987
23430	$812	$938	$1,213

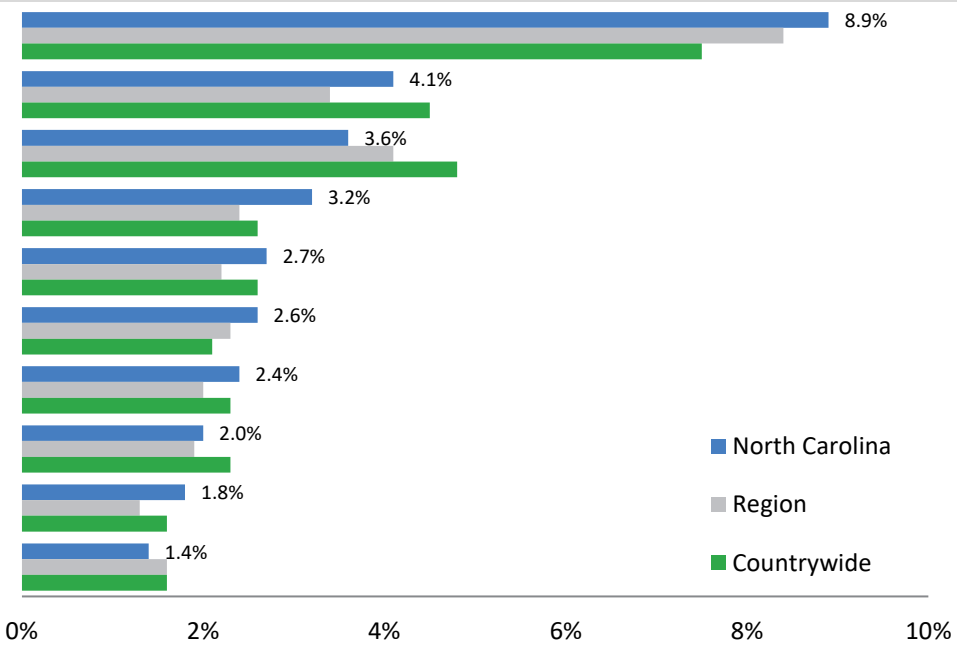


Code	Description
29827	Arthroscopy, shoulder, surgical; with rotator cuff repair
29823	Arthroscopy, shoulder, surgical; debridement, extensive
64483	Injection(s), anesthetic agent, and/or steroid, transforaminal epidural, with imaging guidance (fluoroscopy or computed tomography (CT)); lumbar or sacral, single level
29881	Arthroscopy, knee, surgical; with meniscectomy (medial or lateral, including any meniscal shaving), including debridement/shaving of articular cartilage
29824	Arthroscopy, shoulder, surgical; distal claviculectomy including distal articular surface (Mumford procedure)
29828	Arthroscopy, shoulder, surgical; biceps tenodesis
20610	Arthrocentesis, aspiration, and/or injection; major joint or bursa (e.g., shoulder, hip, knee, joint, subacromial bursa)
22551	Arthrodesis, anterior interbody, including disc space preparation, discectomy, osteophytectomy, and decompression of spinal cord and/or nerve roots; cervical below C2
29826	Arthroscopy, shoulder, surgical; decompression of subacromial space with partial acromioplasty, with coracoacromial ligament (i.e., arch) release, when performed
23430	Tenodesis of long tendon of biceps

Chart 10

Top 10 Surgery Procedure Codes by Transaction Counts

Code	Average PPT NC	Region	CW
20610	$85	$103	$131
12001	$103	$135	$182
36415	$4	$9	$11
64415	$111	$174	$286
29826	$234	$655	$987
64483	$362	$474	$576
12002	$124	$161	$215
29827	$1,403	$1,745	$2,155
29823	$559	$752	$1,043
20550	$74	$86	$111

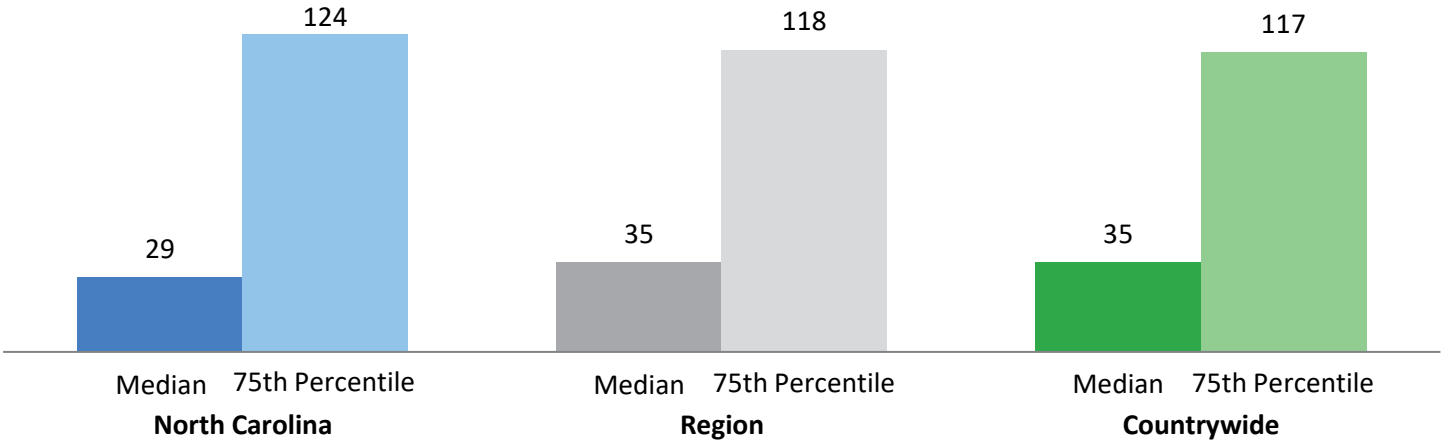


Code	Description
20610	Arthrocentesis, aspiration, and/or injection; major joint or bursa (e.g., shoulder, hip, knee, joint, subacromial bursa)
12001	Simple repair of superficial wounds of scalp, neck, axillae, external genitalia, trunk, and/or extremities (including hands and feet); 2.5 cm or less
36415	Collection of venous blood by venipuncture
64415	Injection, anesthetic agent; brachial plexus, single
29826	Arthroscopy, shoulder, surgical; decompression of subacromial space with partial acromioplasty, with coracoacromial ligament (i.e., arch) release, when performed
64483	Injection(s), anesthetic agent, and/or steroid, transforaminal epidural, with imaging guidance (fluoroscopy or computed tomography (CT)); lumbar or sacral, single level
12002	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	Arthroscopy, shoulder, surgical; with rotator cuff repair
29823	Arthroscopy, shoulder, surgical; debridement, extensive
20550	Injection(s); single tendon sheath or ligament aponeurosis (e.g., plantar fascia)

Chart 11 shows the median and 75th percentile[5] time until first treatment for major surgery for North Carolina, the region, and countrywide. No adjustment has been made to account for injuries that may take time to develop such as an occupational disease, which may extend the time between the date a work-related injury or disease is reported and the first medical treatment takes place.

Chart 11

Time Until First Treatment for Major Surgery[6] (in Days)



Source: NCCI's Medical Data Call for Accident Year 2019 and Service Years 2019 and 2020.

[5] The median is the TTT where one-half of all TTT values are higher and one-half are lower. This statistic is less affected by extremely low or extremely high values. The 75th percentile is the TTT where 75% of all TTT values are lower and 25% are higher. For example, Chart 11 indicates that out of 100 claimants, 75 will receive a major surgery within 124 days of their accident date. Comparing the median to the 75th percentile illustrates the variation in TTT between claims.

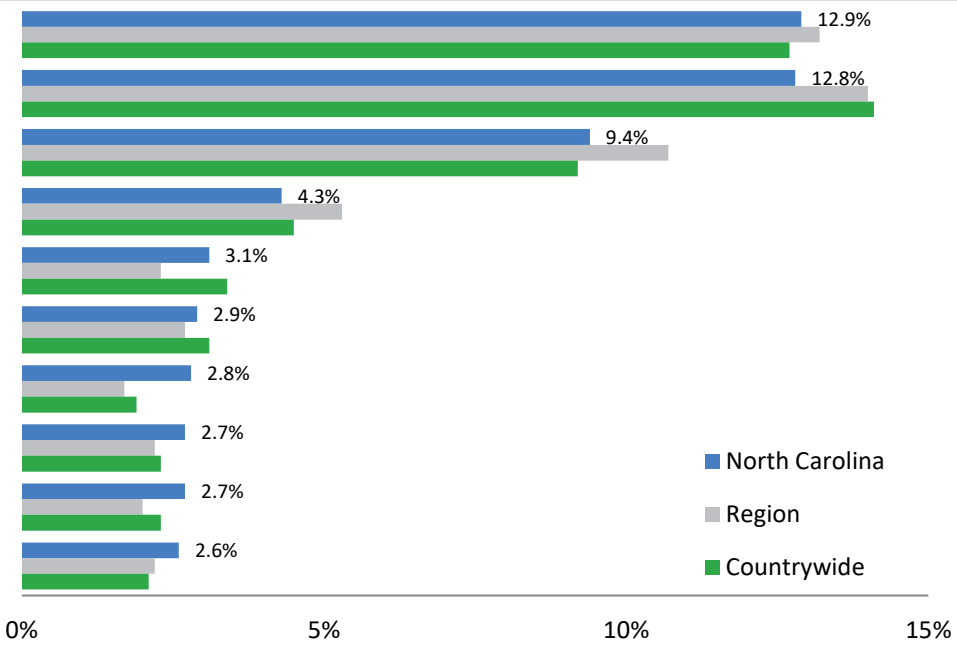
[6] A service is classified as "surgical" if it falls within the surgical category as defined by the AMA. A service is further classified as "major surgery" if it has a global follow-up period of 90 days as defined by the Centers for Medicare & Medicaid Services and is not an injection.

In North Carolina, physician payments for radiology services provided in 2020 are, on average, 181% of Medicare-scheduled reimbursement amounts, compared to 186% in the region and 227% countrywide. Payments for these services comprise 9% of physician payments, compared to 10% in the region and 9% countrywide.

Chart 12

Top 10 Radiology Procedure Codes by Amount Paid

Code	Average PPT NC	Region	CW
73721	$396	$431	$484
73221	$400	$434	$492
72148	$373	$422	$470
72141	$370	$415	$464
73222	$590	$548	$633
73030	$46	$46	$59
73140	$48	$46	$54
73610	$47	$47	$56
73110	$53	$52	$62
72100	$56	$55	$65

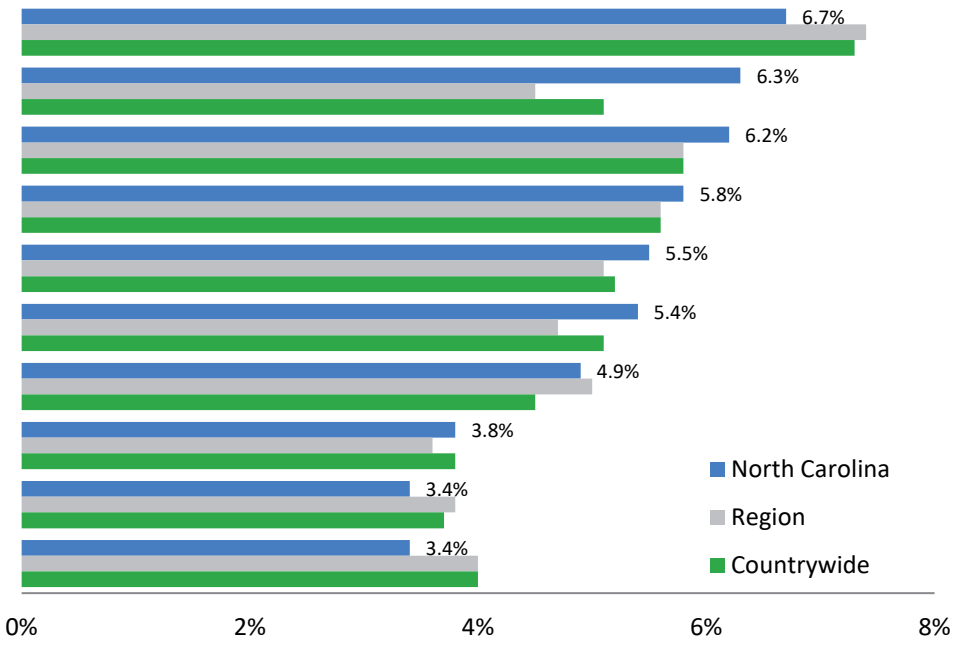


Code	Description
73721	Magnetic resonance (e.g., proton) imaging, any joint of lower extremity; without contrast material
73221	Magnetic resonance (e.g., proton) imaging, any joint of upper extremity; without contrast material
72148	Magnetic resonance (e.g., proton) imaging, spinal canal and contents, lumbar; without contrast material
72141	Magnetic resonance (e.g., proton) imaging, spinal canal and contents, cervical; without contrast material
73222	Magnetic resonance (e.g., proton) imaging, any joint of upper extremity; with contrast material
73030	Radiologic examination, shoulder; complete minimum of 2 views
73140	Radiologic examination, finger(s); minimum of 2 views
73610	Radiologic examination, ankle; complete minimum of 3 views
73110	Radiologic examination, wrist; complete minimum of 3 views
72100	Radiologic examination, spine, lumbosacral; 2 or 3 views

Chart 13

Top 10 Radiology Procedure Codes by Transaction Counts

Code	Average PPT NC	Region	CW
73030	$46	$46	$59
73140	$48	$46	$54
73610	$47	$47	$56
73630	$44	$44	$54
73130	$43	$45	$54
73110	$53	$52	$62
72100	$56	$55	$65
73562	$54	$54	$64
73721	$396	$431	$484
73221	$400	$434	$492

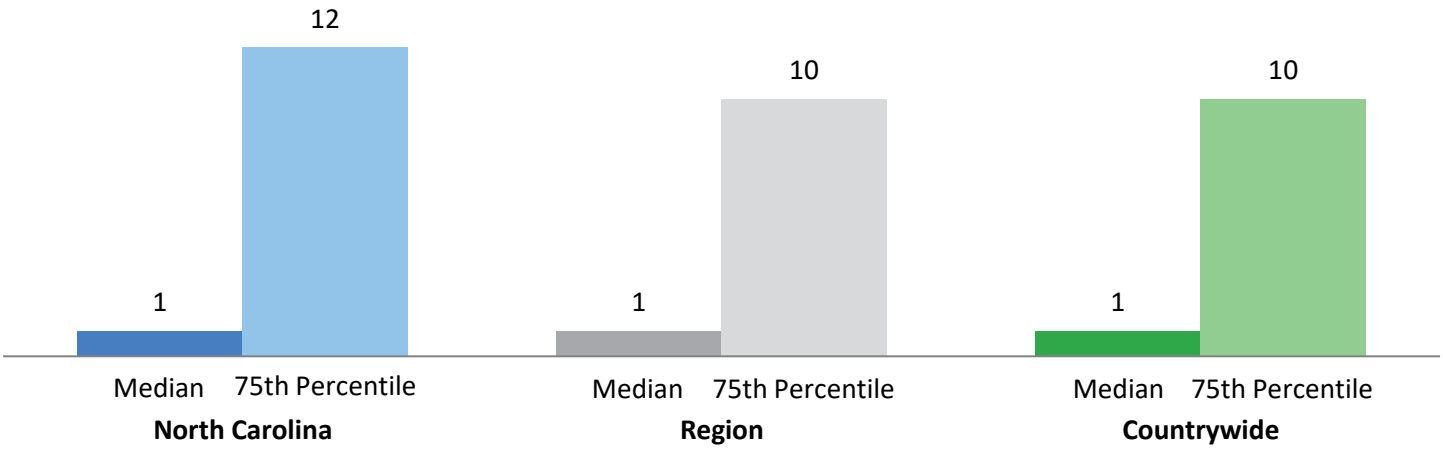


Code	Description
73030	Radiologic examination, shoulder; complete minimum of 2 views
73140	Radiologic examination, finger(s); minimum of 2 views
73610	Radiologic examination, ankle; complete minimum of 3 views
73630	Radiologic examination, foot; complete minimum of 3 views
73130	Radiologic examination,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

Chart 14 shows the median and 75th percentile time until first treatment for radiology procedures for North Carolina, the region, and countrywide.

Chart 14

Time Until First Treatment for Radiology (in Days)



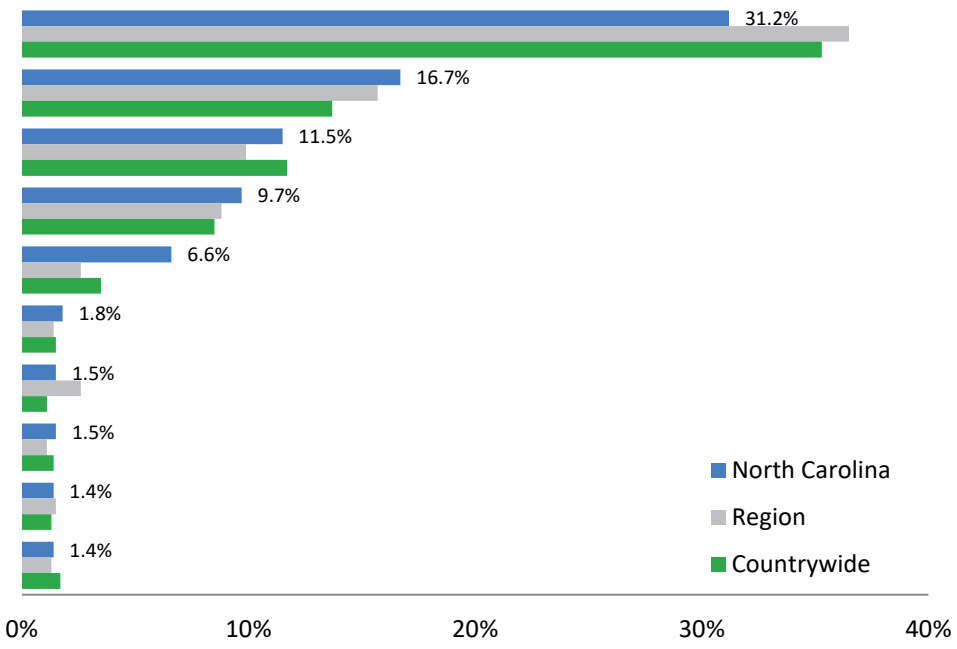
Source: NCCI's Medical Data Call for Accident Year 2019 and Service Years 2019 and 2020.

In North Carolina, physician payments for physical and general medicine services provided in 2020 are, on average, 115% of Medicare-scheduled reimbursement amounts, compared to 109% in the region and 132% countrywide. Payments for these services comprise 43% of physician payments, compared to 37% in the region and 38% countrywide.

Chart 15

Top 10 Physical and General Medicine Procedure Codes by Amount Paid

Code	Average PPU NC	Region	CW
97110	$35	$34	$42
97530	$43	$38	$46
97140	$31	$31	$38
97112	$38	$36	$43
97545	$223	$143	$189
97161	$107	$105	$120
97799	$626	$595	$455
97162	$107	$109	$125
97750	$42	$47	$54
97546	$92	$68	$84

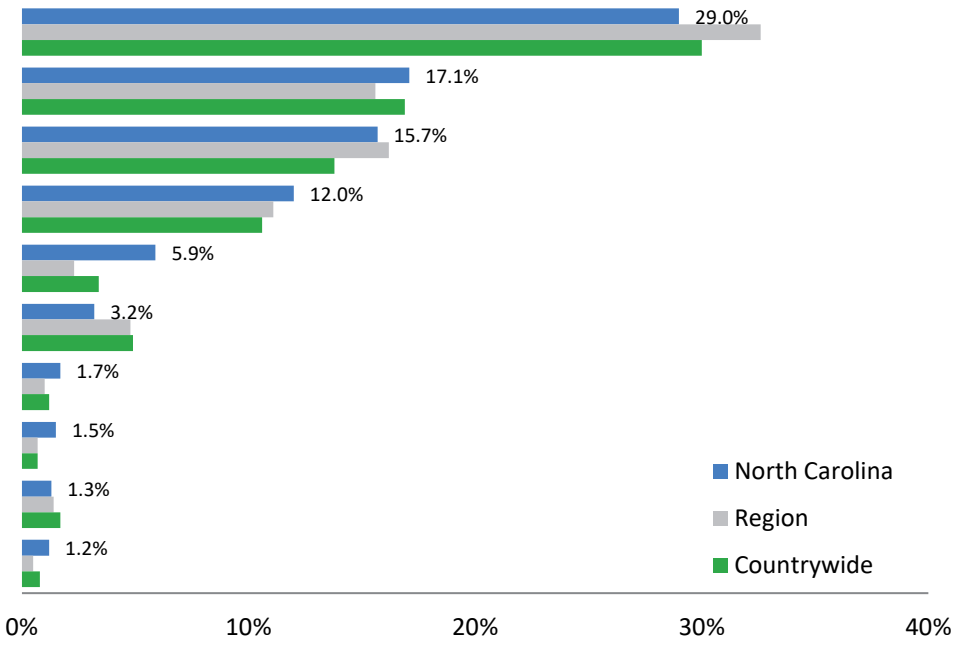


Code	Description
97110	Therapeutic procedure, 1 or more areas, each 15 minutes; therapeutic exercises to develop strength and endurance, range of motion, and flexibility
97530	Therapeutic activities, direct (one-on-one) patient contact by the provider (use of dynamic activities to improve functional performance), each 15 minutes
97140	Manual therapy techniques (e.g., mobilization/manipulation, manual lymphatic drainage, manual traction), 1 or more regions, each 15 minutes
97112	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
97545	Work hardening/conditioning; initial 2 hours
97161	Physical therapy evaluation of low complexity; typically, 20 minutes are spent with the patient and/or family
97799	Unlisted physical medicine/rehabilitation service or procedure
97162	Physical therapy evaluation of moderate complexity; typically, 30 minutes are spent with the patient and/or family
97750	Physical performance test or measurement (e.g., musculoskeletal functional capacity), with written report, each 15 minutes
97546	Work hardening/conditioning; each additional hour

Chart 16

Top 10 Physical and General Medicine Procedure Codes by Transaction Counts

Code	Average PPU NC	Region	CW
97110	$35	$34	$42
97140	$31	$31	$38
97530	$43	$38	$46
97112	$38	$36	$43
97010	$10	$14	$17
97014	$25	$20	$22
97545	$223	$143	$189
97016	$14	$23	$22
97035	$17	$17	$22
97164	$65	$63	$73

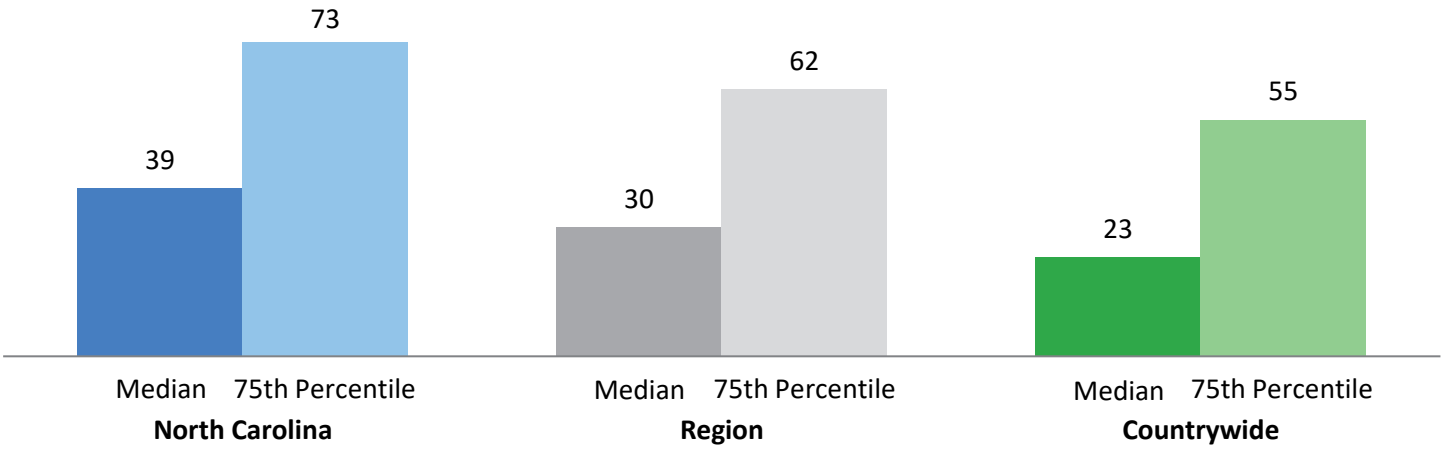


Code	Description
97110	Therapeutic procedure, 1 or more areas, each 15 minutes; therapeutic exercises to develop strength and endurance, range of motion, and flexibility
97140	Manual therapy techniques (e.g., mobilization/manipulation, manual lymphatic drainage, manual traction), 1 or more regions, each 15 minutes
97530	Therapeutic activities, direct (one-on-one) patient contact by the provider (use of dynamic activities to improve functional performance), each 15 minutes
97112	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	Application of a modality to 1 or more areas; hot or cold packs
97014	Application of a modality to 1 or more areas; electrical stimulation (unattended)
97545	Work hardening/conditioning; initial 2 hours
97016	Application of a modality to 1 or more areas; vasopneumatic devices
97035	Application of a modality to 1 or more areas; ultrasound, each 15 minutes
97164	Re-evaluation of physical therapy and established plan of care; requires an examination with review of history and use of standardized tests and measures; revised plan of care using a standardized patient assessment instrument and/or measurable assessment of functional outcome; 20 minutes face-to-face with patient and/or family

Chart 17 shows the median and 75th percentile time until first treatment for physical and general medicine procedures for North Carolina, the region, and countrywide.

Chart 17

Time Until First Treatment for Physical and General Medicine (in Days)



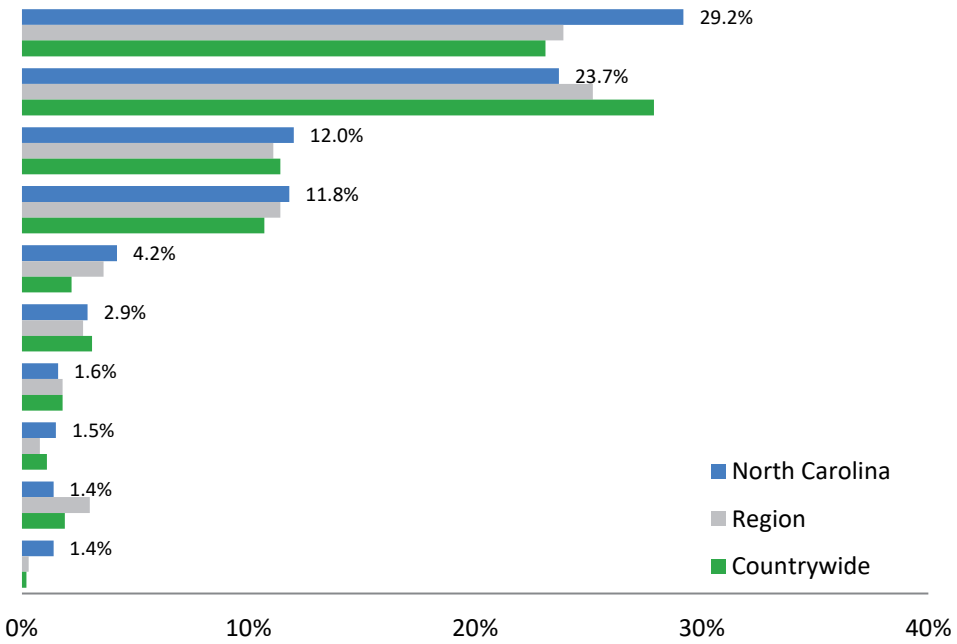
Source: NCCI's Medical Data Call for Accident Year 2019 and Service Years 2019 and 2020.

In North Carolina, physician payments for evaluation and management services provided in 2020 are, on average, 129% of Medicare-scheduled reimbursement amounts, compared to 120% in the region and 144% countrywide. Payments for these services comprise 24% of physician payments, compared to 23% in the region and 22% countrywide.

Chart 18

Top 10 Evaluation and Management Procedure Codes by Amount Paid

Code	Average PPT NC	Region	CW
99214	$131	$124	$148
99213	$90	$86	$104
99203	$128	$127	$152
99204	$203	$196	$227
99455	$168	$133	$199
99284	$203	$204	$279
99285	$298	$295	$412
99244	$324	$234	$288
99215	$180	$159	$194
99358	$129	$189	$175

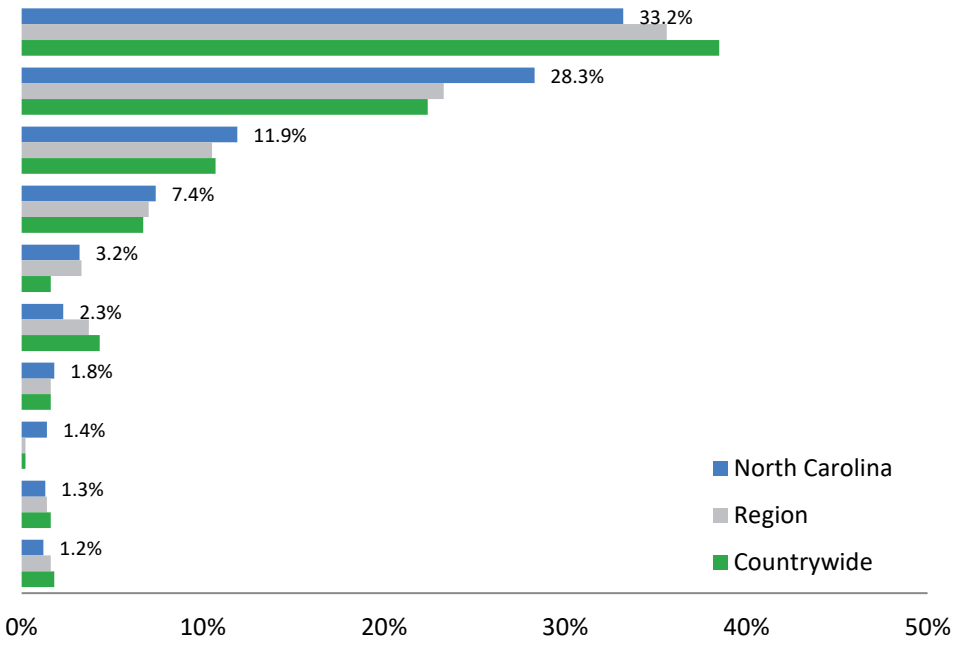


Code	Description
99214	Office or other outpatient visit for the evaluation and management of an established patient. Usually the presenting problem(s) are of moderate to high severity. Physicians typically spend 25 minutes face-to-face with the patient and/or family.
99213	Office or other outpatient 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	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	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	Work related or medical disability examination by the treating physician.
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.
99244	Office consultation for a new or established patient. Usually the presenting problem(s) are of moderate to high severity. Physicians typically spend 60 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. Usually the presenting problem(s) are of moderate to high severity. Physicians typically spend 40 minutes face-to-face with the patient and/or family.
99358	Prolonged evaluation and management service before and/or after direct patient care; first hour

Chart 19

Top 10 Evaluation and Management Procedure Codes by Transaction Counts

Code	Average PPT NC	Region	CW
99213	$90	$86	$104
99214	$131	$124	$148
99203	$128	$127	$152
99204	$203	$196	$227
99455	$168	$133	$199
99212	$54	$56	$67
99284	$203	$204	$279
99358	$129	$189	$175
99283	$128	$141	$179
99202	$89	$94	$109

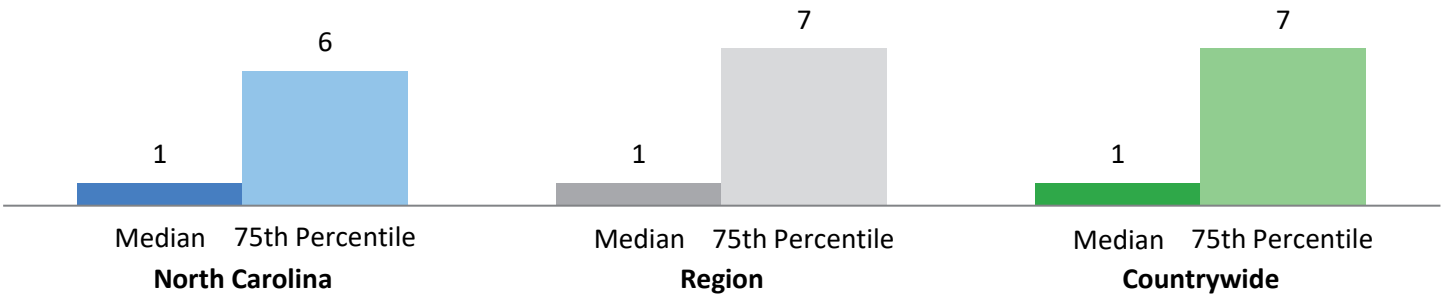


Code	Description
99213	Office or other outpatient visit for the evaluation and management of an established patient. Usually the presenting problem(s) are of low to moderate severity. Physicians typically spend 15 minutes face-to-face with the patient and/or family.
99214	Office or other outpatient visit 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	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	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	Work related or medical disability examination by the treating physician.
99212	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.
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.
99358	Prolonged evaluation and management service before and/or after direct patient care; first hour
99283	Emergency department visit. Usually the presenting problem(s) are of moderate severity.
99202	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.

Chart 20 shows the median and 75th percentile time until first treatment for evaluation and management procedures for North Carolina, the region, and countrywide.

Chart 20

Time Until First Treatment for Evaluation and Management (in Days)



Source: NCCI's Medical Data Call for Accident Year 2019 and Service Years 2019 and 2020.

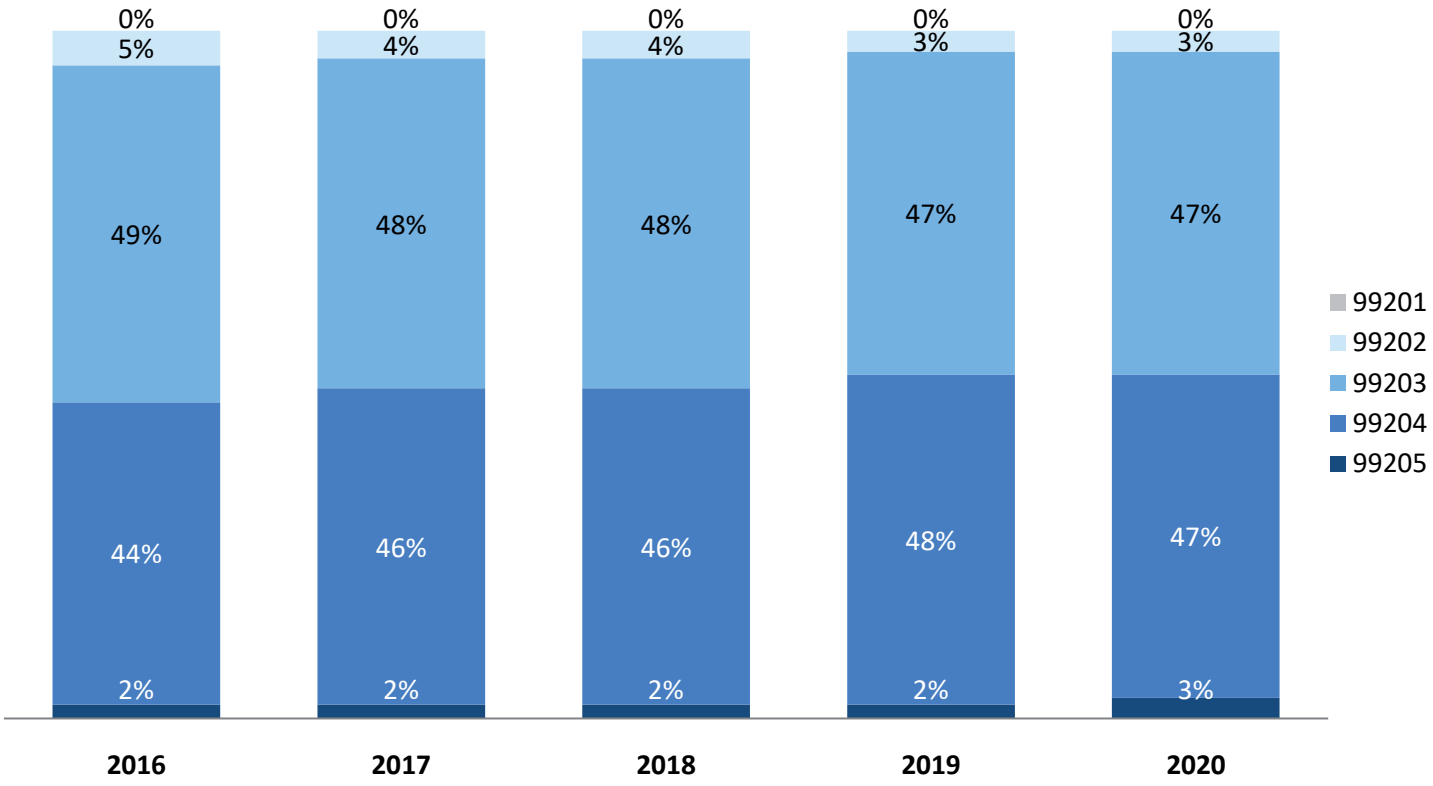
Evaluation and Management services consist largely of office or outpatient visits for a new patient or an established patient.

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 21 shows a five-year snapshot of experience for each procedure type and the average amount paid per transaction for new patients.

Chart 21

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

Distribution of Payments by Procedure Code



Source: NCCI's Medical Data Call, Service Years 2016 to 2020.

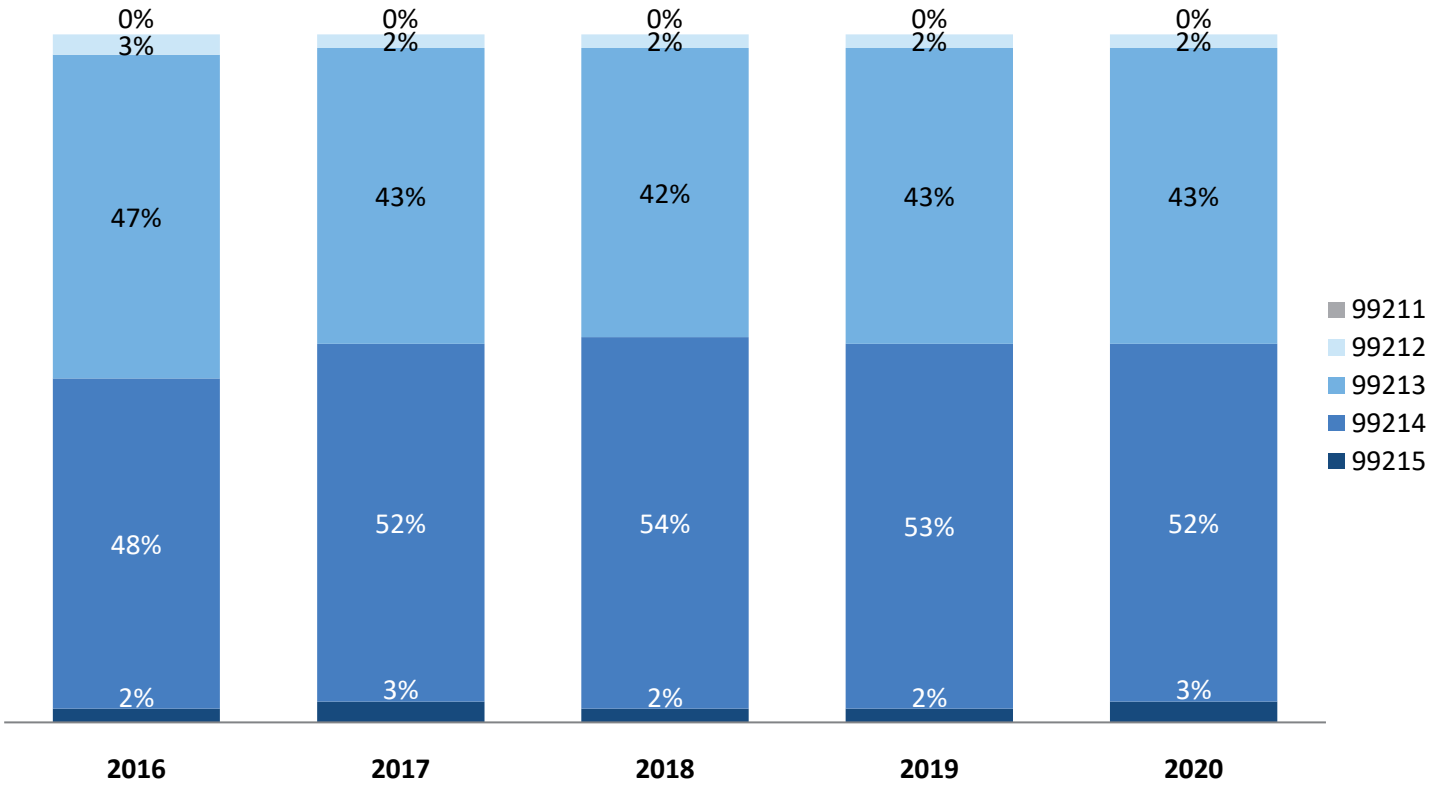
Code	Severity/Time	Average PPT				
		2016	2017	2018	2019	2020
99201	Low to Moderate; 10 minutes with patient	$54	$51	$63	$60	$53
99202	Low to Moderate; 20 minutes with patient	$88	$88	$91	$91	$89
99203	Moderate; 30 minutes with patient	$130	$130	$128	$129	$128
99204	Moderate to High; 45 minutes with patient	$201	$203	$202	$202	$203
99205	Moderate to High; 60 minutes with patient	$244	$261	$258	$274	$300

Similarly, for established patients, there are five periods of time spent with the patient, ranging from 5 minutes for Procedure Code 99211 to 40 minutes for Procedure Code 99215. Chart 22 shows a five-year snapshot of experience for each procedure type and the average amount paid per transaction for an established patient.

Chart 22

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

Distribution of Payments by Procedure Code



Source: NCCI's Medical Data Call, Service Years 2016 to 2020.

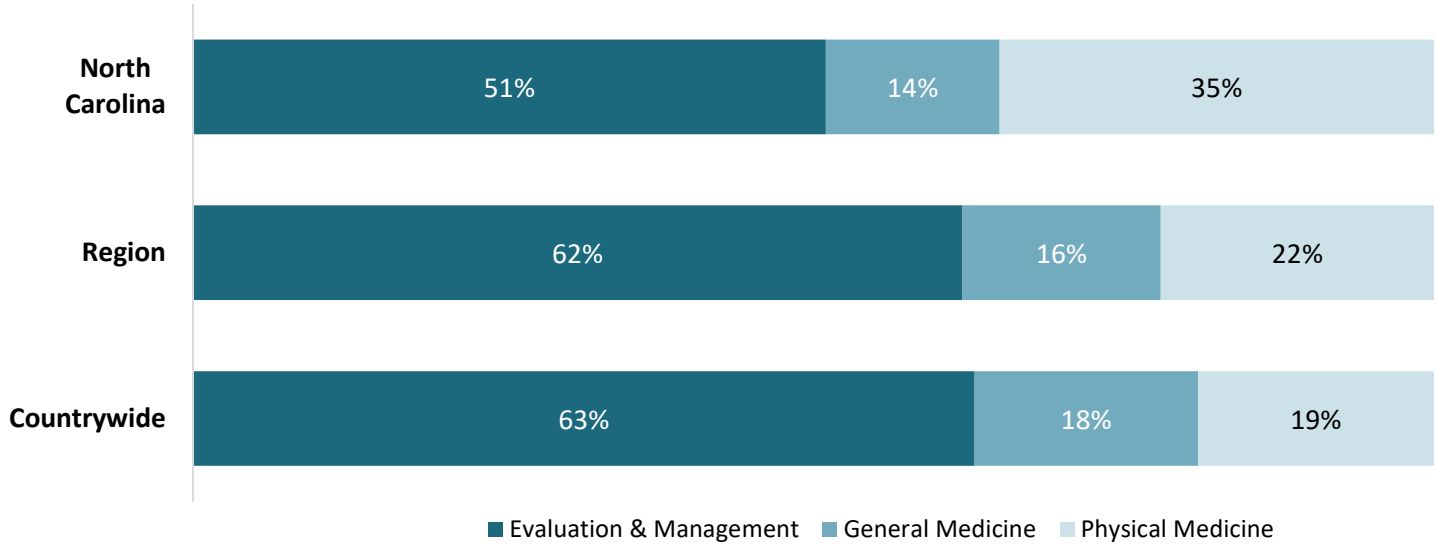
		Average PPT				
Code	**Severity/Time**	**2016**	**2017**	**2018**	**2019**	**2020**
99211	Low to Moderate; 5 minutes with patient	$24	$24	$24	$26	$29
99212	Low to Moderate; 10 minutes with patient	$51	$52	$51	$53	$54
99213	Moderate; 15 minutes with patient	$88	$88	$87	$90	$90
99214	Moderate to High; 25 minutes with patient	$128	$129	$128	$130	$131
99215	Moderate to High; 40 minutes with patient	$177	$177	$186	$177	$180

In Service Year 2020, telemedicine services were utilized more than in prior years[7] and were generally observed in the evaluation and management, physical medicine, and general medicine physician service categories. Telemedicine services represent about 2% of the physician costs in these categories countrywide. The share of payments varies across jurisdictions, ranging from about 1% to about 5%.

In North Carolina, the share of claimants receiving physician services (evaluation and management, physical medicine, and general medicine) who had telemedicine encounters increased from 0.3% in 2019 to 5.9% in 2020. Chart 23 shows the distribution of telemedicine payments for these physician service categories in North Carolina, the region, and countrywide.

Chart 23

Distribution of Telemedicine Payments by Physician Service Category



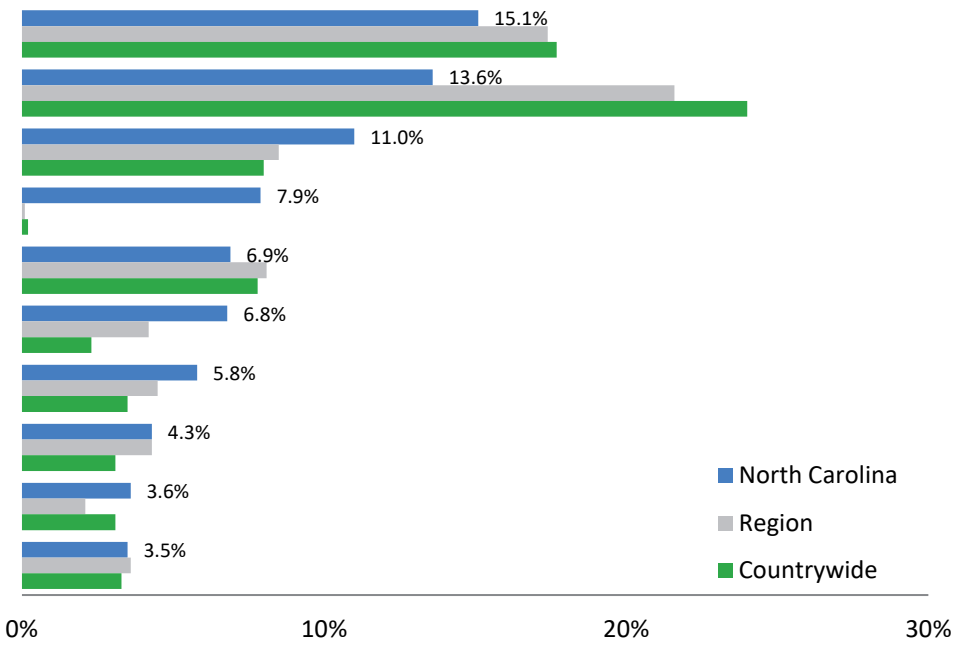
[7] www.ncci.com/Articles/Documents/Insights-COVID-19-Impact-Medical-Treatment-Workers-Comp-3QTR-2020-Perspective.pdf

Chart 24 shows the top 10 procedure codes reported as a telemedicine service by paid amount for North Carolina with comparative values for the region and countrywide.

Chart 24

Top 10 Procedure Codes by Amount Paid for Telemedicine Services

Code	Average PPU[8] NC	Region	CW
99214	$120	$116	$142
99213	$78	$83	$102
97110	$35	$33	$42
PSY00	$164	$171	$165
90837	$164	$152	$179
99215	$170	$144	$174
97530	$45	$38	$46
99204	$196	$195	$230
90834	$117	$104	$129
99203	$125	$128	$157



Code	Description
99214	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	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.
97110	Therapeutic procedure, 1 or more areas, each 15 minutes; therapeutic exercises to develop strength and endurance, range of motion, and flexibility
PSY00	REHAB WITH PSYCH PROGRAM
90837	Psychotherapy, 60 minutes with patient
99215	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 40 minutes face-to-face with the patient and/or family.
97530	Therapeutic activities, direct (one-on-one) patient contact by the provider (use of dynamic activities to improve functional performance), each 15 minutes
99204	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.
90834	Psychotherapy, 45 minutes with patient
99203	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.

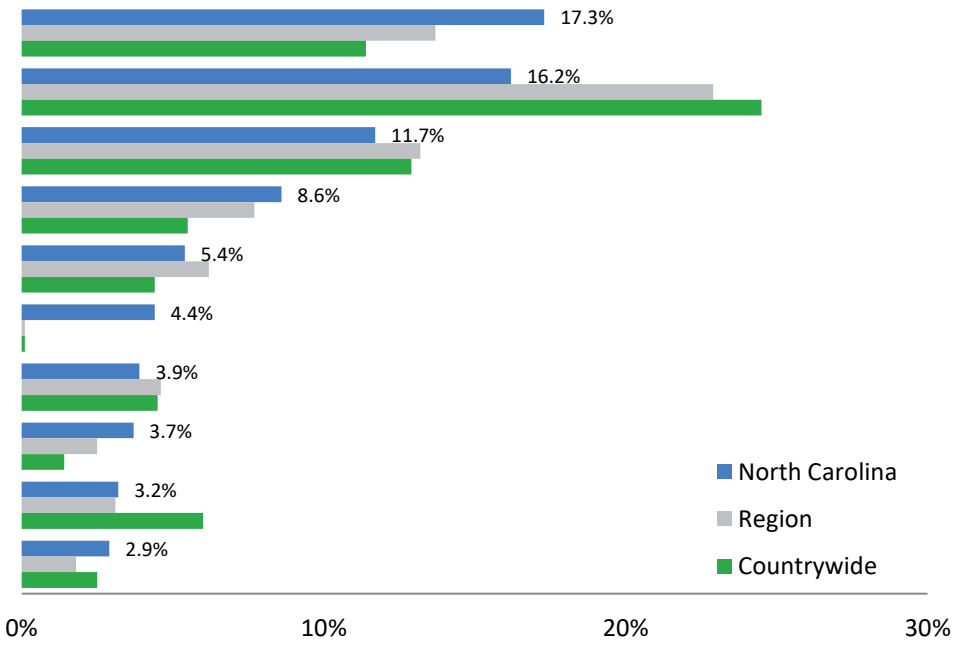
[8] Based on the number of units for the procedure code (typically in increments of time) but can also be one transaction.

Chart 25 shows the top 10 procedure codes reported as a telemedicine service by transaction count for North Carolina with comparative values for the region and countrywide.

Chart 25

Top 10 Procedure Codes by Transaction Counts for Telemedicine Services

Code	Average PPU NC	Region	CW
97110	$35	$33	$42
99213	$78	$83	$102
99214	$120	$116	$142
97530	$45	$38	$46
97112	$40	$35	$42
PSY00	$164	$171	$165
90837	$164	$152	$179
99215	$170	$144	$174
99442	$49	$50	$63
90834	$117	$104	$129



Code	Description
97110	Therapeutic procedure, 1 or more areas, each 15 minutes; therapeutic exercises to develop strength and endurance, range of motion, and flexibility
99213	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	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.
97530	Therapeutic activities, direct (one-on-one) patient contact by the provider (use of dynamic activities to improve functional performance), each 15 minutes
97112	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
PSY00	REHAB WITH PSYCH PROGRAM
90837	Psychotherapy, 60 minutes with patient
99215	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 40 minutes face-to-face with the patient and/or family.
99442	Telephone evaluation and management service by a physician or other qualified health care professional; 11-20 minutes of medical discussion.
90834	Psychotherapy, 45 minutes with patient

Hospital Inpatient

Payments attributed to facilities represent hospital inpatient services, hospital outpatient services, and ambulatory surgical center services. 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 vary across jurisdictions. Some states have fee schedules based on a group of facility services related to the hospital admission, such as a diagnosis-related group (DRG); others are on a per-diem basis, with some variation on the per-diem amount by type of admission. Other states have provisions for the reimbursement to be a certain percentage of hospital charges. Several states remain without any regulation today.

A hospital inpatient stay is typically reported with one of two types of codes: 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, 67% 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, the region, 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.

Unless otherwise stated, the inpatient results are based on inpatient stays with a discharge date in 2020.

A measure of workers compensation hospital inpatient costs is a comparison of current payments to the Medicare rates. The chart below shows the average percentage of Medicare-scheduled reimbursement amounts for hospital inpatient payments for North Carolina, the region, and countrywide, based on hospital episodes that are reported with a DRG code.

Chart 26

Hospital Inpatient Payments as a Percentage of Medicare

Medical Cost Category	North Carolina	Region	Countrywide
Hospital Inpatient	149%	221%	194%

Source: NCCI's Medical Data Call for inpatient stays discharged in Calendar Year 2020. Region includes AL, AR, FL, GA, KY, LA, MS, SC, TN, VA, and WV. Countrywide data includes AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

The distribution of medical payments for hospital inpatient is 14% for North Carolina, 16% for the region, and 13% for countrywide. 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 27 displays the average amount paid per stay for hospital inpatient services, while Chart 28 displays the average amount paid 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 27

Average Amount Paid per Stay for Hospital Inpatient Services

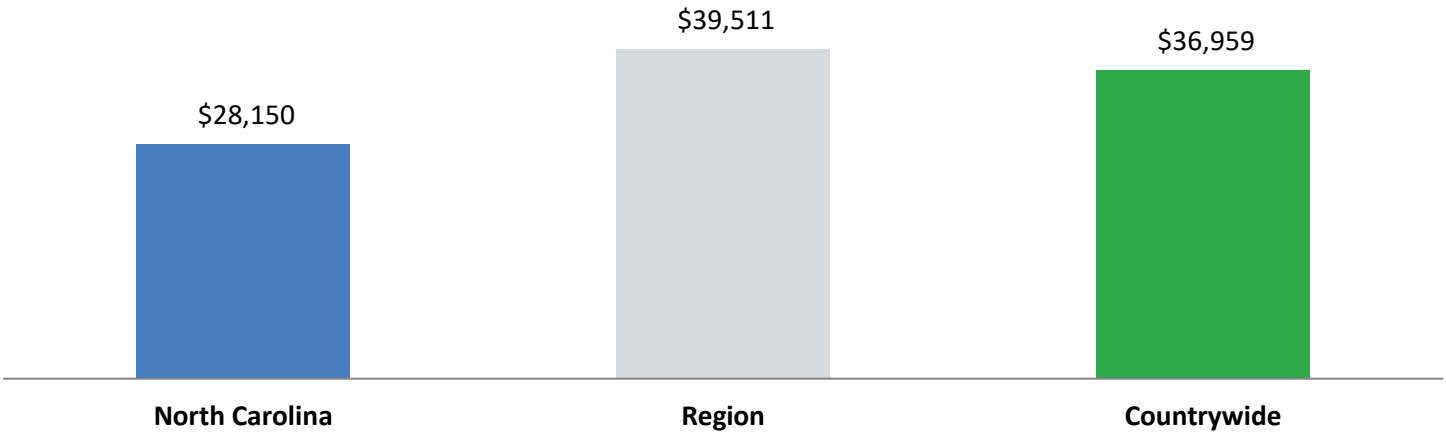


Chart 28

Average Amount Paid per Day for Hospital Inpatient Services

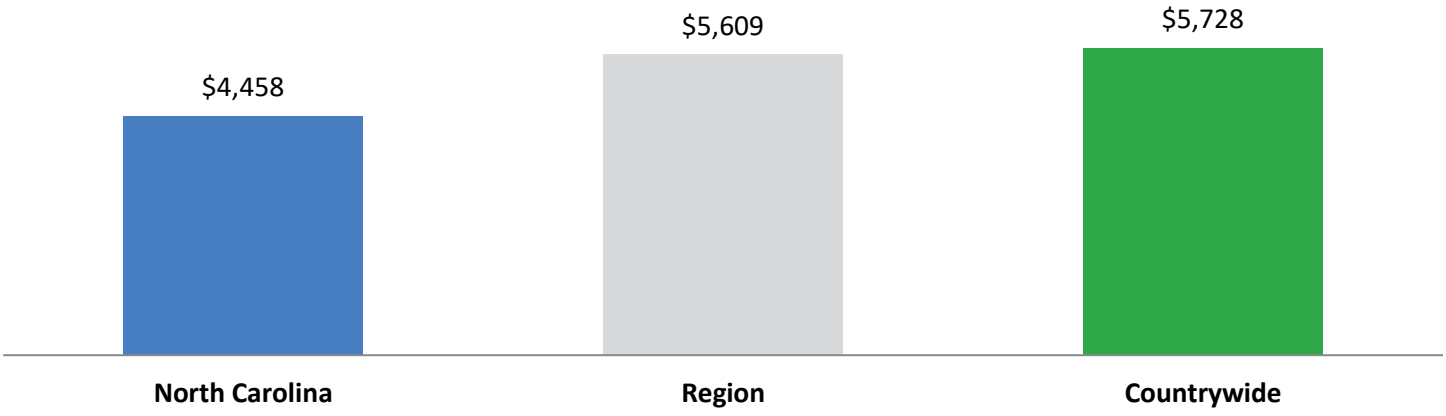


Chart 29 displays the average number of hospital inpatient stays per 1,000 active claims in 2020 for North Carolina, the region, and countrywide. An active claim is a workers compensation claim for which there is at least one medical service provided during that service year. Chart 30 displays the average and median length of 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 29

Average Number of Inpatient Stays per 1,000 Active Claims

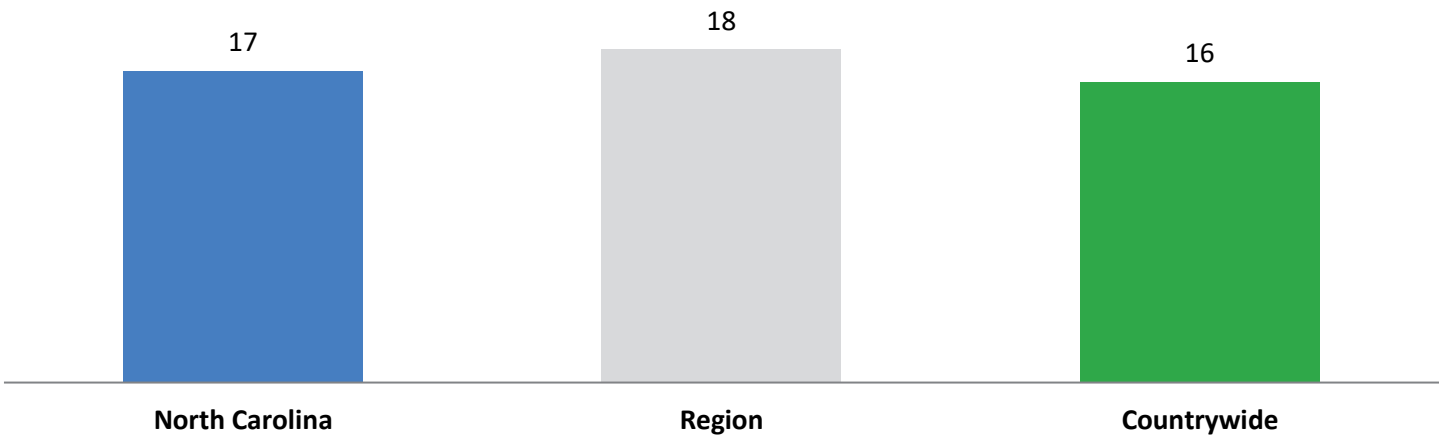


Chart 30

Length of Stay for Hospital Inpatient Services (in Days)

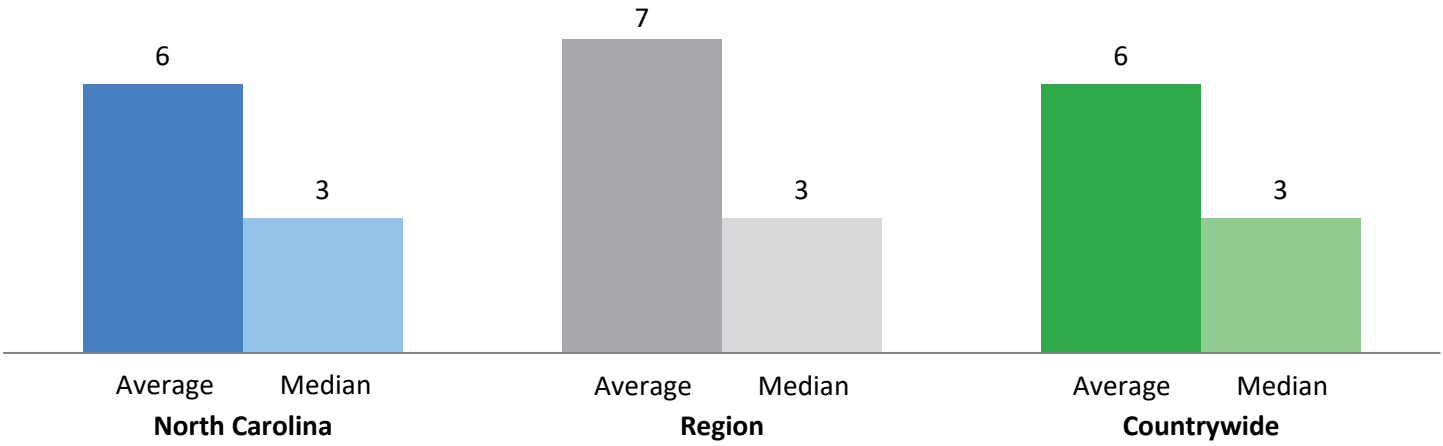
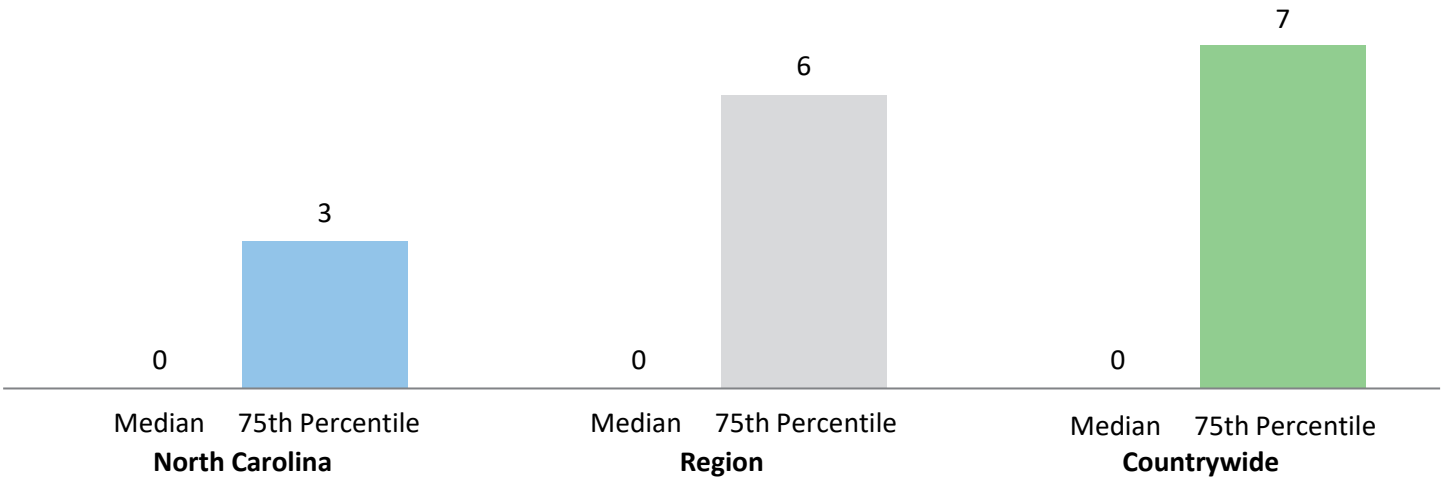


Chart 31 shows the median and 75th percentile time until first treatment for inpatient stays, other than emergency room visits, for North Carolina, the region, and countrywide.

Chart 31

Time Until First Treatment for Hospital Inpatient Stays (in Days)



Source: NCCI's Medical Data Call for Accident Year 2019 and Service Years 2019 and 2020.

Charts 32 and 33 display the top 10 diagnosis groups and top 10 DRG codes for hospital inpatient stays. A diagnosis group is identified for each stay based on an ICD-10 (International Classification of Diseases) code. The diagnosis groups and DRG codes are ranked based on total payments for hospital inpatient services in North Carolina. A brief description of each DRG code is displayed in the table below chart 33. The information is based on inpatient stays with a discharge date in 2019 or 2020.

Chart 32

Top 10 Diagnosis Groups by Amount Paid for Hospital Inpatient Services

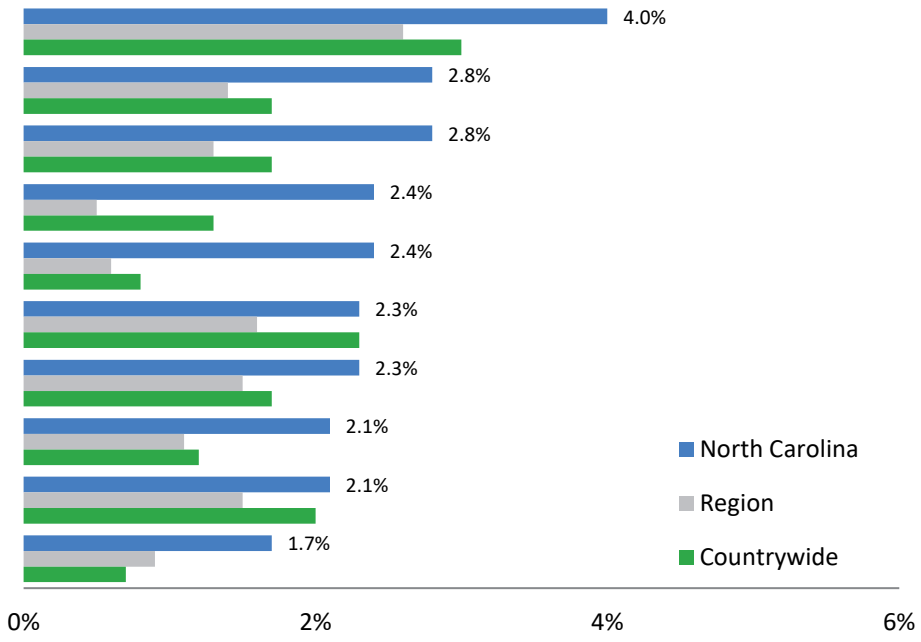
		Median Amount Paid per Stay		
Diagnosis Group	**Paid Share**	**North Carolina**	**Region**	**Countrywide**
Hip/pelvis fracture/major trauma	7.6%	$18,160	$20,767	$21,518
Traumatic brain injury	6.5%	$25,528	$26,031	$24,706
Lumbar spine degeneration	6.4%	$39,129	$37,864	$37,580
Tibia/fibula fracture	6.0%	$19,730	$23,651	$23,339
Burn and corrosion, third degree, other than head, face, and neck	4.3%	$40,211	$50,815	$44,946
Chest trauma major	4.0%	$20,793	$20,821	$21,188
Complication from surgical device	2.6%	$26,934	$22,240	$24,149
Femur fracture	2.4%	$18,846	$23,254	$25,767
Sepsis	2.4%	$16,515	$18,805	$21,322
Lumbosacral intervertebral disc disorders	2.4%	$37,596	$33,591	$30,566

Source: NCCI's Medical Data Call for inpatient stays with a discharge date in Calendar Year 2019 or 2020.

Chart 33

Top 10 DRG Codes by Amount Paid for Hospital Inpatient Services

Code	Median Paid per Stay NC	Region	CW
460	$40,374	$37,834	$40,533
957	$98,781	$117,720	$111,199
470	$19,810	$20,892	$21,894
454	$61,253	$56,887	$58,357
956	$51,002	$47,821	$55,891
455	$47,700	$46,756	$48,060
494	$18,572	$19,805	$20,349
958	$47,659	$57,327	$60,923
003	$221,780	$203,702	$252,745
935	$24,573	$25,416	$20,932



Code	Description
460	Spinal fusion, except cervical, without major complications or comorbidities
957	Other operation room procedures for multiple significant trauma with major complications or comorbidities
470	Major joint replacement or reattachment of lower extremity without major complications or comorbidities
454	Combined anterior/posterior spinal fusion with complications or comorbidities
956	Limb reattachment, hip, and femur procedures for multiple significant trauma
455	Combined anterior/posterior spinal fusion without complications or comorbidities/major complications or comorbidities
494	Lower extremity and humerus procedures except hip, foot, and femur without complications or comorbidities/major complications or comorbidities
958	Other operation room procedures for multiple significant trauma with complications or comorbidities
003	Extracorporeal membrane oxygenation (ECMO) or tracheostomy with mechanical ventilation 96+ hours or principal diagnosis except face, mouth, and neck with major operating room
935	Nonextensive burns

Source: NCCI's Medical Data Call for inpatient stays with a discharge date in 2019 or 2020. Region includes AL, AR, FL, GA, KY, LA, MS, SC, TN, VA, and WV. Countrywide data includes 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.
Note: In North Carolina, 67% of hospital inpatient payments are reported with a DRG code.

Hospital Outpatient

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 current procedure terminology (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 service is classified as “surgical” if it falls within the surgical category as defined by the AMA. A service is further classified as “major surgery” if it has a global follow-up period of 90 days as defined by the Centers for Medicare & Medicaid Services and is not an injection. In this section, we provide measures of hospital outpatient payments that account for the type of visit because the level of reimbursement varies considerably by type of visit. A hospital outpatient visit could be the result of an emergency visit. Outpatient visits arising from emergency room services are shown separately. Next, nonemergency outpatient visits are shown for visits with major surgery services and for visits without major surgery services.

The distribution of medical payments for hospital outpatient is 17% for North Carolina, 18% for the region, and 19% for countrywide.

One measure of workers compensation hospital outpatient costs is a comparison of current payments to the Medicare rates. The chart below shows the average percentage of Medicare-scheduled reimbursement amounts for hospital outpatient payments for North Carolina, the region, and countrywide. In North Carolina, 87% of hospital outpatient payments are included in the chart below.

Chart 34

Hospital Outpatient Payments as a Percentage of Medicare

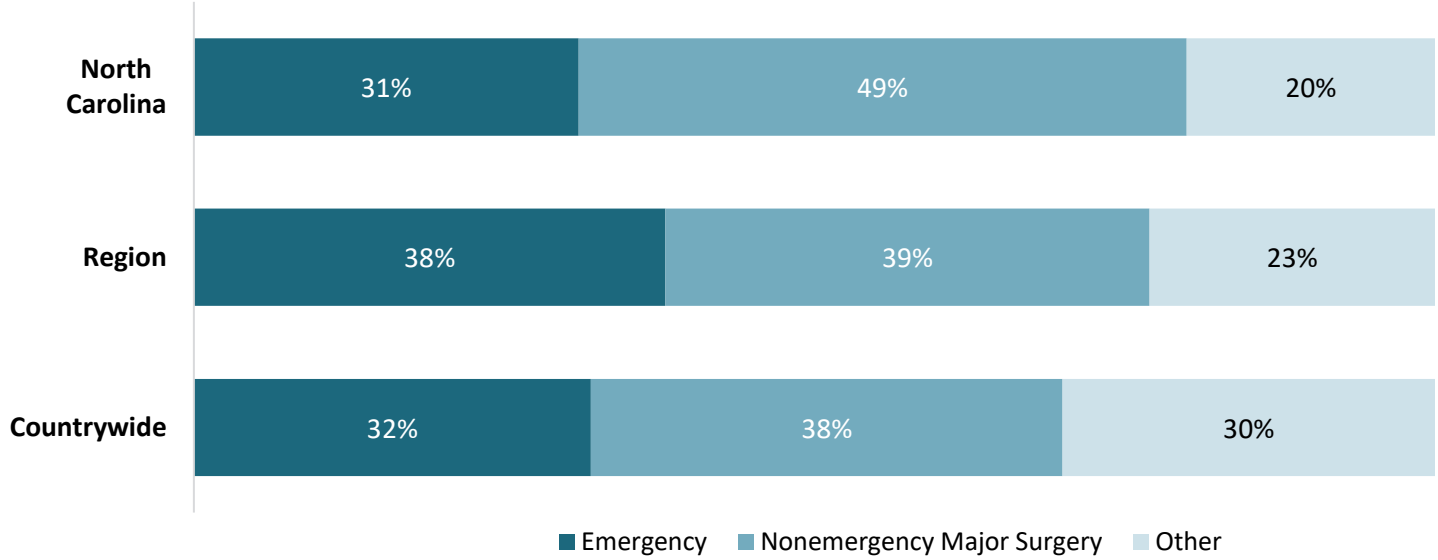
Medical Cost Category	North Carolina	Region	Countrywide
Hospital Outpatient	170%	260%	242%

Source: NCCI’s Medical Data Call for Service Year 2020. Region includes AL, AR, FL, GA, KY, LA, MS, SC, TN, VA, and WV. Countrywide data includes AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, ME, MI, MN, MO, MS, MT, NC, NE, NH, NJ, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

Chart 35 displays the distribution of hospital outpatient payments by visit type for North Carolina, the region, and countrywide.

Chart 35

Distribution of Payments for Outpatient Services by Hospital Outpatient Visit Type



Emergency hospital outpatient visits represent 31% of hospital outpatient payments in North Carolina. Chart 36 displays the average amount paid per emergency visit for outpatient services, while Chart 37 displays the average number of emergency hospital outpatient visits per 1,000 active claims for North Carolina, the region, and countrywide. Note that there are no controls for mix of diagnosis or severity of claims between jurisdictions.

Chart 36

Average Amount Paid for Hospital Outpatient Services per Emergency Visit

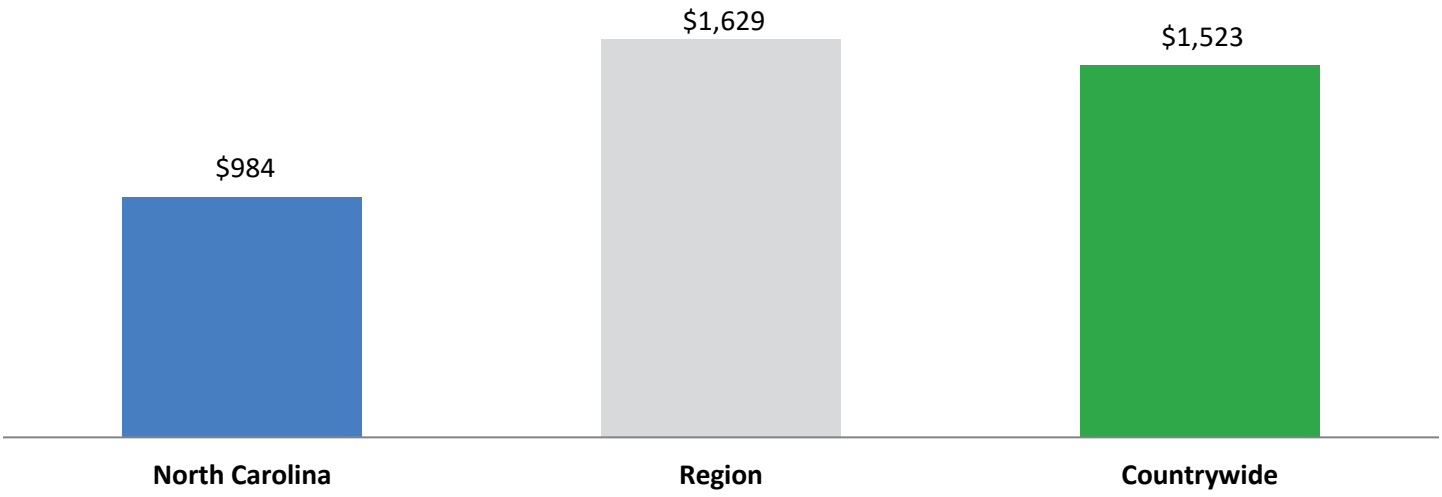


Chart 37

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

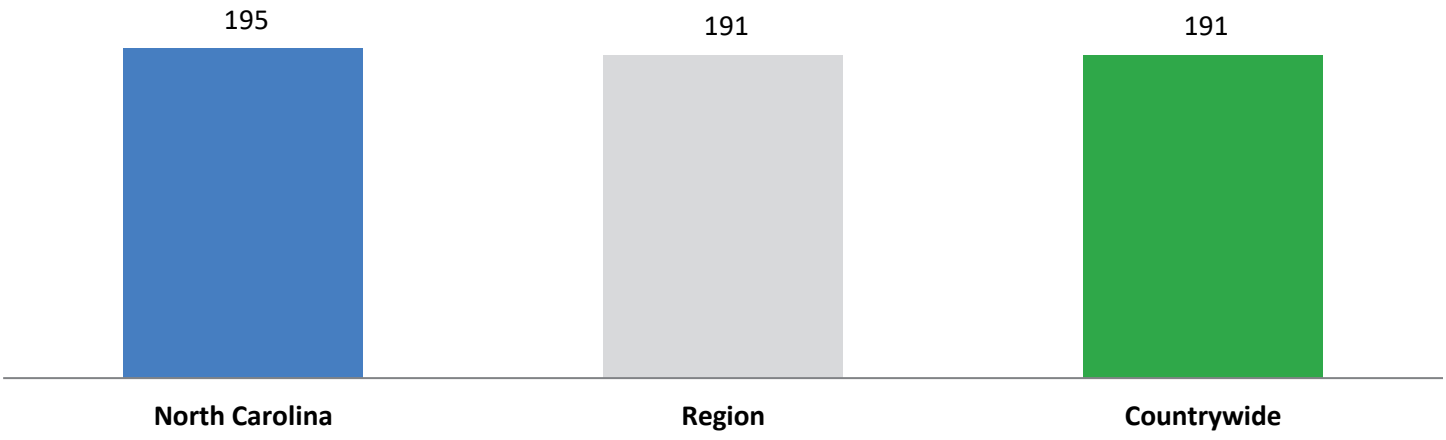


Chart 38 displays the top 10 diagnosis groups for emergency outpatient visits. The diagnosis groups are ranked based on total payments for outpatient services in North Carolina.

Chart 38

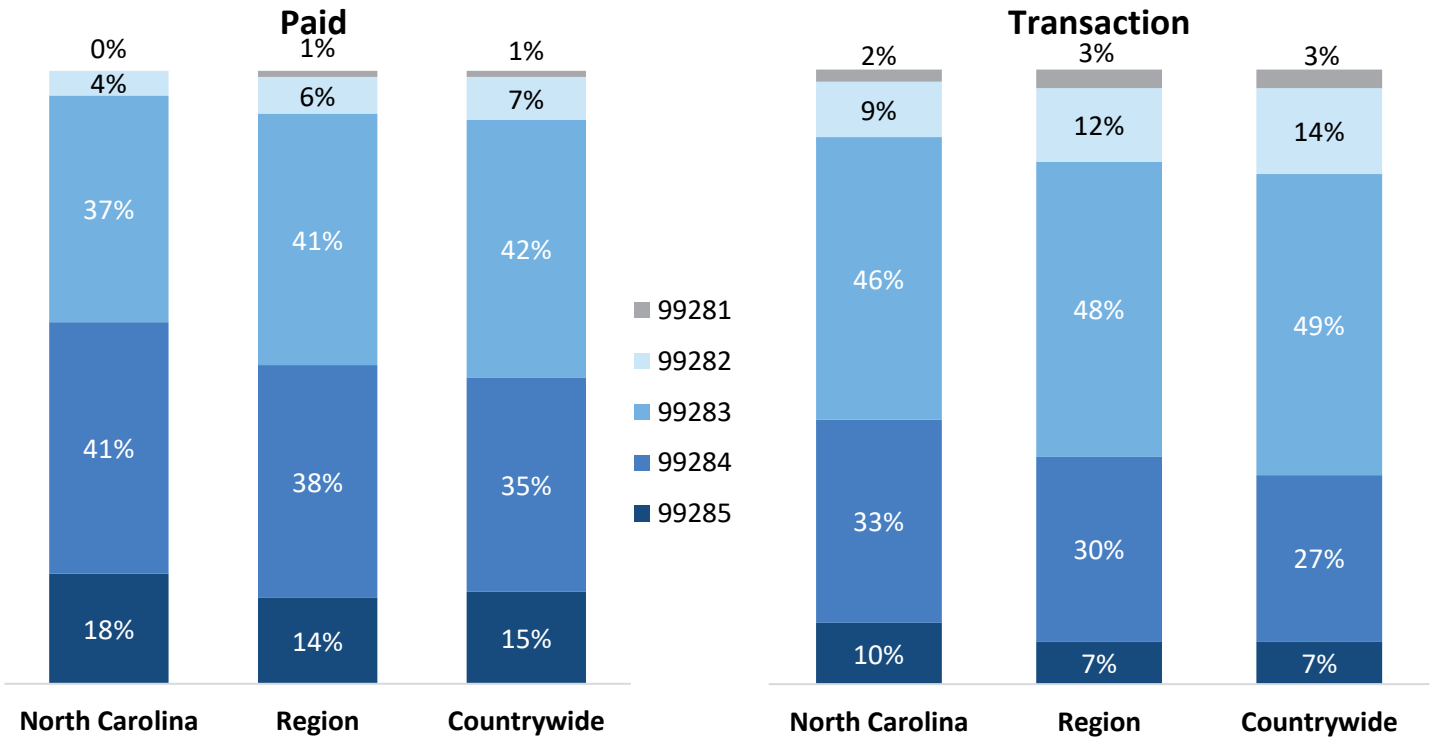
Top 10 Diagnosis Groups by Amount Paid for Emergency Hospital Outpatient Visits

Diagnosis Group	Paid Share	Median Amount Paid Per Visit		
		North Carolina	Region	Countrywide
Minor hand/wrist injuries	14.9%	$573	$677	$710
Hand/wrist fracture	7.3%	$849	$1,095	$1,139
Low back pain	4.1%	$640	$792	$794
Head/face wound	3.7%	$815	$888	$929
Head injury not otherwise classified	3.4%	$887	$1,266	$1,151
Minor ankle/foot injuries	3.1%	$565	$713	$706
Traumatic amputation, hand/wrist	3.1%	$1,683	$1,574	$1,653
Tibia/fibula fracture	3.1%	$944	$1,126	$1,179
Neck pain	2.5%	$879	$1,224	$1,218
Concussion/minor traumatic brain injury	2.4%	$881	$1,287	$1,206

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. About 82% of all emergency visits had outpatient services. Chart 39 shows the distribution of emergency room outpatient services by procedure code for both paid amount and transactions for Service Year 2020 as well as the average payment per transaction.

Chart 39

Distribution of Emergency Room Outpatient Services by Procedure Code



Emergency Room Outpatient Paid per Transaction by Procedure Code

		Average PPT		
Code	Severity	North Carolina	Region	Countrywide
99281	Minor	$119	$163	$190
99282	Low to Moderate	$224	$261	$288
99283	Moderate	$393	$438	$491
99284	High	$610	$646	$739
99285	High and immediately life-threatening	$924	$983	$1,153

Nonemergency outpatient visits with major surgery services represent 49% of hospital outpatient payments in North Carolina. Chart 40 displays the average amount paid per major surgery visit for outpatient services, while Chart 41 displays the average number of major surgery hospital outpatient visits per 1,000 active claims for North Carolina, the region, and countrywide. Note that there are no controls for mix of diagnosis or severity of claims between jurisdictions.

Chart 40

Average Amount Paid for Hospital Outpatient Services per Nonemergency Major Surgery Visit

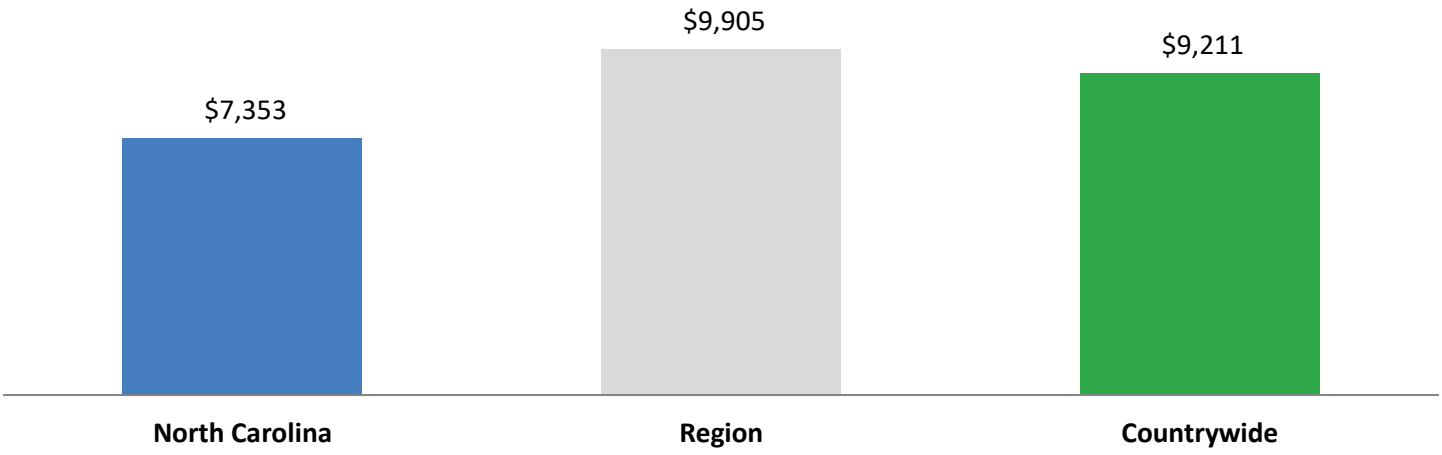


Chart 41

Average Number of Nonemergency Major Surgery Hospital Outpatient Visits per 1,000 Active Claims

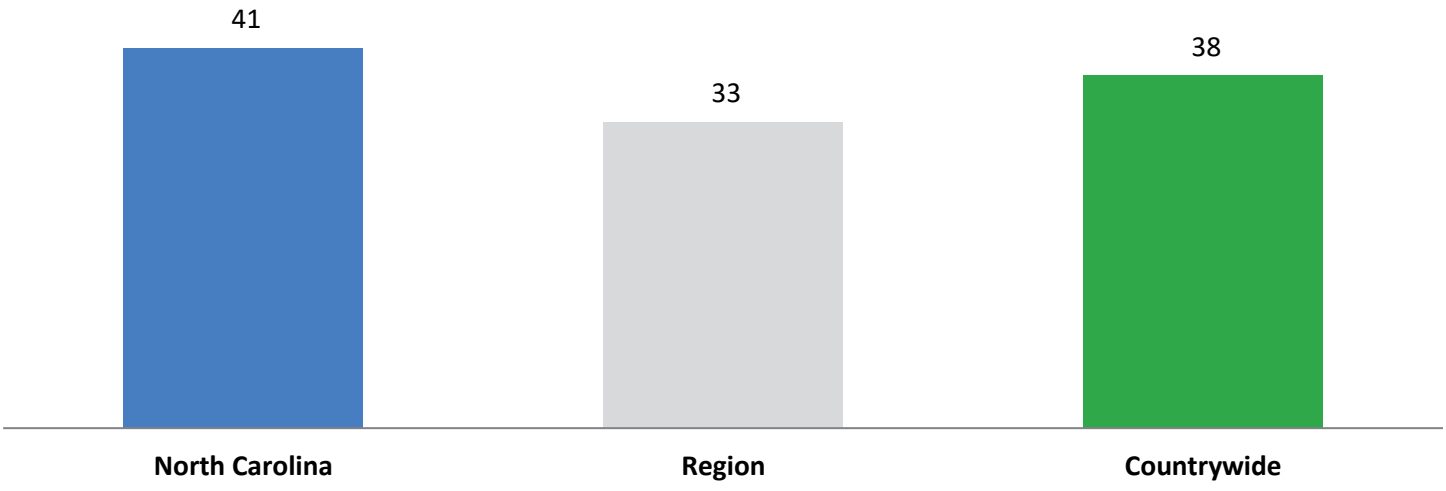
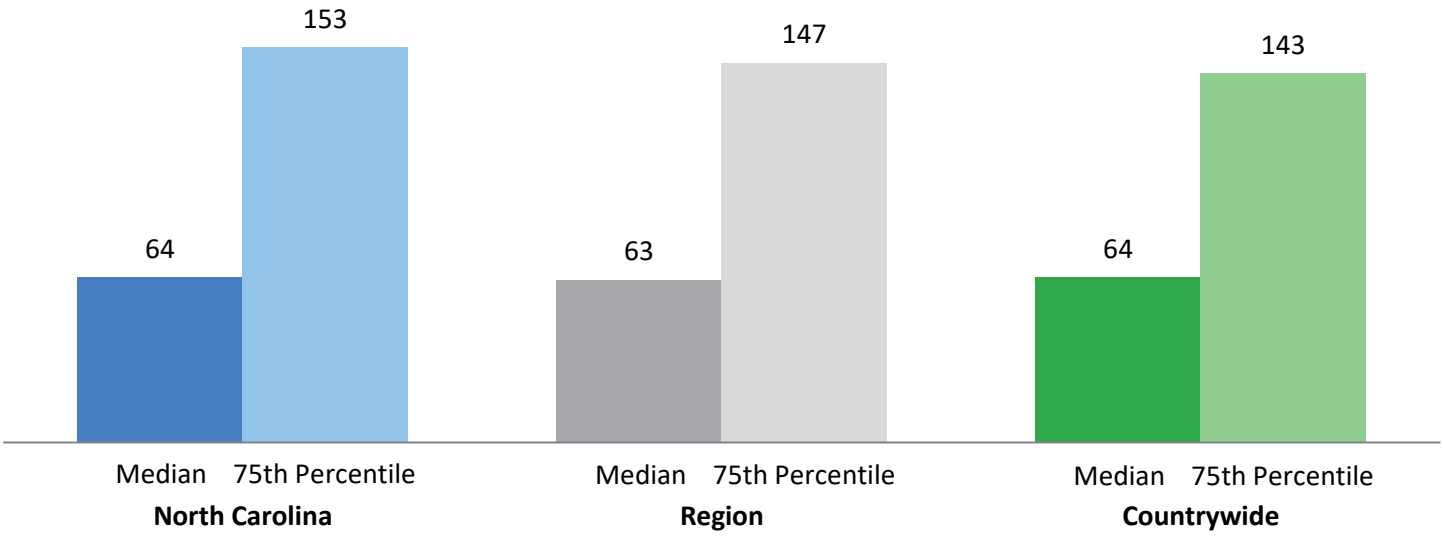


Chart 42 shows the median and 75th percentile time until first treatment for nonemergency major surgery outpatient visits for North Carolina, the region, and countrywide.

Chart 42

Time Until First Treatment for Nonemergency Major Surgery Outpatient Visits (in Days)



Source: NCCI's Medical Data Call for Accident Year 2019 and Service Years 2019 and 2020.

Chart 43 displays the top 10 diagnosis groups for nonemergency major surgery outpatient visits. The diagnosis groups are ranked based on total payments for outpatient services in North Carolina.

Chart 43

Top 10 Diagnosis Groups by Amount Paid for Nonemergency Major Surgery Hospital Outpatient Visits

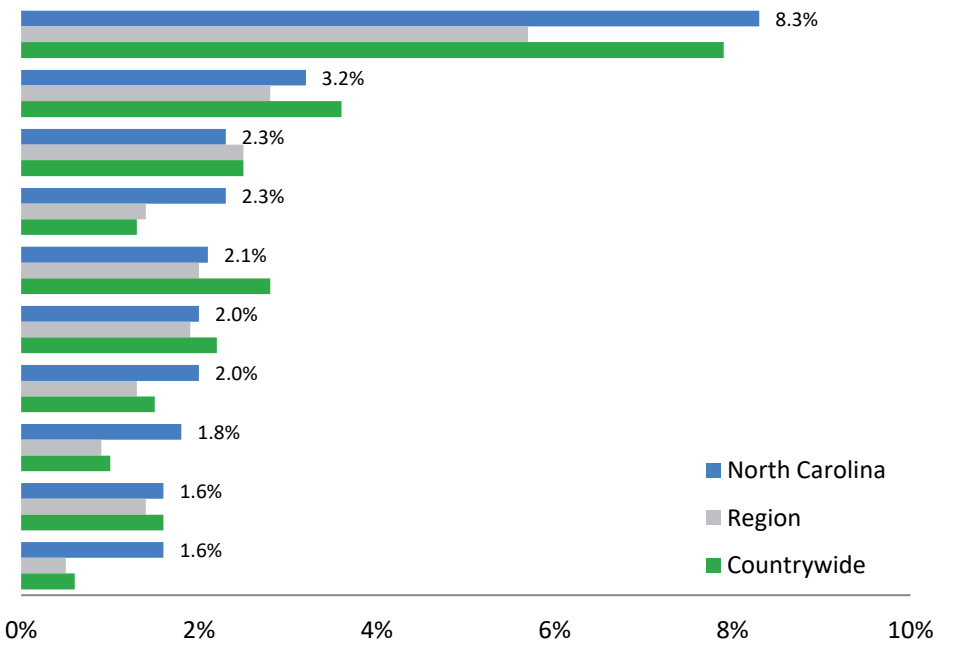
Diagnosis Group	Paid Share	Median Amount Paid Per Visit		
		North Carolina	Region	Countrywide
Rotator cuff tear	10.9%	$7,977	$8,530	$9,808
Hand/wrist fracture	7.7%	$5,301	$6,296	$5,946
Knee internal derangement - meniscus injury	4.9%	$5,064	$4,798	$5,219
Inguinal hernia	3.7%	$7,541	$7,601	$7,809
Ankle fracture	3.7%	$9,966	$8,704	$9,015
Minor shoulder injury	3.5%	$9,479	$8,308	$8,814
Tibia/fibula fracture	3.4%	$10,145	$7,978	$8,880
Knee degenerative/overuse injuries	3.1%	$6,376	$7,133	$7,603
Lumbosacral intervertebral disc disorders	2.6%	$11,097	$10,053	$10,417
Heel/midfoot fracture	2.5%	$9,618	$8,973	$8,591

Charts 44 displays the average amount paid per nonemergency major surgery visit for outpatient services in North Carolina, the region, and countrywide for the top 10 CPT codes in North Carolina. The codes are ranked based on total outpatient payments in North Carolina, where the code shown below is the code with the highest total paid on a nonemergency major surgery visit. In 2020, 91% of Hospital Outpatient costs were reported with a CPT code being the highest paid code. A brief description of each code is displayed in the table below.

Chart 44

Top 10 Procedure Codes by Amount Paid for Hospital Outpatient Services in Nonemergency Major Surgery Visits

Code	Average Paid per Visit NC	Region	CW
29827	$9,020	$10,522	$12,107
29881	$4,919	$6,243	$6,726
63030	$10,451	$11,786	$12,455
27447	$19,706	$17,575	$17,121
49650	$8,803	$9,836	$10,322
20680	$4,864	$6,974	$6,816
29888	$9,618	$10,949	$12,255
25609	$9,347	$9,711	$11,065
24342	$9,439	$11,240	$10,551
25607	$10,119	$8,990	$10,232



Code	Description
29827	Arthroscopy, shoulder, surgical; with rotator cuff repair
29881	Arthroscopy, knee, surgical; with meniscectomy (medial or lateral, including any meniscal shaving), including debridement/shaving of articular cartilage
63030	Laminotomy (hemilaminectomy) with decompression of nerve root(s) including partial facetectomy, foraminotomy, and/or excision of herniated intervertebral disc; 1 interspace lumbar
27447	Arthroplasty, knee condyle and plateau; medial and lateral compartments, with or without patella resurfacing (total knee arthroplasty)
49650	Laparoscopy, surgical; repair initial inguinal hernia
20680	Removal of implant; deep (e.g., buried wire, pin, screw, metal, band, nail, rod, or plate)
29888	Arthroscopically aided anterior cruciate ligament repair/augmentation or reconstruction
25609	Open treatment of distal radial intra-articular fracture or epiphyseal separation; with internal fixation of 3 or more fragments
24342	Reinsertion of ruptured biceps or triceps tendon, distal, with or without tendon graft
25607	Open treatment of distal radial extra-articular fracture or epiphyseal separation, with internal fixation

Nonemergency outpatient visits without a major surgery service, referred to as "Other" outpatient visits, represent 20% of hospital outpatient payments in North Carolina. Chart 45 displays the average amount paid per other visit for hospital outpatient services, while Chart 46 displays the average number of other visits per 1,000 active claims for hospital outpatient 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 45

Average Amount Paid for Hospital Outpatient Services per Other Outpatient Visit

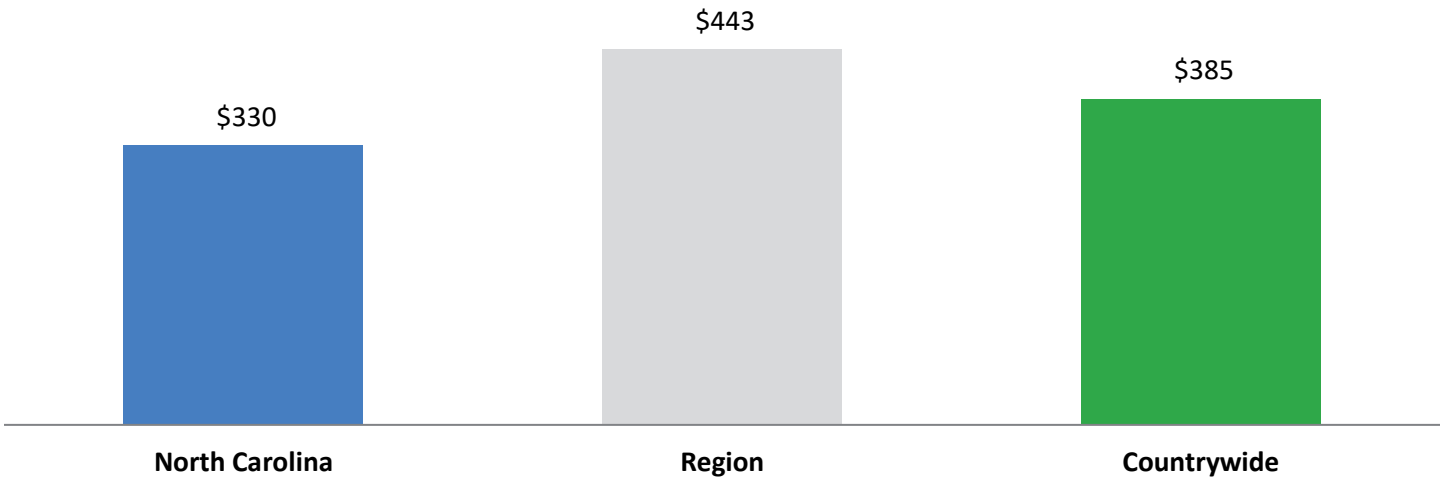


Chart 46

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

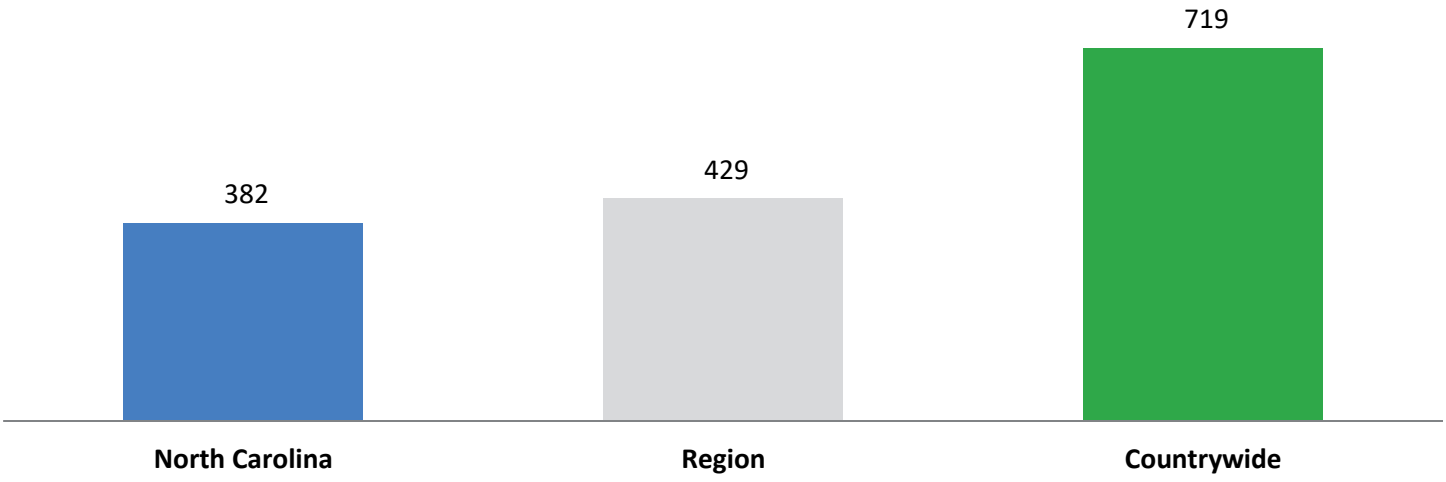
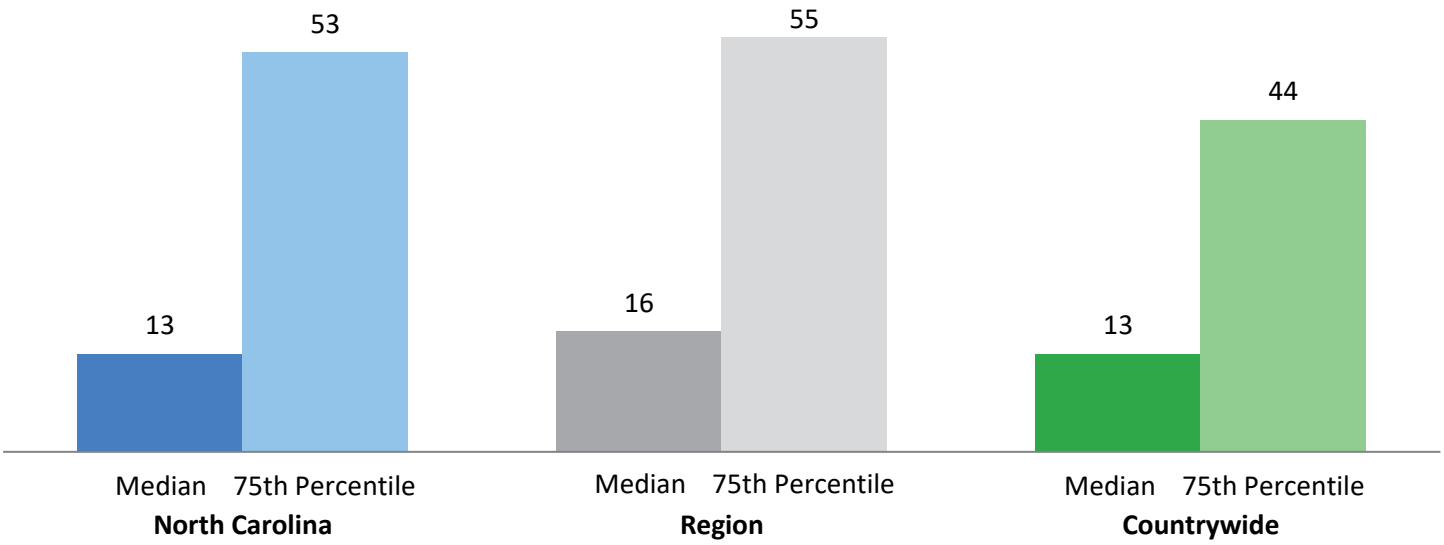


Chart 47 shows the median and 75th percentile time until first treatment for other outpatient visits for North Carolina, the region, and countrywide.

Chart 47

Time Until First Treatment for Other Outpatient Visits (in Days)



Source: NCCI's Medical Data Call for Accident Year 2019 and Service Years 2019 and 2020.

Chart 48 displays the top 10 diagnosis groups for other outpatient visits. The diagnosis groups are ranked based on total payments for outpatient services in North Carolina.

Chart 48

Top 10 Diagnosis Groups by Amount Paid for Other Hospital Outpatient Visits

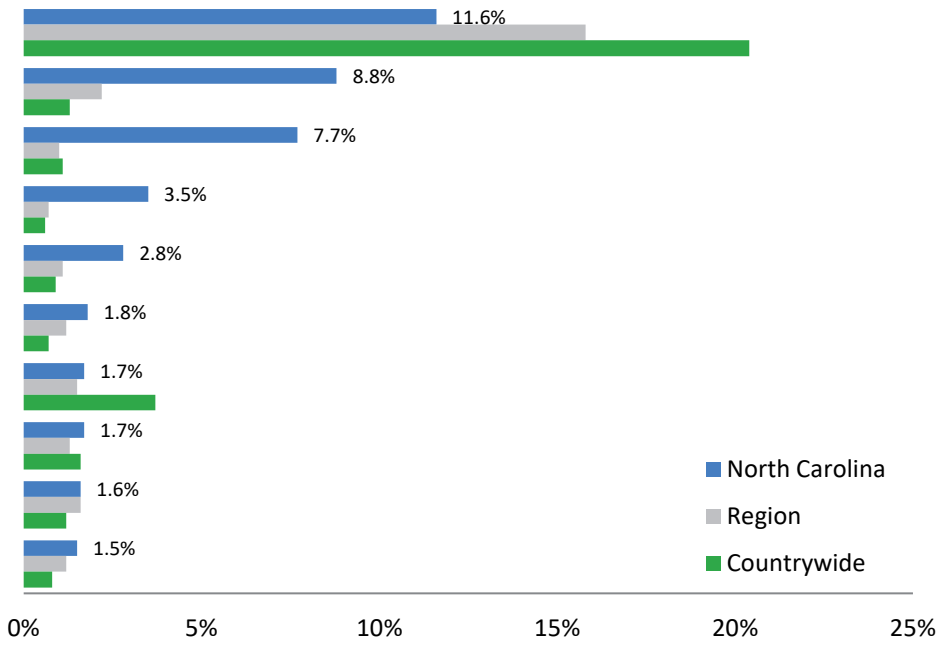
Diagnosis Group	Paid Share	Median Amount Paid per Visit		
		North Carolina	Region	Countrywide
Concussion/minor traumatic brain injury	6.7%	$147	$191	$196
Minor hand/wrist injuries	5.2%	$128	$144	$163
Traumatic brain injury	4.7%	$308	$394	$312
Chronic pain	4.5%	$212	$164	$194
Minor shoulder injury	4.1%	$129	$142	$175
Lumbar spine degeneration	3.6%	$224	$383	$349
Low back pain	3.4%	$139	$146	$166
Minor ankle/foot injuries	2.9%	$151	$154	$169
Minor knee injury	2.7%	$127	$157	$176
Lumbar radiculopathy/sciatica	2.6%	$160	$187	$208

Charts 49 displays the average amount paid per other visit for outpatient services in North Carolina, the region, and countrywide for the top 10 CPT codes in North Carolina. The codes are ranked based on total outpatient payments in North Carolina, where the code shown below is the code with the highest total paid on an "Other" outpatient visit. A brief description of each code is displayed in the table below.

Chart 49

Top 10 Procedure Codes by Amount Paid for Hospital Outpatient Services in Other Visits

Code	Average Paid per Visit NC	Region	CW
97110	$139	$203	$206
G0463	$220	$187	$195
97799	$2,291	$2,450	$3,883
99199	$14,010	$2,130	$2,643
63685	$32,489	$19,618	$25,879
11042	$625	$753	$798
97140	$135	$203	$216
97530	$184	$215	$234
64483	$1,667	$2,028	$1,867
62323	$1,316	$1,691	$1,543



Code	Description
97110	Therapeutic procedure, 1 or more areas, each 15 minutes; therapeutic exercises to develop strength and endurance, range of motion, and flexibility
G0463	Hospital outpatient clinic visit for assessment and management of a patient
97799	Unlisted physical medicine/rehabilitation service or procedure
99199	Unlisted special service procedure or report
63685	Insertion or replacement of spinal neurostimulator pulse generator or receiver, direct or inductive coupling
11042	Debridement, subcutaneous tissue (includes epidermis and dermis, if performed); first 20 sq cm or less
97140	Manual therapy techniques (e.g., mobilization/manipulation, manual lymphatic drainage, manual traction), 1 or more regions, each 15 minutes
97530	Therapeutic activities, direct (one-on-one) patient contact by the provider (use of dynamic activities to improve functional performance), each 15 minutes
64483	Injection(s), anesthetic agent, and/or steroid, transforaminal epidural, with imaging guidance (fluoroscopy or computed tomography (CT)); lumbar or sacral, single level
62323	Injection(s) of diagnostic or therapeutic substance(s) (e.g., anesthetic, antispasmodic, opioid, steroid, other solution), not including neurolytic substances, including needle or catheter placement, interlaminar epidural or subarachnoid, lumbar or sacral

Ambulatory Surgical Centers

An Ambulatory Surgical Center (ASC) is often used as an alternative facility to a hospital for conducting outpatient surgeries. The distribution of medical payments for ASCs is 4% for North Carolina, 8% for the region, and 7% for countrywide.

Typically, surgery-related services are performed in ASCs. The most prevalent procedure code types reported are CPT codes and revenue codes.

One measure of workers compensation ASC costs is a comparison of current payments to the Medicare rates. The chart below shows the average percentage of Medicare-scheduled reimbursement amounts for ASC payments for North Carolina, the region, and countrywide. In North Carolina, 95% of ASC payments are included in the chart below.

Chart 50

ASC Payments as a Percentage of Medicare

Medical Cost Category	North Carolina	Region	Countrywide
Ambulatory Surgical Center	172%	275%	265%

Source: NCCI's Medical Data Call for Service Year 2020. Region includes AL, AR, FL, GA, KY, LA, MS, SC, TN, VA, and WV. Countrywide data includes AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, ME, MI, MN, MO, MS, MT, NC, NE, NH, NJ, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

ASC visits with major surgery services represent 96% of ASC payments in North Carolina. Other ASC visits typically include minor procedures, with injections for therapeutic or diagnostic purposes being the most common. Chart 51 displays the average amount paid per major surgery visit for ASC services, while Chart 52 displays the average number of major surgery ASC visits per 1,000 active claims for North Carolina, the region, and countrywide. Note that there are no controls for mix of diagnosis or severity of claims between jurisdictions.

Chart 51

Average Amount Paid per Major Surgery Visit for ASC Services

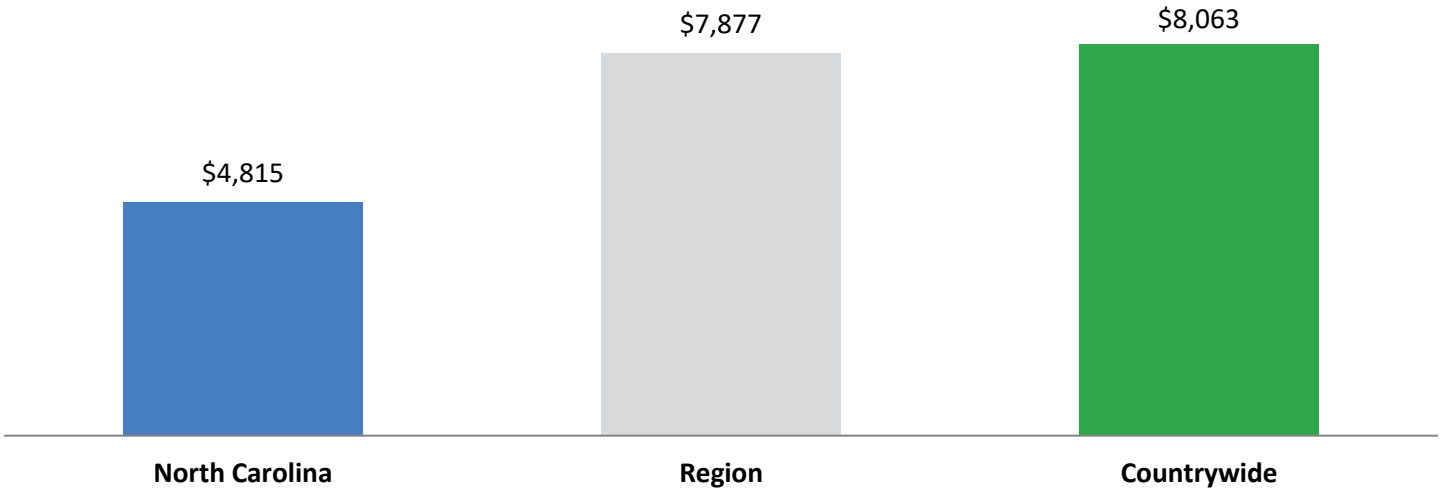


Chart 52

Average Number of ASC Major Surgery Visits per 1,000 Active Claims

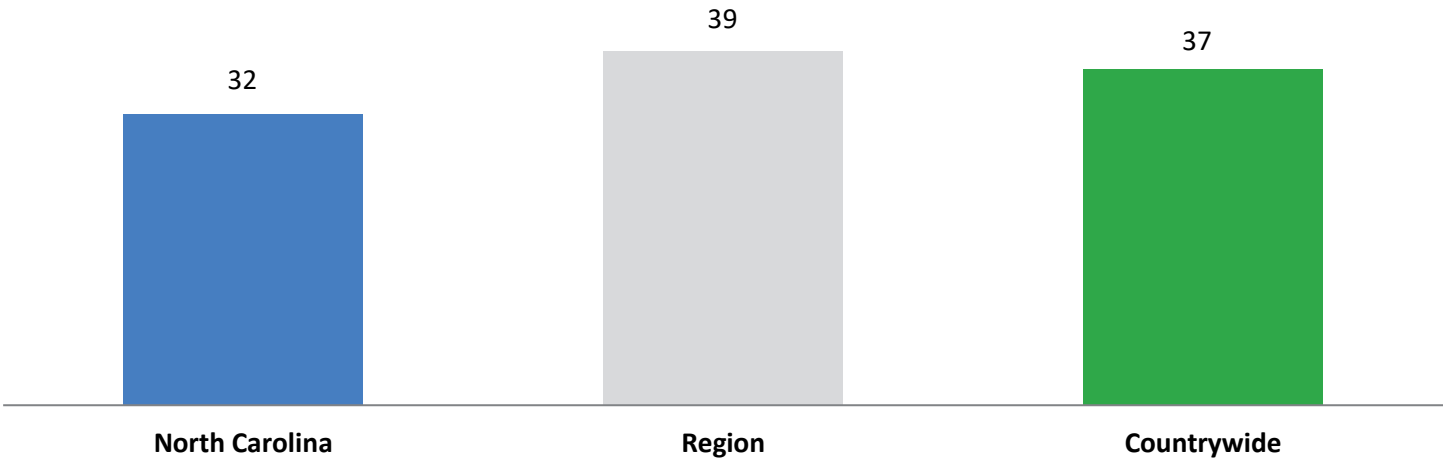
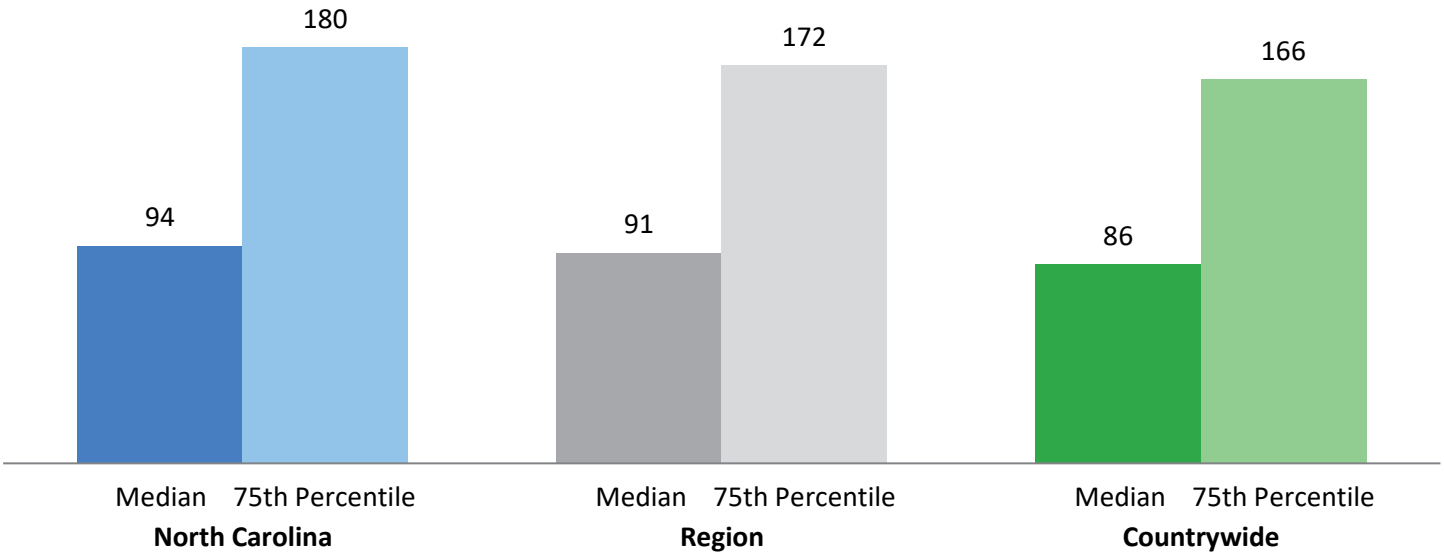


Chart 53 shows the median and 75th percentile time until first treatment for ASC major surgery visits for North Carolina, the region, and countrywide.

Chart 53

Time Until First Treatment for ASC Major Surgery Visits (in Days)



Source: NCCI's Medical Data Call for Accident Year 2019 and Service Years 2019 and 2020.

Chart 54 displays the top 10 diagnosis groups for ASC major surgery visits. The diagnosis groups are ranked based on total payments for ASC services in North Carolina.

Chart 54

Top 10 Diagnosis Groups by Amount Paid for ASC Major Surgery Visits

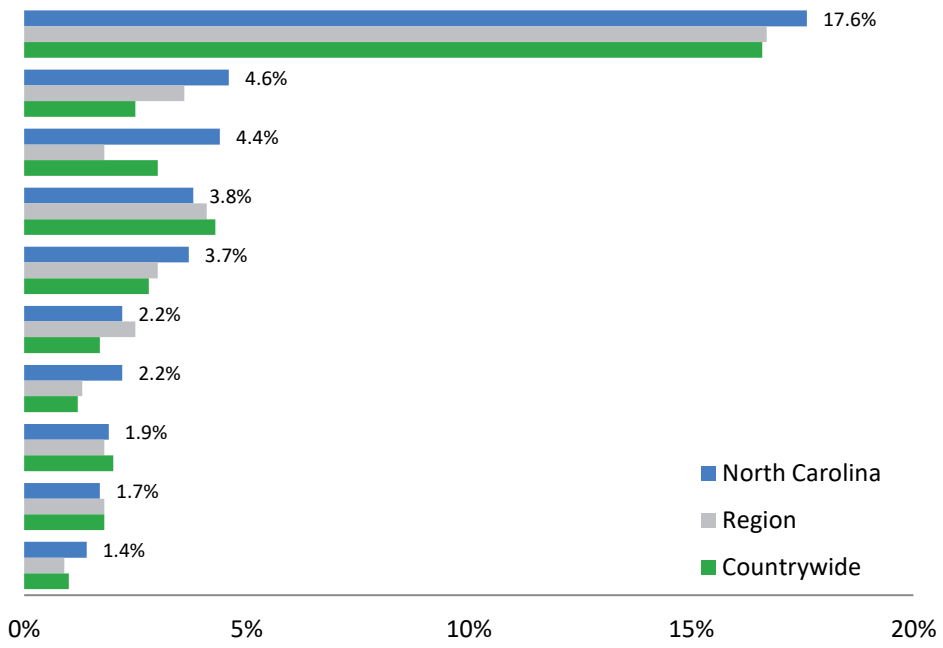
Diagnosis Group	Paid Share	Median Amount Paid per Visit		
		North Carolina	Region	Countrywide
Rotator cuff tear	18.8%	$6,689	$9,914	$10,347
Hand/wrist fracture	6.1%	$3,430	$5,222	$5,351
Knee internal derangement - meniscus injury	5.9%	$2,438	$4,024	$4,196
Minor shoulder injury	4.7%	$5,044	$8,255	$7,932
Superior labral tear from anterior to posterior (SLAP) lesion	4.2%	$6,532	$9,287	$8,833
Knee internal derangement - cruciate ligament tear	3.5%	$7,701	$9,489	$9,355
Degenerative shoulder	3.0%	$3,657	$8,643	$8,092
Bicipital tendinitis	2.6%	$7,316	$10,144	$10,542
Knee degenerative/overuse injuries	2.5%	$2,496	$5,460	$5,651
Other joint disorder, not elsewhere classified	2.3%	$5,437	$8,511	$7,767

Chart 55 displays the average amount paid per major surgery visit for ASC services in North Carolina, the region, and countrywide for the top 10 CPT codes in North Carolina. The codes are ranked based on total ASC payments in North Carolina, where the code shown below is the code with the highest total paid on a major surgery visit. A brief description of each procedure code is displayed in the table beneath the chart. Chart 56 displays similar results for visits in an outpatient setting for the list of codes in Chart 55, if applicable.

Chart 55

Top 10 Procedure Codes by Amount Paid for ASC Services in Major Surgery Visits

Code	Average Paid per Visit NC	Region	CW
29827	$7,090	$11,572	$12,497
29828	$7,372	$13,582	$13,598
23430	$7,917	$11,499	$12,811
29881	$2,445	$4,151	$4,651
29888	$7,779	$10,382	$10,931
22551	$16,963	$25,223	$24,616
25609	$7,454	$8,451	$9,268
29806	$6,138	$9,971	$10,417
24342	$5,085	$6,449	$7,083
23410	$6,787	$11,605	$11,313



Code	Description
29827	Arthroscopy, shoulder, surgical; with rotator cuff repair
29828	Arthroscopy, shoulder, surgical; biceps tenodesis
23430	Tenodesis of long tendon of biceps
29881	Arthroscopy, knee, surgical; with meniscectomy (medial or lateral, including any meniscal shaving), including debridement/shaving of articular cartilage
29888	Arthroscopically aided anterior cruciate ligament repair/augmentation or reconstruction
22551	Arthrodesis, anterior interbody, including disc space preparation, discectomy, osteophytectomy, and decompression of spinal cord and/or nerve roots; cervical below C2
25609	Open treatment of distal radial intra-articular fracture or epiphyseal separation; with internal fixation of 3 or more fragments
29806	Arthroscopy, shoulder, surgical; capsulorrhaphy
24342	Reinsertion of ruptured biceps or triceps tendon, distal, with or without tendon graft
23410	Repair of ruptured musculotendinous cuff (e.g., rotator cuff) open; acute

Chart 56

Major Surgery Outpatient Visit Comparisons for Procedure Codes in Chart 55

Code	Average Paid per Visit in NC ASC	Outpatient	Distribution of Major Surgery Visits in NC in an ASC or Outpatient Setting
29827	$7,090	$9,020	58% / 42%
29828	$7,372	$7,842	70% / 30%
23430	$7,917	$8,824	65% / 35%
29881	$2,445	$4,919	55% / 45%
29888	$7,779	$9,618	55% / 45%
22551	$16,963	$14,280	50% / 50%
25609	$7,454	$9,347	45% / 55%
29806	$6,138	$8,431	62% / 38%
24342	$5,085	$9,439	50% / 50%
23410	$6,787	$8,570	60% / 40%

Prescription Drugs

The distribution of medical payments for drugs is 7% for North Carolina, 11% for the region, and 8% for countrywide. Prescription drugs are uniquely identified by a national drug code (NDC). Charts 57 through 62 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.

The Controlled Substances Act (CSA) was passed in 1970 to regulate the manufacture, distribution, possession, and use of certain drugs. There are five schedules, or groups of drugs, determined by varying qualifications, such as the drug's medical uses, if any, and its potential for abuse. For example, Schedule V drugs are defined as having the lowest potential for abuse, while Schedule I drugs are illegal at the federal level, mainly because they are defined as having no currently accepted medical uses and a high potential for abuse.

In North Carolina, the share of claims observed in Service Year 2020 with at least one controlled substance was 9%. This compares to the region and countrywide shares of 12% and 10%, respectively. In 2020, North Carolina spent $2.3M on Schedule II and Schedule III drugs for workers compensation claims.

Chart 57 shows the distribution of prescription drug payments by CSA schedule in North Carolina, the region, and countrywide.

Chart 57

Distribution of Prescription Drug Payments by CSA Schedule

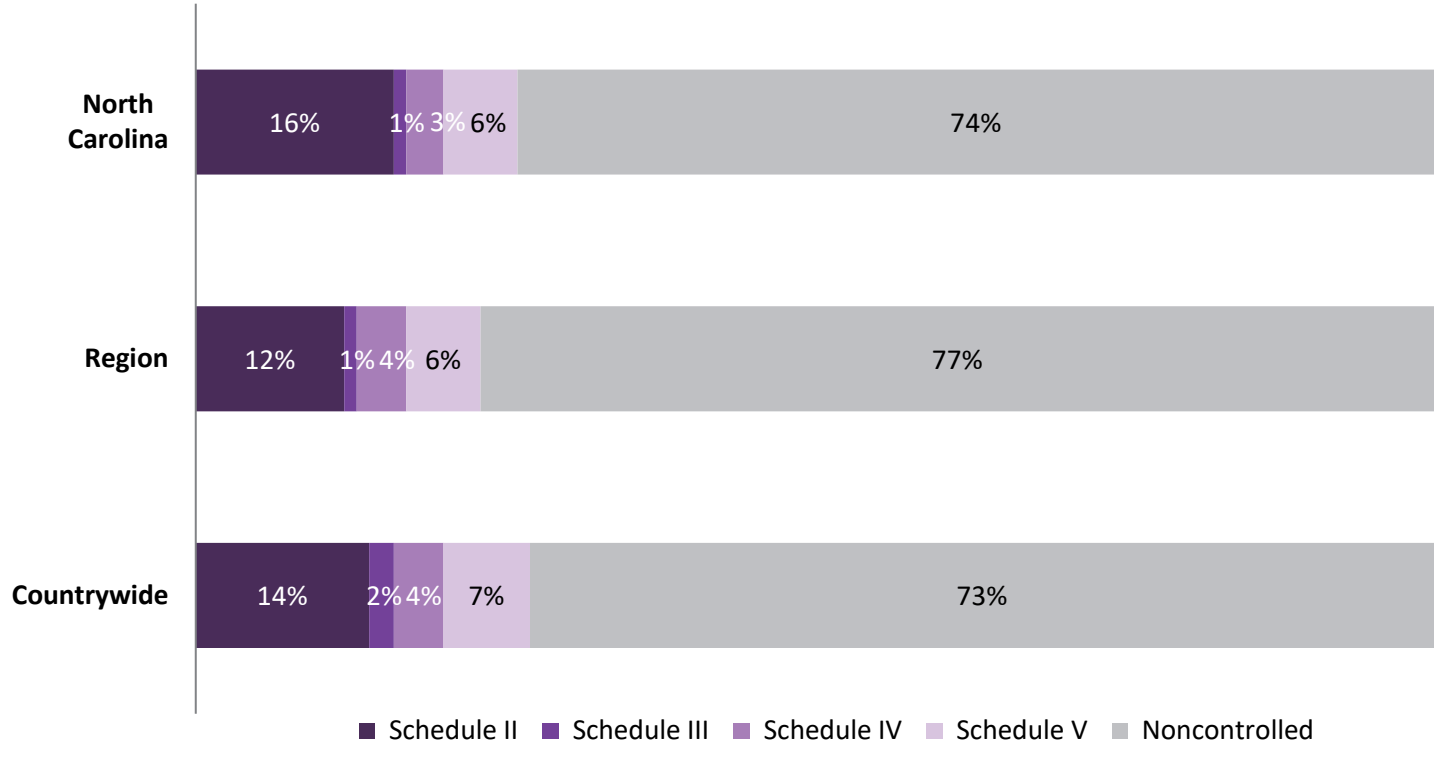


Chart 58 displays the shares of the payments of prescription medication for the top 10 drugs used in workers compensation treatment, by amount paid in North Carolina. This chart also indicates whether the drugs are generic (G) or brand name (B); for generic drugs, a commonly used brand name equivalent is also provided. This method of ranking shows which drugs have the highest percentage share of payments. Also included is the average price per unit (PPU). (See the Glossary for the definition of *unit*.)

Chart 58

Top 10 Workers Compensation Drugs by Amount Paid

Drug Name	Average PPU NC	Average PPU Region	Average PPU CW	North Carolina Paid Share
Pregabalin	$4.27	$4.91	$4.61	5.1%
Diclofenac Sodium (NSAID)	$1.22	$2.24	$1.83	4.4%
Meloxicam	$2.64	$3.28	$3.03	3.7%
Gabapentin	$0.70	$1.02	$0.91	3.6%
Oxycontin®	$9.45	$10.07	$9.67	3.1%
Lidocaine	$5.28	$6.90	$6.49	3.1%
Nucynta®	$9.62	$8.95	$8.86	2.9%
Duloxetine HCl	$4.11	$4.91	$4.44	2.5%
Cyclobenzaprine HCl	$1.60	$2.20	$1.74	2.4%
Celecoxib	$3.67	$5.82	$5.11	2.2%

Drug Name	B/G	Common Brand Name	Category	CSA Schedule	CW Rank
Pregabalin	G	Lyrica®	Miscellaneous Central Nervous System Agents	V	1
Diclofenac Sodium (NSAID)	G	Voltaren®	Analgesics/Antipyretics	None	2
Meloxicam	G	Mobic®	Analgesics/Antipyretics	None	7
Gabapentin	G	Neurontin®	Anticonvulsants	None	4
Oxycontin®	B	N/A	Analgesics/Antipyretics	II	5
Lidocaine	G	Lidoderm®	Antipruritics/Local Anesthesia, Skin/Mucous Membrane	None	3
Nucynta®	B	N/A	Analgesics/Antipyretics	II	20
Duloxetine HCl	G	Cymbalta®	Psychotherapeutic Agents	None	8
Cyclobenzaprine HCl	G	Flexeril®	Muscle Relaxants, Skeletal	None	9
Celecoxib	G	Celebrex®	Analgesics/Antipyretics	None	6

Chart 59 displays the top 10 drugs used in workers compensation treatment, according to the number of prescriptions in North Carolina. This chart reveals the most frequently prescribed drugs and the average PPU.

Chart 59

Top 10 Workers Compensation Drugs by Prescription Counts

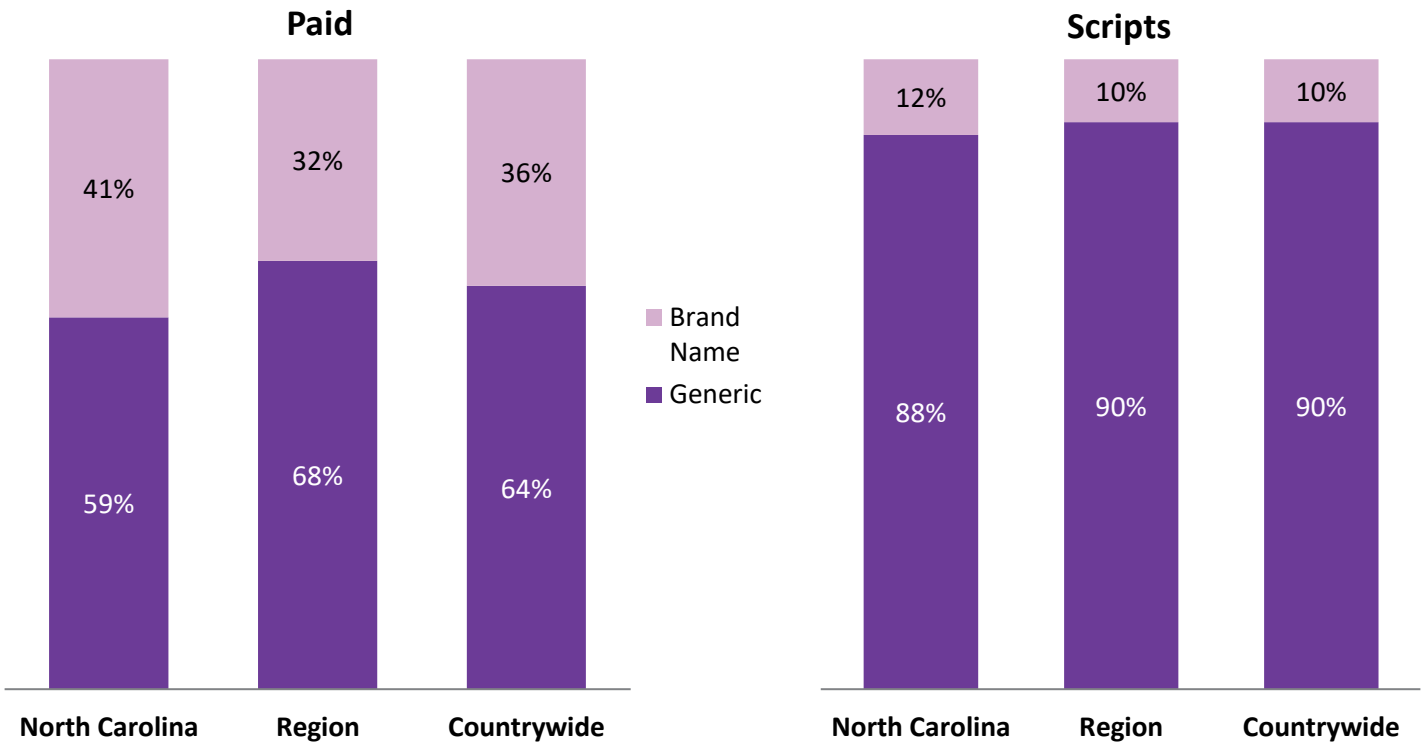
Drug Name	Average PPU NC	Region	CW	North Carolina Prescription Share
Gabapentin	$0.70	$1.02	$0.91	7.1%
Cyclobenzaprine HCl	$1.60	$2.20	$1.74	5.1%
Meloxicam	$2.64	$3.28	$3.03	5.1%
Hydrocodone Bitartrate-Acetaminophen	$0.48	$0.52	$0.53	4.9%
Diclofenac Sodium (NSAID)	$1.22	$2.24	$1.83	4.3%
Ibuprofen	$0.43	$0.45	$0.44	4.2%
Tramadol HCl	$0.70	$1.04	$0.90	3.6%
Oxycodone HCl-Acetaminophen	$0.85	$0.94	$0.97	3.2%
Tizanidine HCl	$0.94	$1.08	$1.06	2.8%
Oxycodone HCl	$0.72	$0.95	$0.80	2.7%

Drug Name	B/G	Common Brand Name	Category	CSA Schedule	CW Rank
Gabapentin	G	Neurontin®	Anticonvulsants	None	2
Cyclobenzaprine HCl	G	Flexeril®	Muscle Relaxants, Skeletal	None	3
Meloxicam	G	Mobic®	Analgesics/Antipyretics	None	5
Hydrocodone Bitartrate-Acetaminophen	G	Vicodin®	Analgesics/Antipyretics	II	1
Diclofenac Sodium (NSAID)	G	Voltaren®	Analgesics/Antipyretics	None	8
Ibuprofen	G	Advil®	Analgesics/Antipyretics	None	4
Tramadol HCl	G	Ultram®	Analgesics/Antipyretics	IV	6
Oxycodone HCl-Acetaminophen	G	Percocet®	Analgesics/Antipyretics	II	7
Tizanidine HCl	G	Zanaflex®	Muscle Relaxants, Skeletal	None	10
Oxycodone HCl	G	Oxycontin®	Analgesics/Antipyretics	II	9

Chart 60 shows the distribution of prescription drugs by brand name and generic for North Carolina, the region, and countrywide. The share between brand name and generic 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 many states, a prescription drug fee schedule includes rules regarding the dispensing and reimbursement rates for brand name and generic drugs.

Chart 60

Distribution of Drugs by Brand Name and Generic



The rules on drug dispensing vary from state to state. Some states allow physician dispensing of drugs, while other states limit 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.

Chart 61 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 countrywide.

Chart 61

Distribution of Drugs by Pharmacy and Nonpharmacy

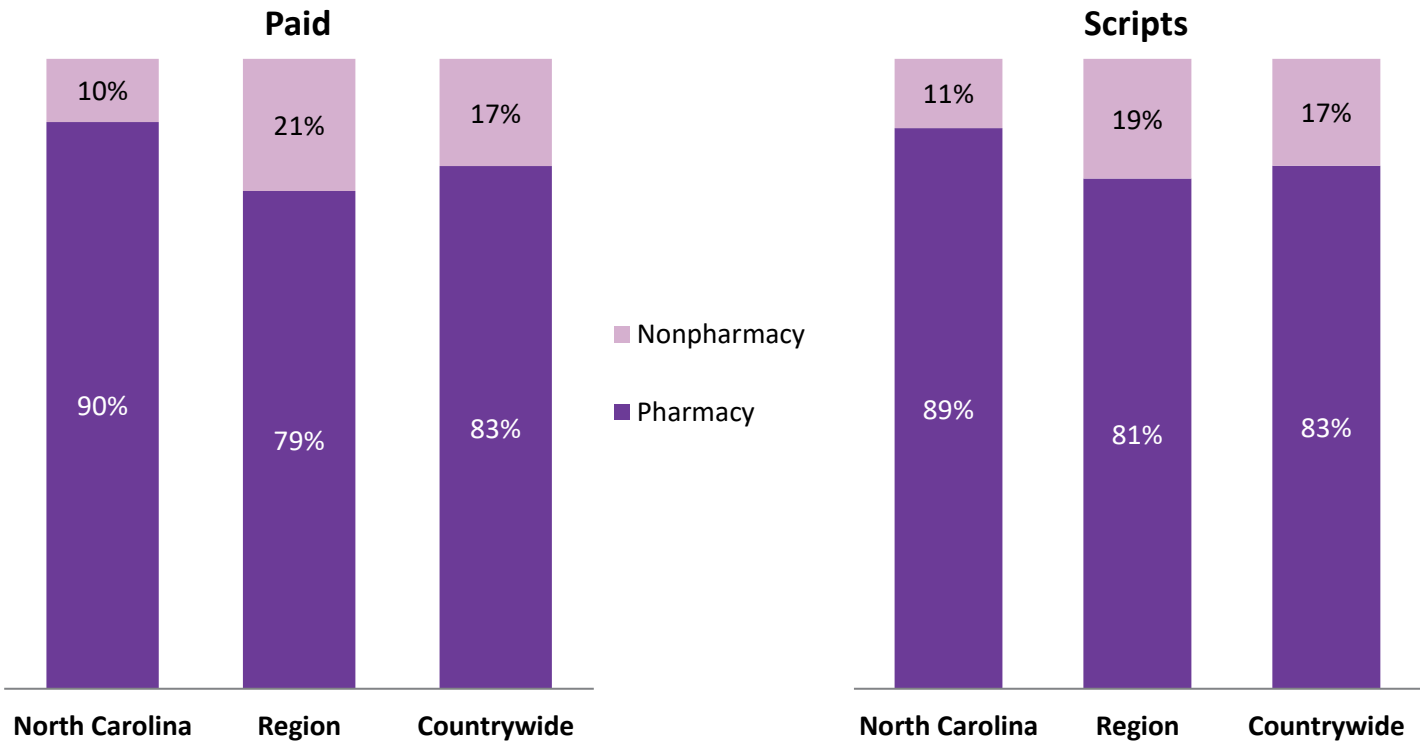


Chart 62 displays the shares of the payments for the top 5 nonpharmacy-dispensed prescription drugs used in workers compensation treatment, by amount paid in North Carolina. A pharmacy-dispensed comparison, along with values for the region and countrywide, are also included. All values shown below are specific either to nonpharmacy-dispensed prescription drugs or to pharmacy-dispensed prescription drugs.

Chart 62

Top 5 Nonpharmacy-Dispensed Drugs by Amount Paid with Pharmacy-Dispensed Comparison

	Nonpharmacy-dispensed				Pharmacy-dispensed			
Drug Name	Paid Share	NC PPU	Region PPU	CW PPU	Paid Share	NC PPU	Region PPU	CW PPU
Diclofenac Sodium (NSAID)	11.3%	$7.45	$5.58	$5.43	3.6%	$0.95	$1.61	$1.28
Lidopro®	7.6%	$3.65	$3.84	$3.82	0.5%	$3.74	$3.99	$4.00
Meloxicam	5.9%	$3.45	$4.25	$3.98	3.4%	$2.53	$2.92	$2.75
Botox®	5.8%	$228.35	$268.59	$252.95	0.2%	$885.35	$716.95	$650.14
Cyclobenzaprine HCl	4.2%	$4.19	$3.47	$2.89	2.2%	$1.42	$1.80	$1.46

Drug Name	B/G	Common Brand Name	Category	CSA Schedule	Nonpharmacy CW Rank
Diclofenac Sodium (NSAID)	G	Voltaren®	Analgesics/Antipyretics	None	1
Lidopro®	B	N/A	Antipruritics/Local Anesthesia, Skin/Mucous Membrane	None	12
Meloxicam	G	Mobic®	Analgesics/Antipyretics	None	3
Botox®	B	N/A	Toxins	None	9
Cyclobenzaprine HCl	G	Flexeril®	Muscle Relaxants, Skeletal	None	5

Durable Medical Equipment, Prosthetics, Orthotics, and Supplies

The distribution of medical payments for DMEPOS is 9% for North Carolina, 9% for the region, and 8% for countrywide.

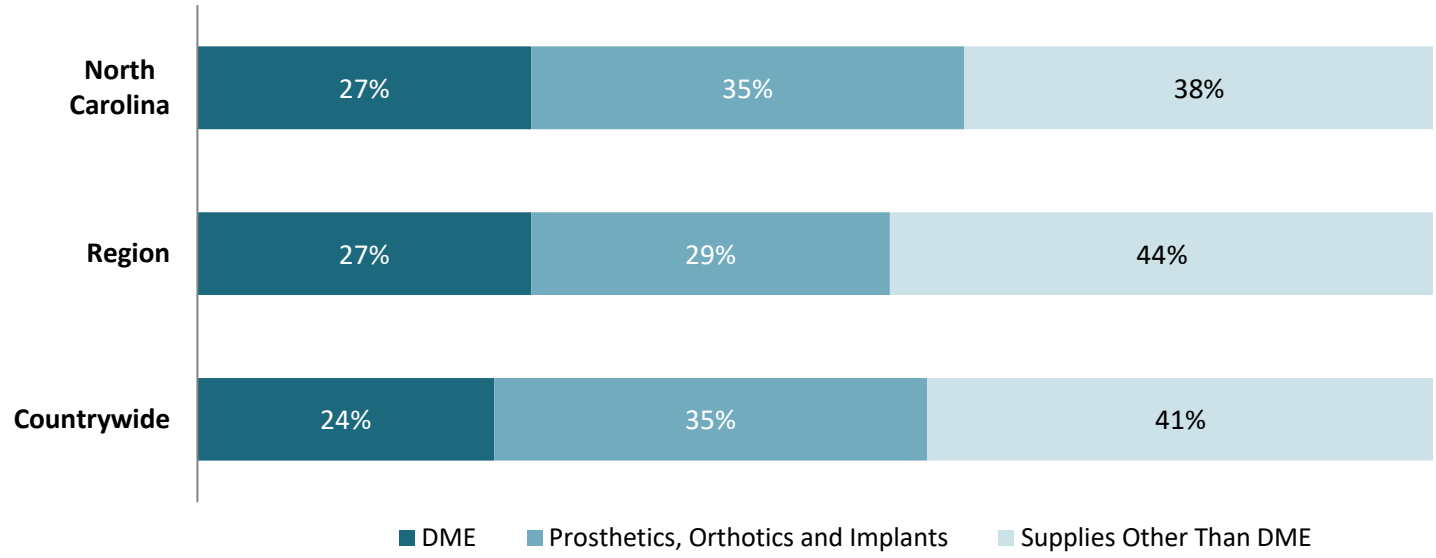
Chart 63 displays the distribution of payments among three separate DMEPOS categories:

- Durable Medical Equipment (DME)
- Prosthetics, Orthotics and Implants
- 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 63

Distribution of Payments by DMEPOS



Injuries that include an implant or prosthetic device tend to be more expensive than other injuries. Chart 64 shows the top 10 diagnosis groups for claims that include an implant or a prosthetic device by total paid amount. Chart 65 shows the same diagnosis groups with the average amount paid per claim for claims that do not include an implant or prosthetic.

Chart 64

Top Diagnosis Groups by Amount Paid for Dates of Injury in 2019 for Claims *With* an Implant or Prosthetic

Diagnosis Group	Paid Share	Average Amount Paid Per Claim North Carolina	Region	Countrywide
Hip/pelvis fracture/major trauma	8.9%	$93,462	$86,074	$80,031
Tibia/fibula fracture	7.9%	$65,080	$84,377	$78,888
Spinal cord injury	5.1%	$882,201	$835,770	$691,774
Traumatic brain injury	4.5%	$223,788	$291,647	$274,511
Hand/wrist fracture	3.4%	$21,245	$32,585	$28,519
Heel/midfoot fracture	3.1%	$49,495	$53,880	$45,394
Femur fracture	3.0%	$80,208	$87,058	$98,871
Minor shoulder injury	3.0%	$32,454	$30,739	$31,575
Rotator cuff tear	2.9%	$26,052	$37,229	$39,641
Crush injury, hand/wrist	2.6%	$180,554	$68,069	$71,331

Chart 65

Average Amount Paid per Claim *Without* an Implant or Prosthetic for Diagnosis Groups in Chart 64

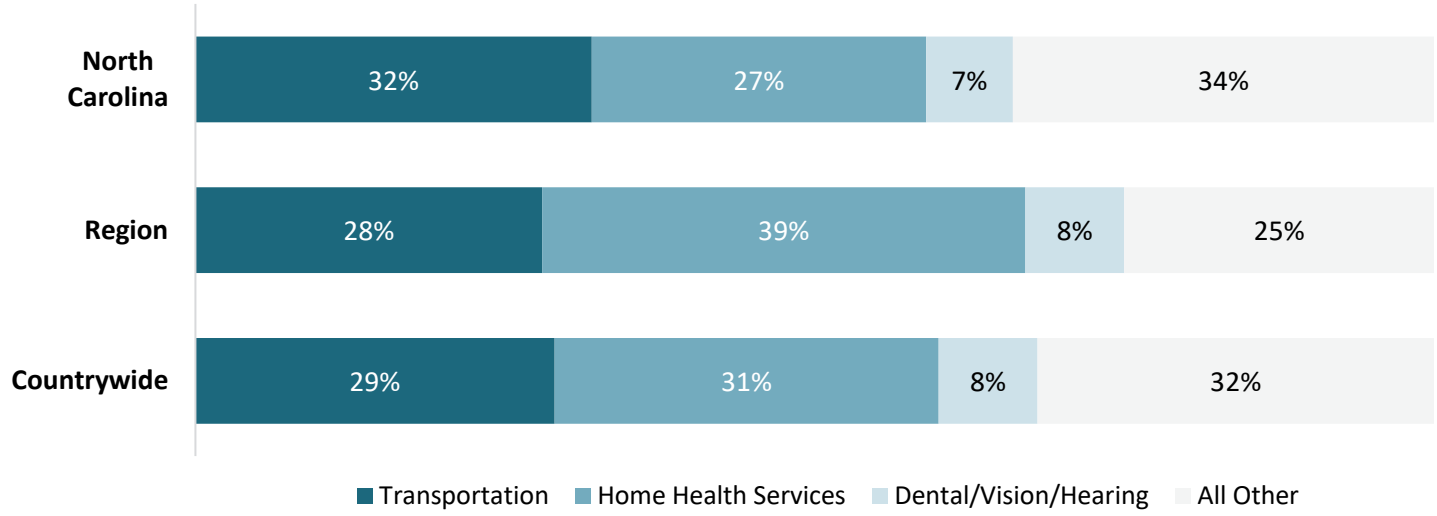
Diagnosis Group	Average Amount Paid Per Claim North Carolina	Region	Countrywide
Hip/pelvis fracture/major trauma	$37,452	$42,853	$38,263
Tibia/fibula fracture	$16,831	$20,289	$18,063
Spinal cord injury	$575,016	$694,432	$472,200
Traumatic brain injury	$36,965	$47,583	$46,768
Hand/wrist fracture	$4,869	$6,204	$5,981
Heel/midfoot fracture	$5,717	$6,470	$6,731
Femur fracture	$56,611	$43,653	$50,113
Minor shoulder injury	$3,730	$3,315	$4,051
Rotator cuff tear	$14,745	$17,675	$19,965
Crush injury, hand/wrist	$2,011	$3,557	$2,744

Other Medical Services

For Service Year 2020, other medical services represent 5% of total medical costs countrywide. Chart 66 shows the distribution of these services by four categories: transportation, home health services, dental/vision/hearing, and all other. The "All Other" category typically includes services that may have a missing, invalid, or unlisted procedure, in addition to some other valid services (e.g., payments for interpreters, vehicle modifications, etc.).

Chart 66

Distribution of Other Medical Services Payments



Diagnosis Group and Body System

Charts 67 and 68 display the top 10 body systems and diagnosis groups, respectively. A body system and diagnosis group are identified for each claim based on an ICD-10 code. 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 body systems and diagnosis groups are ranked by total claim payments for North Carolina. This method of ranking shows which body systems and diagnosis groups have the highest percentage share of payments. Payments are based on claims with dates of injury between January 1, 2019, and December 31, 2019, and they include all reported services provided for those claims through December 31, 2020.

Chart 67

Top Body Systems by Amount Paid for Dates of Injury in 2019

		Average Amount Paid Per Claim		
Body System	**Paid Share**	**North Carolina**	**Region**	**Countrywide**
Shoulder	15.6%	$6,975	$8,590	$9,995
Hand/wrist	11.6%	$1,809	$2,436	$2,427
Lumbar spine	10.8%	$3,494	$4,327	$4,584
Knee	8.6%	$4,424	$5,547	$6,096
Ankle/foot	7.8%	$2,985	$3,522	$3,666
Leg	6.4%	$5,667	$6,894	$6,606
Arm	5.0%	$4,992	$6,236	$5,895
Head	4.4%	$3,044	$4,499	$3,934
Neck	4.1%	$4,740	$6,045	$6,178
Nervous system	3.3%	$35,781	$26,116	$22,776

Chart 68

Top Diagnosis Groups by Amount Paid for Dates of Injury in 2019

		Average Amount Paid Per Claim		
Diagnosis Group	**Paid Share**	**North Carolina**	**Region**	**Countrywide**
Minor shoulder injury	6.4%	$4,009	$3,814	$4,660
Low back pain	5.5%	$2,112	$2,236	$2,427
Minor hand/wrist injuries	5.1%	$1,057	$1,280	$1,330
Rotator cuff tear	4.6%	$15,457	$20,684	$23,192
Hand/wrist fracture	3.7%	$5,511	$7,846	$7,480
Minor knee injury	3.7%	$2,545	$2,303	$2,647
Tibia/fibula fracture	3.0%	$25,205	$34,367	$30,785
Minor ankle/foot injuries	2.9%	$1,571	$1,656	$1,824
Hip/pelvis fracture/major trauma	2.7%	$55,935	$58,564	$54,285
Injury of unspecified body region	2.5%	$4,232	$3,987	$3,632

Comparison of Selected Results by Year

The charts in this section provide a comparison of results for North Carolina. These comparisons are over the latest five service years unless otherwise noted. 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.

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 (Chart 4)

Medical Category	2016	2017	2018	2019	2020
Physician	41%	42%	41%	41%	42%
Hospital Outpatient	16%	16%	18%	18%	17%
Hospital Inpatient	12%	12%	13%	15%	14%
Drugs	12%	11%	9%	8%	7%
DMEPOS	9%	9%	9%	8%	9%
ASC	4%	4%	4%	4%	4%
Other	6%	6%	6%	6%	7%

Distribution of Physician Payments by AMA Service Category (Chart 6)

AMA Service Category	2016	2017	2018	2019	2020
Physical Medicine	37%	36%	39%	39%	41%
Surgery	20%	19%	18%	17%	18%
Evaluation and Management	25%	26%	26%	25%	24%
Radiology	9%	9%	9%	9%	9%
Anesthesia	3%	3%	2%	2%	2%
General Medicine	3%	3%	3%	3%	2%
Other	2%	3%	2%	4%	4%
Pathology	1%	1%	1%	1%	0%

Median Time Until First Treatment (in Days) (Charts 11, 14, 17, 20, 31, 42, 47, and 53)[9]

Medical Category	AY 2015	AY 2016	AY 2017	AY 2018	AY 2019
Physicians – Major Surgery	35	28	31	28	29
Physicians – Radiology	1	1	1	1	1
Physicians – Physical and General Medicine	35	35	36	36	39
Physicians – Evaluation and Management	1	1	1	1	1
Hospital Inpatient	0	0	0	0	0
Hospital Outpatient – Major Surgery	77	64	72	63	64
Hospital Outpatient – All Other	13	14	12	14	13
ASC – Major Surgery	95	95	94	96	94

75th Percentile of Time Until First Treatment (in Days) (Charts 11, 14, 17, 20, 31, 42, 47, and 53)[10]

Medical Category	AY 2015	AY 2016	AY 2017	AY 2018	AY 2019
Physicians – Major Surgery	123	119	124	119	124
Physicians – Radiology	10	9	10	10	12
Physicians – Physical and General Medicine	70	68	70	69	73
Physicians – Evaluation and Management	6	6	6	6	6
Hospital Inpatient	14	6	6	6	3
Hospital Outpatient – Major Surgery	160	146	153	150	153
Hospital Outpatient – All Other	60	56	50	55	53
ASC – Major Surgery	173	176	171	169	180

Hospital Inpatient Statistics (Charts 27 and 29)

	2016	2017	2018	2019	2020
Average Amount Paid Per Stay	$23,945	$24,226	$26,744	$28,891	$28,150
Number of Stays per 1,000 Active Claims	17	16	16	17	17

[9] In the charts displaying the distribution of time until first treatment, the data is organized by the year in which the injury occurred, rather than by service year, and includes services performed within 365 days of the date of injury.

Distribution of Hospital Outpatient Payments by Outpatient Visit Type (Chart 35)

Visit Type	2016	2017	2018	2019	2020
Emergency	32%	33%	33%	33%	31%
Nonemergency Major Surgery	47%	46%	46%	46%	49%
Other	21%	21%	21%	21%	20%

Emergency Hospital Outpatient Statistics (Charts 36 and 37)

	2016	2017	2018	2019	2020
Average Amount Paid Per Visit	$865	$838	$903	$944	$984
Number of Visits per 1,000 Active Claims	196	201	219	217	195

Emergency Room Outpatient Services Paid per Transaction (Chart 39)

Code	Severity	2016	2017	2018	2019	2020
99281	Minor	$112	$107	$118	$119	$119
99282	Low to moderate	$199	$198	$216	$222	$224
99283	Moderate	$357	$355	$377	$391	$393
99284	High	$591	$582	$604	$615	$610
99285	High and immediately life-threatening	$931	$919	$984	$976	$924

Nonemergency Major Surgery Hospital Outpatient Statistics (Charts 40 and 41)

	2016	2017	2018	2019	2020
Average Amount Paid Per Visit	$6,153	$6,065	$6,735	$7,110	$7,353
Number of Visits per 1,000 Active Claims	41	38	41	39	41

Other Hospital Outpatient Statistics (Charts 45 and 46)

	2016	2017	2018	2019	2020
Average Amount Paid Per Visit	$319	$289	$329	$350	$330
Number of Visits per 1,000 Active Claims	359	375	379	371	382

ASC Major Surgery Statistics (Charts 51 and 52)

	2016	2017	2018	2019	2020
Average Amount Paid Per Visit	$4,143	$4,080	$4,363	$4,619	$4,815
Number of Visits per 1,000 Active Claims	28	28	27	29	32

Distribution of Prescription Drug Payments by CSA Schedule (Chart 57)

CSA Schedule	2016	2017	2018	2019	2020
Schedule II	26%	21%	18%	17%	16%
Schedule III	2%	2%	2%	1%	1%
Schedule IV	5%	4%	4%	4%	3%
Schedule V	8%	9%	9%	8%	6%
Noncontrolled	59%	64%	67%	70%	74%

Distribution of Drug Payments by Brand Name and Generic (Chart 60)

Type of Drug	2016	2017	2018	2019	2020
Brand Name	50%	50%	50%	48%	41%
Generic	50%	50%	50%	52%	59%

Distribution of Drug Payments by Pharmacy and Nonpharmacy (Chart 61)

Type of Provider	2016	2017	2018	2019	2020
Pharmacy	95%	93%	92%	91%	90%
Nonpharmacy	5%	7%	8%	9%	10%

Distribution of Payments by DMEPOS (Chart 63)

Category	2016	2017	2018	2019	2020
DME	20%	25%	26%	29%	27%
Prosthetics, Orthotics and Implants	32%	33%	31%	33%	35%
Supplies Other Than DME	48%	42%	43%	38%	38%

Distribution of Payments by Other Medical Services (Chart 66)

Category	2016	2017	2018	2019	2020
Transportation	35%	32%	38%	36%	32%
Home Health Services	29%	30%	25%	26%	27%
Dental/Vision/Hearing	7%	6%	7%	8%	7%
All Other	29%	32%	30%	30%	34%

Glossary

75th Percentile: The point on a distribution that is higher than 75% of observations and lower than 25% of observations.

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 it generally has a separate fee schedule.

Controlled Substances: Drugs that are regulated by the Controlled Substances 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 Groups: Based on ICD-10 codes; groups based on similar injuries and parts of body.

Diagnosis-Related Groups (DRG): A system of hospital payment classifications 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), which is referred to as a prescription drug. 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 Services: Services performed for patients requiring immediate attention.

Emergency Visit: A visit where emergency services are performed.

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.

ICD-10 Codes: The *International Classification of Diseases, Tenth Revision,* is a system used by physicians and other healthcare providers to classify and code all diagnoses, symptoms, and procedures recorded in conjunction with hospital care in the United States.

Hospital Inpatient 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).

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

Hospital Outpatient 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).

International Statistical Classification of Diseases and Related Health Problems (ICD-10): A classification of diseases and other health problems based on a diagnosis maintained by the World Health Organization (WHO).

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

Major Surgery Visit: A visit in which at least one surgery procedure is performed based on the reported procedure code, and where the surgery procedure has a global follow-up period of 90 days, as defined by the Centers for Medicare & Medicaid Services, and is not an injection.

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.

Other Outpatient Visit: A nonemergency outpatient visit where no major surgery services are performed.

(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.

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.

Telemedicine Service: Services reported with a telemedicine-specific procedure code, modifier, or place of service.

Time to Treatment (TTT): The amount of time, measured in days, between the date on which an accident occurs and the date on which the first medical service in a given category is 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., *units* represent 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, such as milliliters, grams, or 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 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.

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

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 or medical bill review vendors. 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 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

November 2021

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Introduction

Prescription opioids are a class of drugs used to treat moderate to severe pain, particularly chronic intractable pain. Opioid addiction and overdose have reached epidemic levels over the past decade. According to a December 2020 update from the US Department of Health and Human Services (HHS),[1] 10.1 million Americans misused prescription opioids in 2019, resulting in an estimate of more than 130 deaths every day from an opioid-related overdose.

In response to the opioid crisis, many states have established laws and regulations to address opioid prescribing patterns for the population at large, as well as for workers compensation (WC) injuries. See the NCCI series, On Opioids, for additional insight into the industry's viewpoints on, and responses to, the opioid experience in workers compensation.

Each calendar year, NCCI produces, publishes, and delivers the North Carolina Medical Data Report to regulators, which is also made available to authenticated users on **ncci.com**. This Opioid Utilization Supplement 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, regional, and countrywide (CW) analysis.

This report has seven sections:

- Prescription Drug Statistics
- Opioid Claim Statistics
- Concurrent Use of Opioids and Benzodiazepines
- Changes in Opioid Prescribing Patterns
- Morphine Milligram Equivalents
- Claim Distribution by Claim Maturity
- Diagnosis Group and Body System Opioid Claim Experience

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

The data contained in this report represents medical transactions for Service Years (SY) 2016 through 2020. For North Carolina in SY 2020, the reported number of transactions was more than 1,426,000, with more than $232,480,700 paid, for more than 64,100 claims, representing data from 93% 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.

Unless otherwise noted, the source for all data in this report is:

- NCCI Medical Data Call, SY 2020.
- Region includes data from the following states: AL, AR, FL, GA, KY, LA, MS, SC, TN, VA, and WV.
- Countrywide includes data from 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, NJ, NM, NV, OK, OR, RI, SC, SD, TN, UT, VA, VT, WI, and WV.

[1] www.hhs.gov/opioids/about-the-epidemic/index.html

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

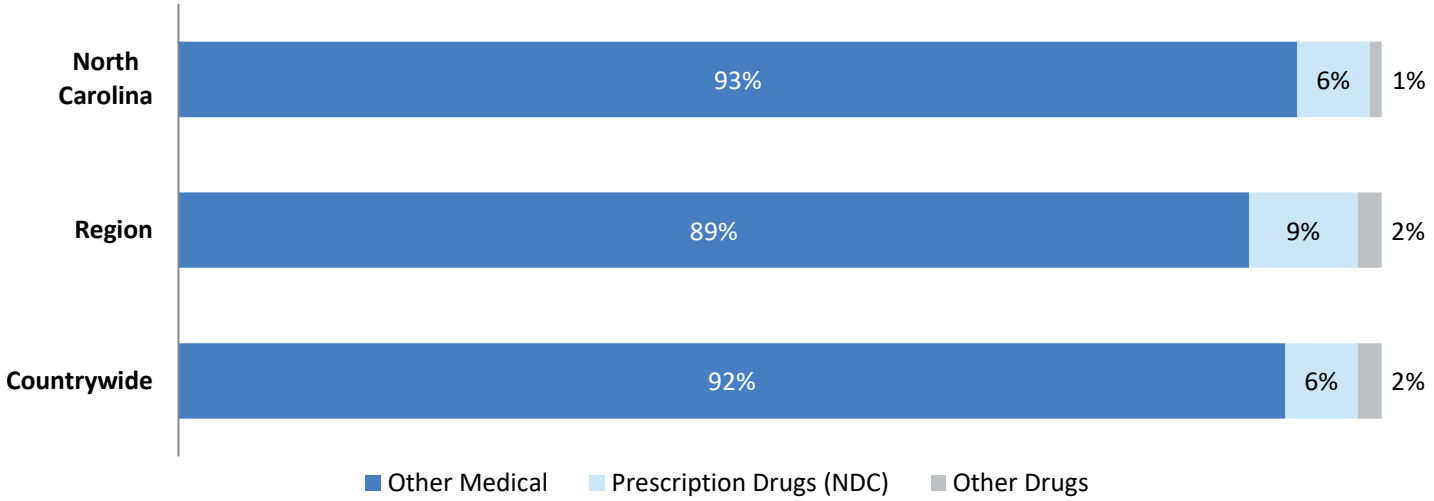
Drugs are uniquely identified by a national drug code (NDC). Charts 1 through 3 present greater detail on payments for prescription drugs reported with an NDC, whether the drugs were provided in a pharmacy, physician's office, hospital, or other place of service. Payments are categorized as drugs if the code reported on the transaction is an NDC. Drug payments 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 SY 2020, North Carolina spent $14 million on 98,000 prescriptions for workers compensation claims.

Chart 1 displays the prescription drug shares of medical payments for North Carolina, the region, and countrywide in SY 2020.

Chart 1

Drug Share of Medical Payments



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

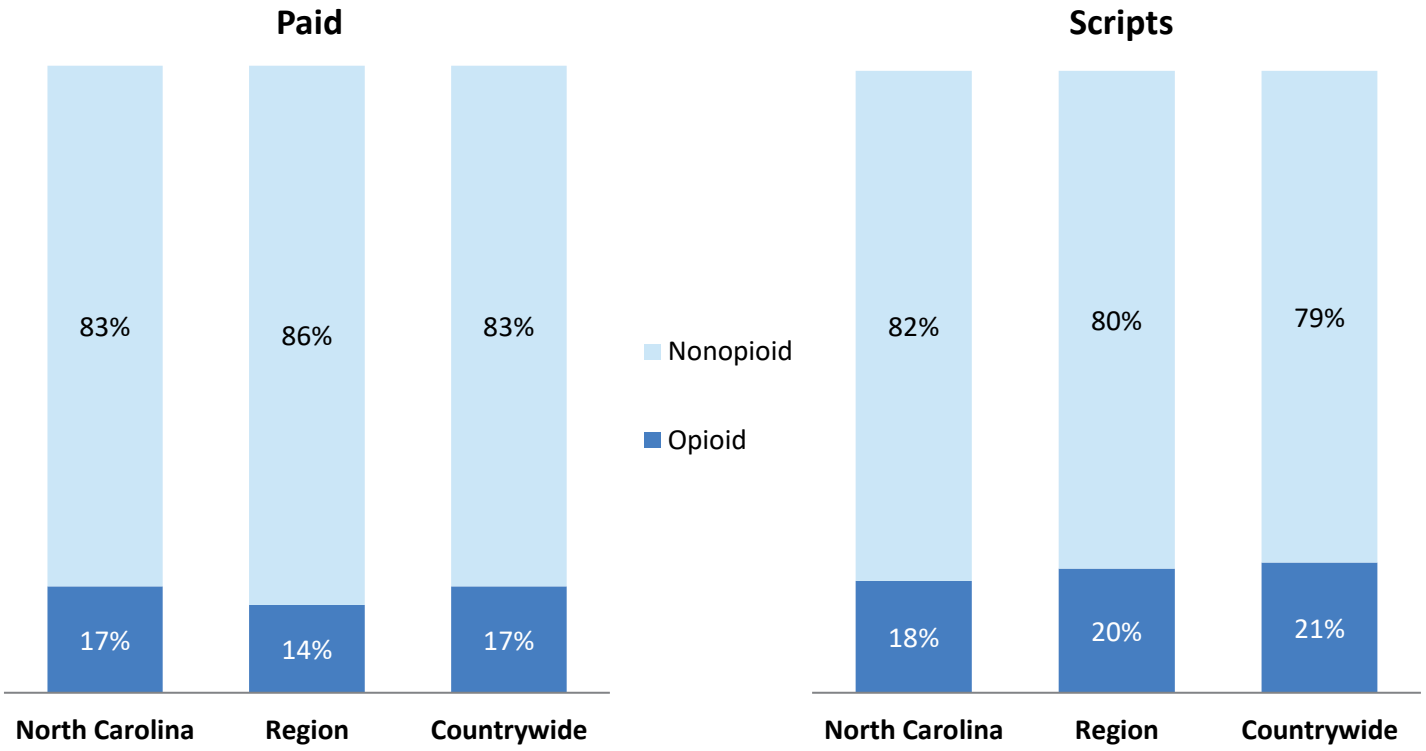
The opioid epidemic in the United States has a far-reaching impact on the workers compensation system. NCCI data shows that in recent years the average cost of prescriptions for claims with an opioid prescription is four times the average cost of a claim without opioids. One quarter of all prescription spending in the WC system is on opioids.

In 2020, North Carolina spent $2 million on 18,000 opioid prescriptions; 2 of the top 10 drugs by amount paid are opioids and account for 6% 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

Distribution of Drugs by Opioid and Nonopioid



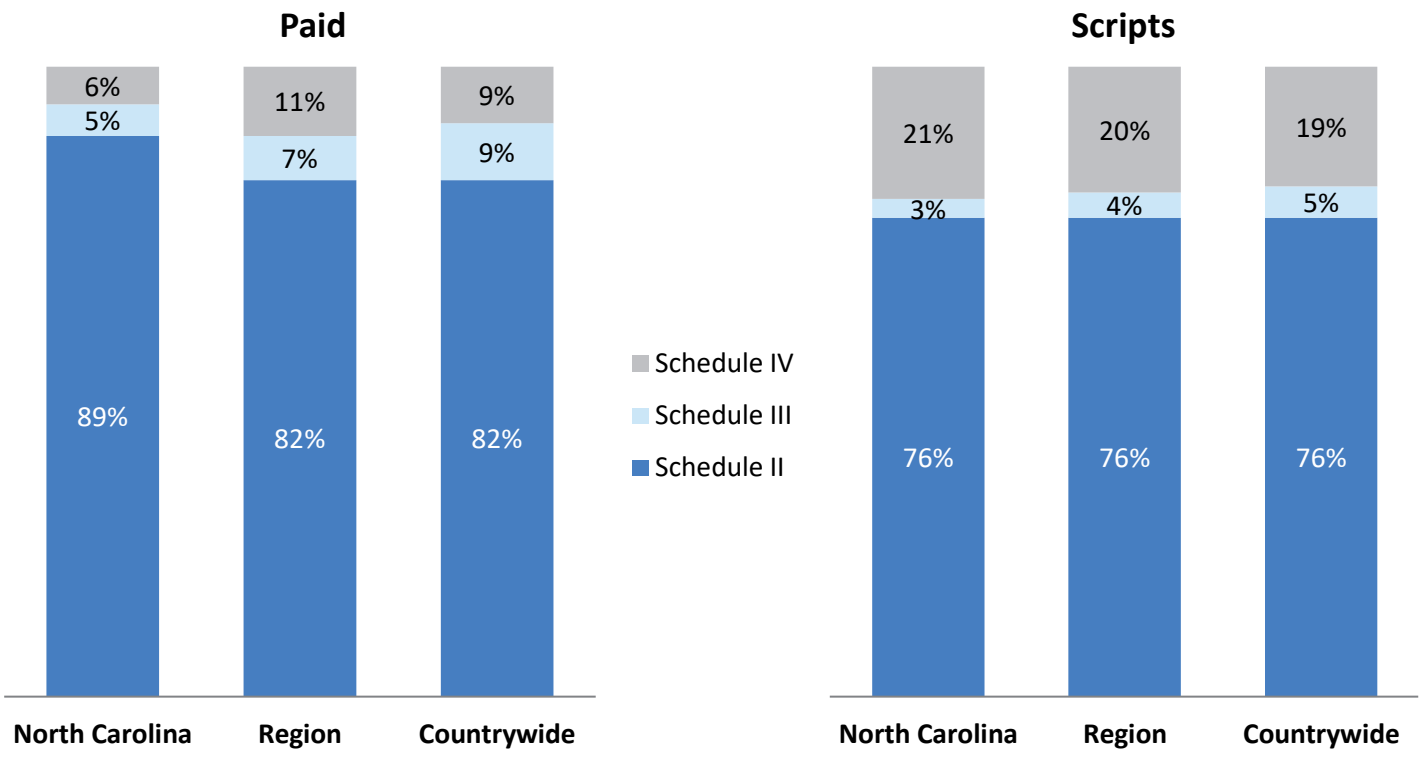
Opioids are subject to the Controlled Substance Act (CSA), passed in 1970 to regulate the manufacture, distribution, possession, and use of certain drugs. Five controlled substance schedules are determined by varying qualifications, such as the drug's medical uses, if any, and its potential for abuse. For example, Schedule V drugs, such as pregabalin, are defined as having the lowest potential for abuse, while Schedule I drugs, such as heroin, are illegal at the federal level and are defined as having no currently accepted medical uses and a high potential for abuse.

According to the Diversion Control Division of the Drug Enforcement Administration (DEA),[2] schedule drug prescribing must adhere to certain rules. A prescription for a schedule drug must be written in ink or indelible pencil, typewritten, or electronic—if the electronic prescription satisfies certain requirements—and must be signed by the practitioner or their designee, as is required for Schedule II prescriptions. 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, requiring a new prescription to be issued each time. Although the preceding sentences reflect codified regulations for prescription drugs, some of these requirements were eased or waived during the HHS Public Health Emergency Declaration for COVID-19 in 2020.[3]

Opioids are largely Schedule II and Schedule III drugs. Chart 3 shows the percentage of opioid payments and opioid prescriptions by schedule[4] for North Carolina, the region, and countrywide.

Chart 3

Distribution of Opioids by 2021 Drug Schedule



[2] www.deadiversion.usdoj.gov/faq/prescriptions_faq.htm
[3] www.deadiversion.usdoj.gov/coronavirus.html
[4] Schedule assignment reflects the DEA's schedule as of 2021.

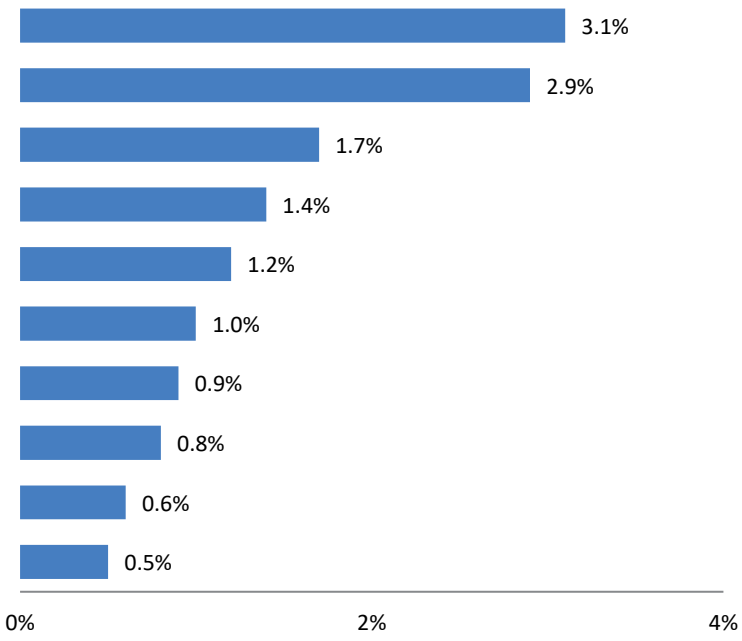
Charts 4 and 5 provide greater detail on payments for opioid prescriptions in North Carolina.

Chart 4 displays the shares of the payments of prescription medication for the top 10 opioids in WC claims and whether the drugs are generic (G) or brand name (B). This ranking method shows which drugs have the highest percentage share of payments. Also included is the amount paid per unit (PPU), common brand name, CSA schedule, and countrywide (CW) rank.

Chart 4

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

Drug Name	Average PPU NC	Region	CW
Oxycontin®	$9.45	$10.07	$9.67
Nucynta®	$9.62	$8.95	$8.86
Oxycodone HCl-Acetaminophen	$0.85	$0.94	$0.97
Nucynta ER®	$16.29	$16.21	$16.00
Levorphanol Tartrate	$39.83	$27.41	$31.55
Oxycodone HCl	$0.72	$0.95	$0.80
Tramadol HCl	$0.70	$1.04	$0.90
Hydrocodone Bitartrate-Acetaminophen	$0.48	$0.52	$0.53
Percocet®	$23.42	$25.65	$24.94
Belbuca®	$9.60	$10.58	$11.06



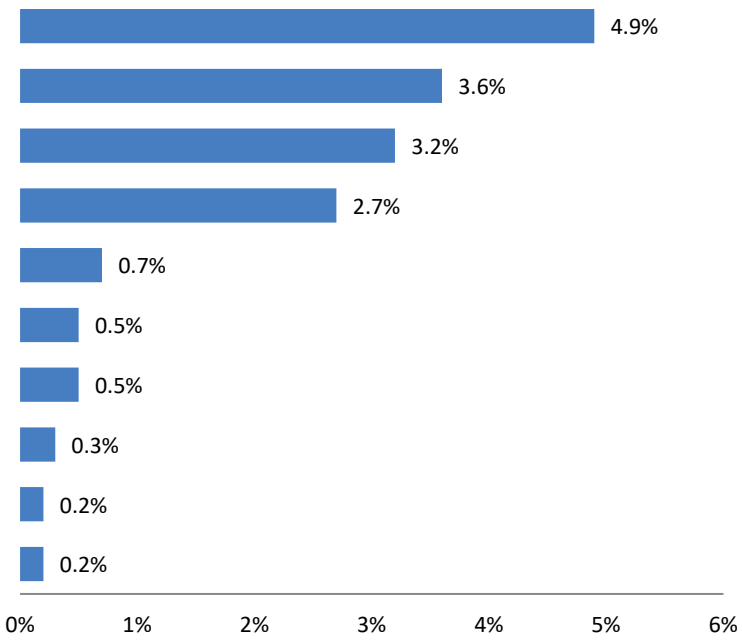
Drug Name	B/G	Common Brand Name	CSA Schedule	CW Rank
Oxycontin®	B	N/A	II	1
Nucynta®	B	N/A	II	7
Oxycodone HCl-Acetaminophen	G	Percocet®	II	2
Nucynta ER®	B	N/A	II	8
Levorphanol Tartrate	G	Levo-Dromoran®	II	16
Oxycodone HCl	G	Oxycontin®	II	6
Tramadol HCl	G	Ultram®	IV	4
Hydrocodone Bitartrate-Acetaminophen	G	Vicodin®	II	3
Percocet®	B	N/A	II	5
Belbuca®	B	N/A	III	9

Chart 5 displays the top 10 opioids in workers compensation claims according to the number of prescriptions. This chart shows the most frequently prescribed opioids and the amount paid per unit.

Chart 5

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

Drug Name	Average PPU NC	Region	CW
Hydrocodone Bitartrate-Acetaminophen	$0.48	$0.52	$0.53
Tramadol HCl	$0.70	$1.04	$0.90
Oxycodone HCl-Acetaminophen	$0.85	$0.94	$0.97
Oxycodone HCl	$0.72	$0.95	$0.80
Oxycontin®	$9.45	$10.07	$9.67
Morphine Sulfate	$1.35	$1.07	$1.13
Nucynta®	$9.62	$8.95	$8.86
Hydromorphone HCl	$1.07	$1.60	$0.99
Nucynta ER®	$16.29	$16.21	$16.00
Acetaminophen-Codeine Phosphate	$0.30	$0.41	$0.40



Drug Name	B/G	Common Brand Name	CSA Schedule	CW Rank
Hydrocodone Bitartrate-Acetaminophen	G	Vicodin®	II	1
Tramadol HCl	G	Ultram®	IV	2
Oxycodone HCl-Acetaminophen	G	Percocet®	II	3
Oxycodone HCl	G	Oxycontin®	II	4
Oxycontin®	B	N/A	II	6
Morphine Sulfate	G	Duramorph®	II	5
Nucynta®	B	N/A	II	9
Hydromorphone HCl	G	Dilaudid®	II	8
Nucynta ER®	B	N/A	II	14
Acetaminophen-Codeine Phosphate	G	Tylenol® with Codeine #3	III	7

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 benzo, typically a Schedule IV drug, produces central nervous system depression (as do opioids) and is most commonly used to treat insomnia and anxiety. Two examples of widely used benzos are Xanax® and Ativan®.

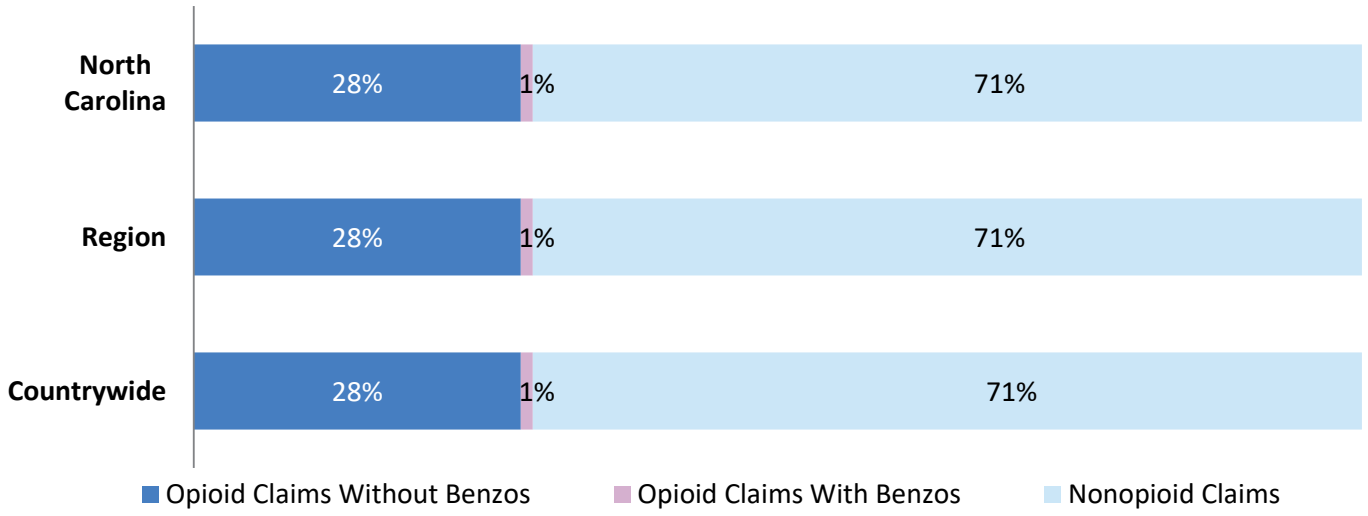
Several types of workers compensation claims are referenced in this report:

- **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
- **Nonopioid 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 for SY 2020.

Chart 6

Rx Claim Distributions



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 nonopioid claim has an average number of 3.5 prescriptions in SY 2020 compared to 3.6 in the region and 3.5 countrywide.

Charts 7 and 8 show the average number of opioid and nonopioid prescriptions per opioid claim and the average amount paid per opioid claim for North Carolina, the region, and countrywide.

Chart 7

Average Number of Prescriptions per Opioid Claim

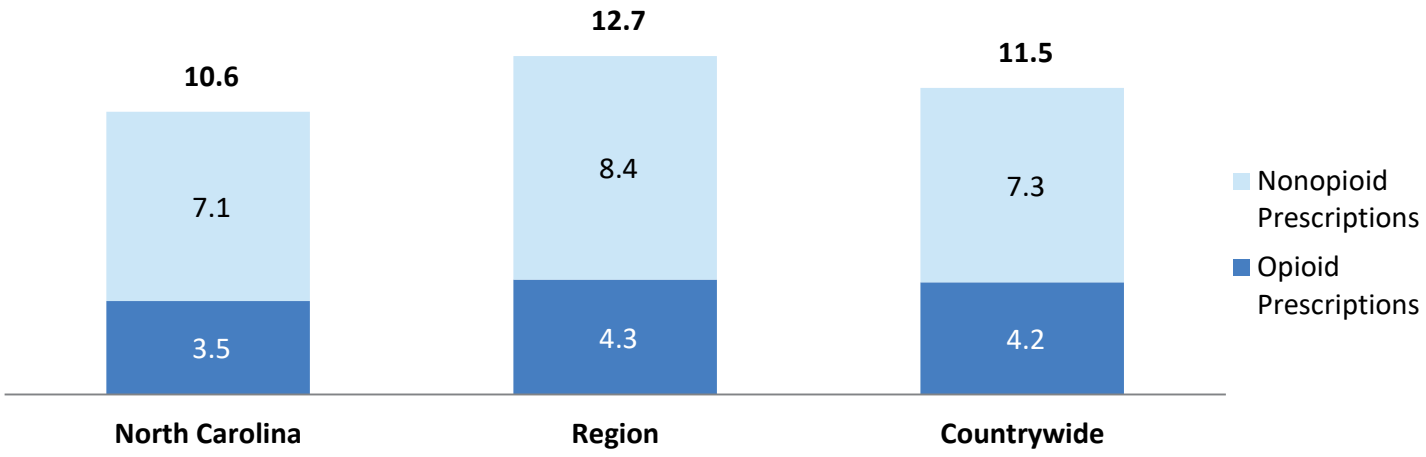
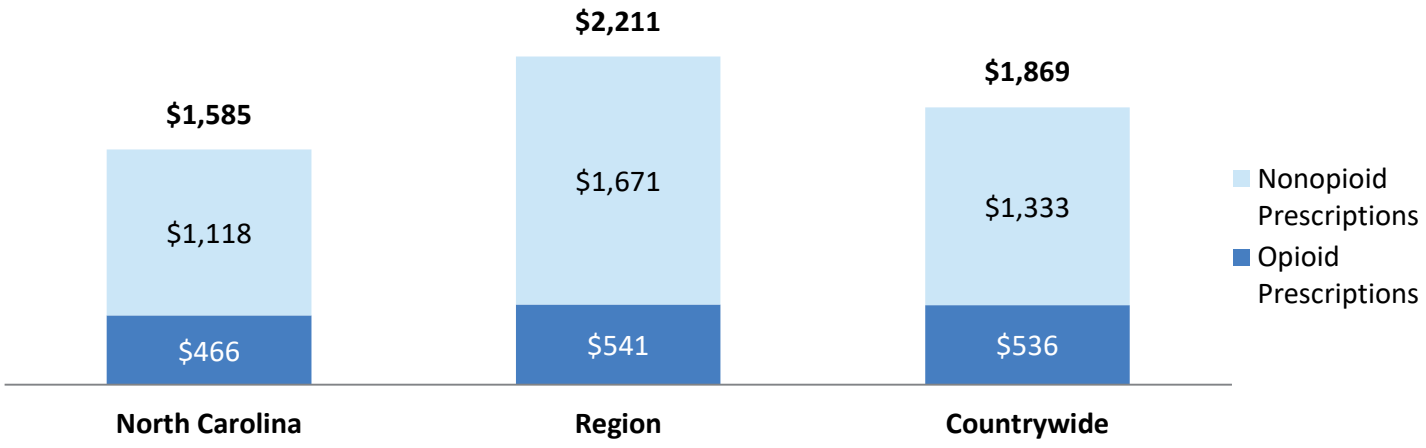


Chart 8

Average Amount Paid for Prescription Drugs per Opioid Claim



As seen in the previous chart, many nonopioid drugs are also prescribed in opioid claims. Chart 9 shows the top five nonopioid drugs by amount paid for opioid claims. Chart 10 shows the top five nonopioid drugs by number of prescriptions for opioid claims.

Chart 9

Top 5 Nonopioid Drugs for Opioid Claims by Amount Paid for North Carolina[5]

Drug Name	Common Brand Name	B/G	% of Nonopioid Drug Payments	PPU NC	PPU Region	PPU Countrywide	CW Rank
Pregabalin	Lyrica®	G	8.7%	$4.27	$4.91	$4.61	1
Gabapentin	Neurontin®	G	5.5%	$0.70	$1.02	$0.91	2
Duloxetine HCl	Cymbalta®	G	4.2%	$4.11	$4.91	$4.44	5
Lidocaine	Lidoderm®	G	3.6%	$5.28	$6.90	$6.49	3
Meloxicam	Mobic®	G	3.3%	$2.64	$3.28	$3.03	7

Chart 10

Top 5 Nonopioid Drugs for Opioid Claims by Number of Prescriptions for North Carolina[6]

Drug Name	Common Brand Name	B/G	% of Nonopioid Drug Prescriptions	PPU NC	PPU Region	PPU Countrywide	CW Rank
Gabapentin	Neurontin®	G	11.1%	$0.70	$1.02	$0.91	1
Cyclobenzaprine HCl	Flexeril®	G	5.6%	$1.60	$2.20	$1.74	2
Meloxicam	Mobic®	G	5.4%	$2.64	$3.28	$3.03	3
Ibuprofen	Advil®	G	4.8%	$0.43	$0.45	$0.44	6
Diclofenac Sodium (NSAID)	Voltaren®	G	4.1%	$1.22	$2.24	$1.83	7

[5] "% of Nonopioid Drug Payments" is the share of nonopioid drug payments in opioid claims.
[6] "% of Nonopioid Drug Prescriptions" is the share of nonopioid drug prescriptions in opioid claims.

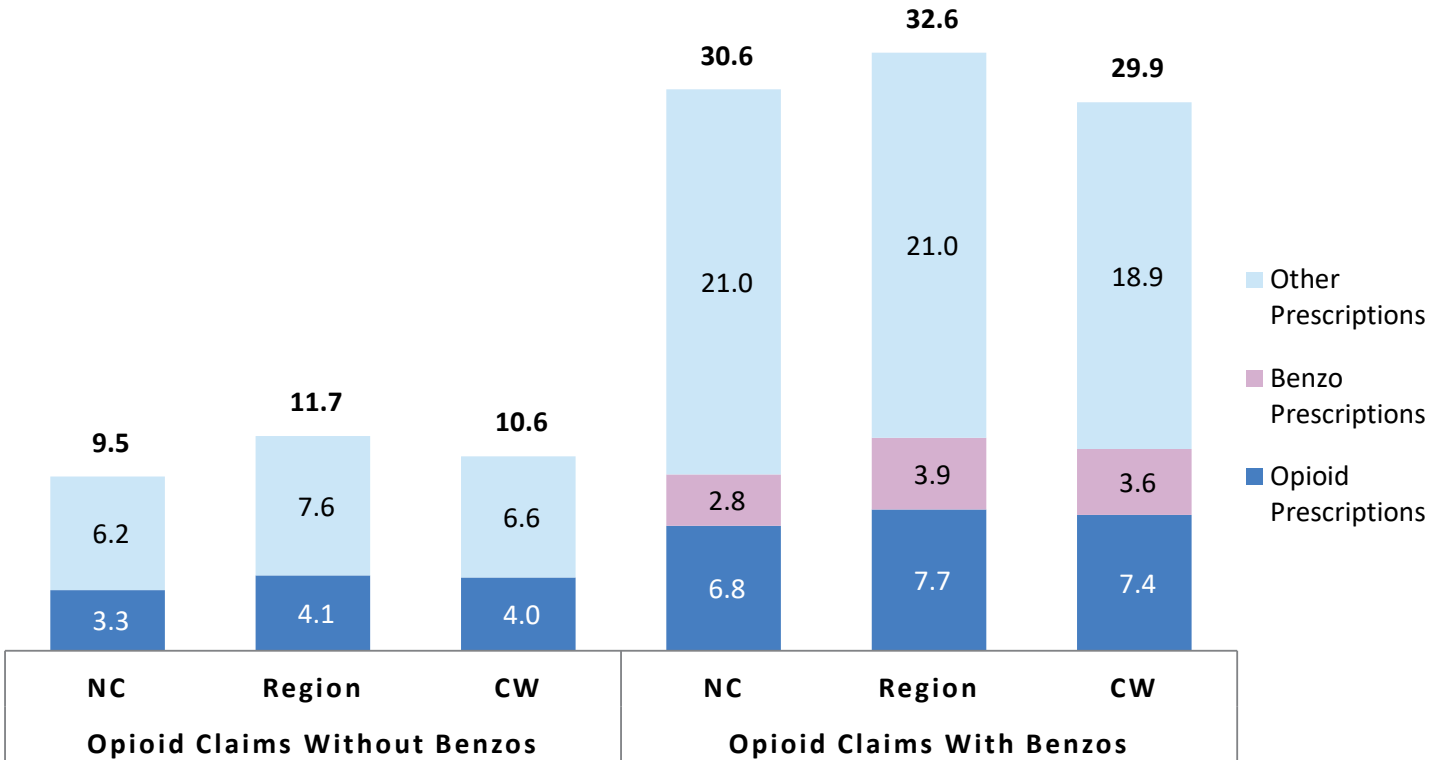
Concurrent Use of Opioids and Benzodiazepines

According to a study[7] 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% had been concurrently prescribed benzodiazepines." In workers compensation, the number of injured workers who are concurrently prescribed both an opioid and a benzo is relatively small. However, the number of prescription drugs and their associated costs for those injured workers are considerably higher than for workers who are not prescribed benzos.

Chart 11 displays the average number of opioid, benzo, and other types of prescriptions for opioid claims with and without benzos for North Carolina, the region, and countrywide.

Chart 11

Average Number of Prescriptions by Claim Type



[7] "Benzodiazepines and Opioids," National Institute on Drug Abuse, March 2018, www.drugabuse.gov/drug-topics/opioids/benzodiazepines-opioids

Chart 12 shows the top five benzos concurrently used with opioids for North Carolina, along with the PPU for North Carolina, the region, and countrywide.

Chart 12

Top 5 Workers Compensation Benzos by Amount Paid for North Carolina

Drug Name	Common Brand Name	B/G	% of Benzo Payments	PPU NC	PPU Region	PPU Countrywide	CW Rank
Valium®	N/A	B	11.3%	$5.79	$7.09	$6.84	4
Clonazepam	Klonopin®	G	7.5%	$0.51	$0.60	$0.52	3
Alprazolam	Xanax®	G	5.4%	$0.66	$0.65	$0.59	1
Temazepam	Restoril®	G	5.4%	$2.02	$1.07	$0.94	6
Lorazepam	Ativan®	G	3.1%	$0.44	$0.55	$0.48	7

Changes in Opioid Prescribing Patterns

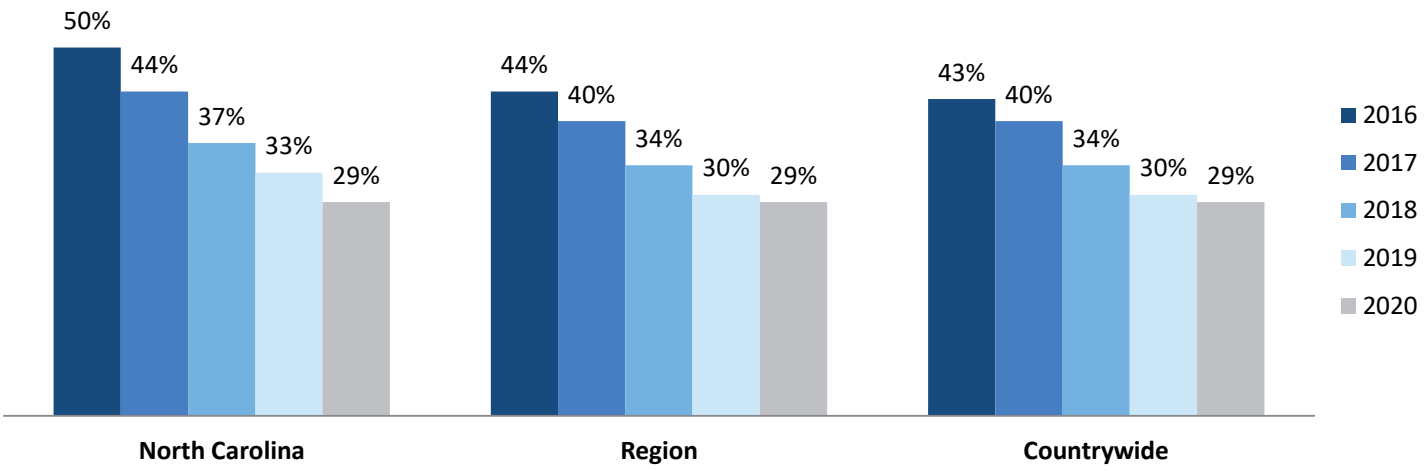
In 2017, the US Department of Health and Human Services[8] declared opioid abuse a public health emergency and created a five-point strategy to combat the opioid crisis, including increasing the availability of overdose-reversing Naloxone drugs such as Narcan®, and Evzio®. The number of workers compensation claims with these prescriptions has been steadily increasing, with about 2% of opioid claims now having a prescription for Naloxone drugs on a countrywide basis.

Lower prescribing patterns for workers compensation claims reflect concerted efforts by the various stakeholders to respond to the opioid crisis—through rules used by regulatory agencies, guidelines for prescribing opioids, or greater attention paid by the prescribing physicians and employers to the injured workers with prescriptions.

Chart 13 shows the share of opioid claims over the latest five service years for North Carolina, the region, and countrywide.

Chart 13

Share of Drug Claims With at Least One Opioid Prescription by Service Year

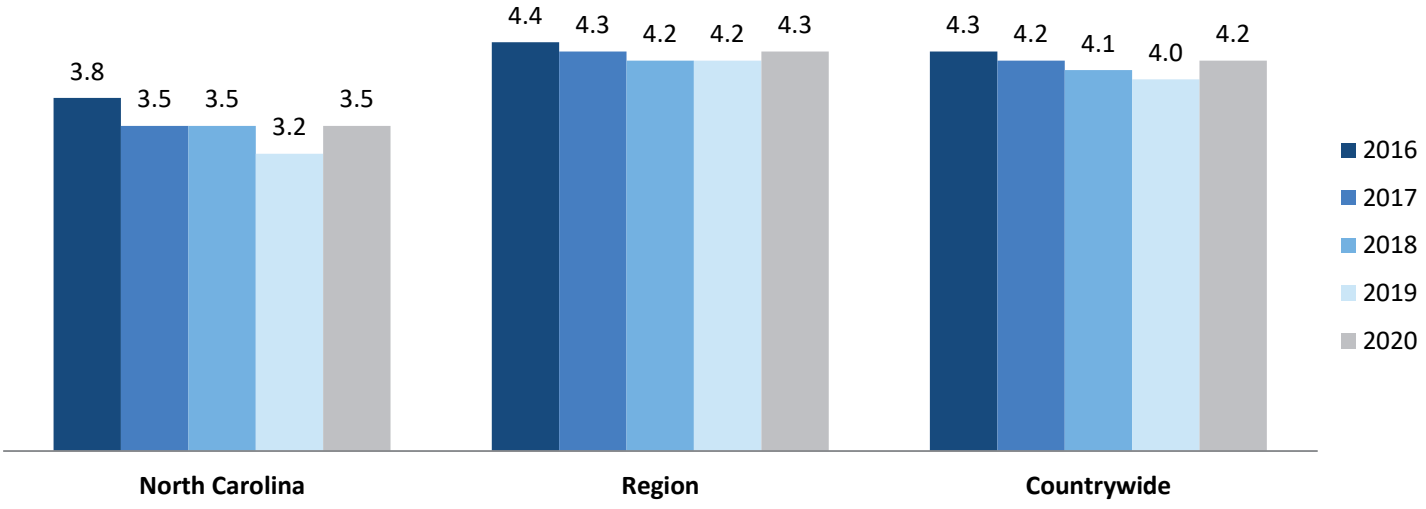


[8] www.hhs.gov/opioids/about-the-epidemic/index.html

Chart 14 reflects the change in the average number of opioid prescriptions per opioid claim over the latest five service years in North Carolina, the region, and countrywide.

Chart 14

Average Number of Opioid Prescriptions per Opioid Claim by Service Year



Charts 15 and 16 display the change in the average opioid payment per opioid claim and per opioid prescription over the last five service years for North Carolina, the region, and countrywide.

Chart 15

Average Opioid Payment per Opioid Claim by Service Year

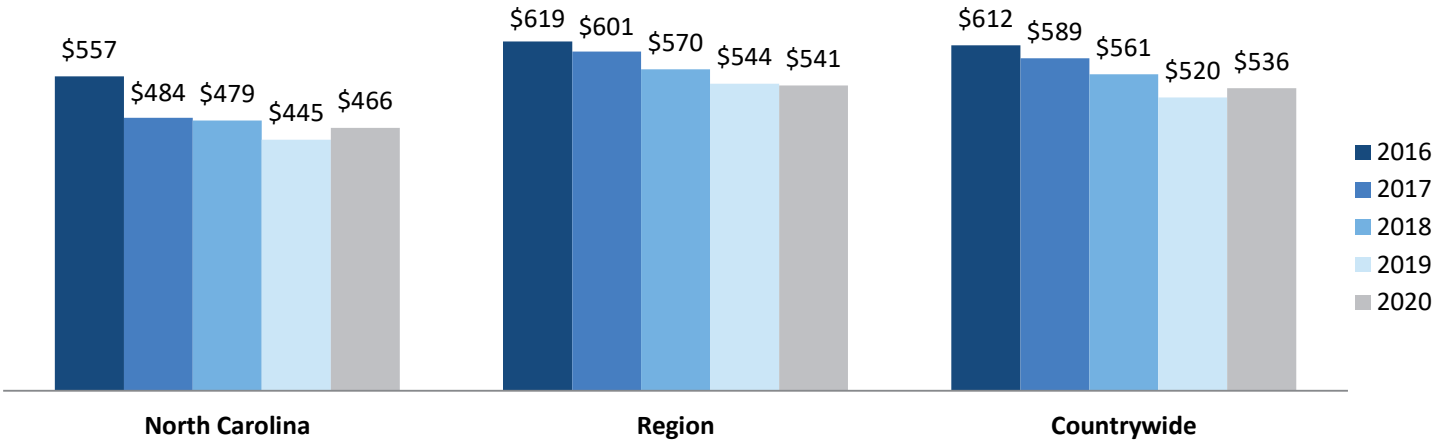
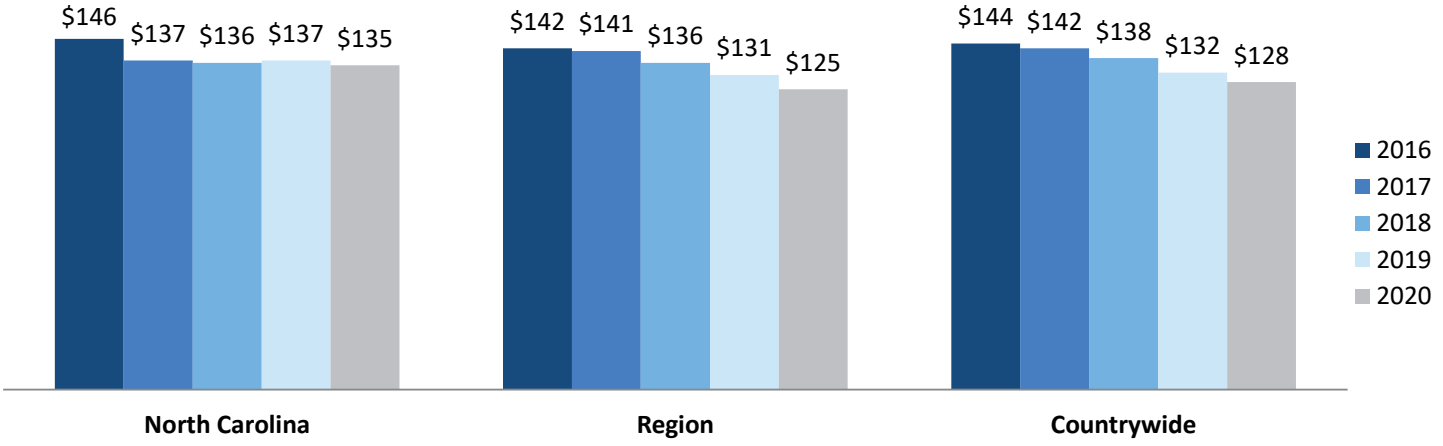


Chart 16

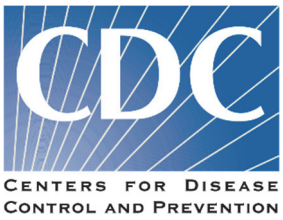
Average Payment per Opioid Prescription by Service Year



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 CDC[9] 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. One milligram per day of oxycodone, for instance, is assigned an MME factor of 1.5; one milligram per day of codeine, on the other hand, is assigned an MME factor of 0.15.



Morphine Milligram Equivalents (MME)

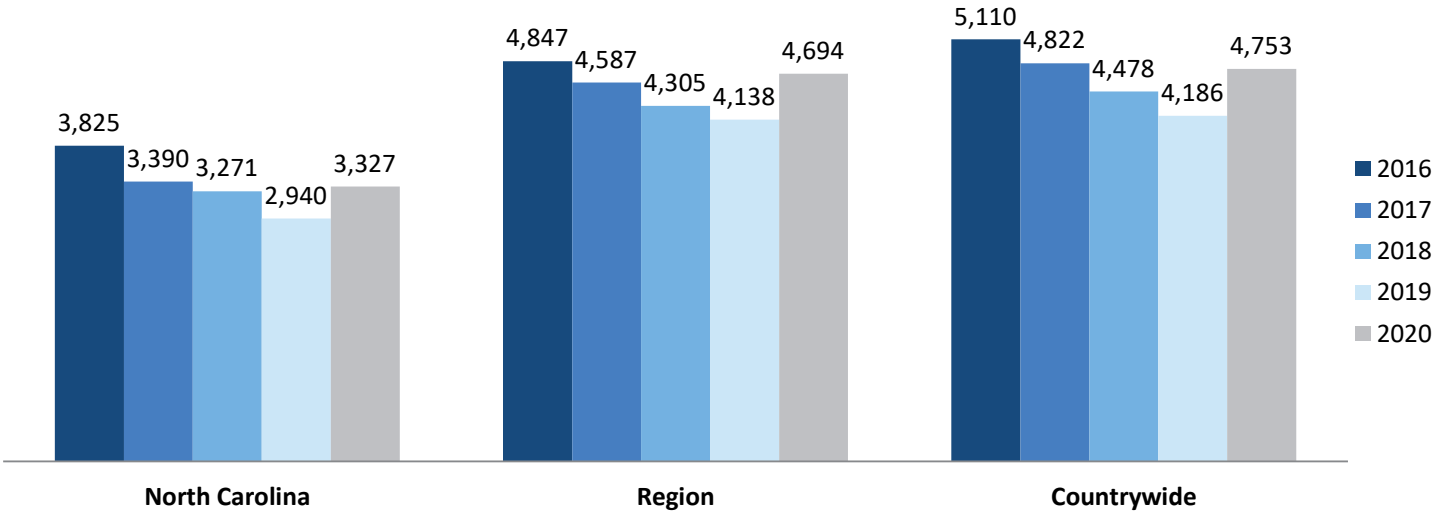
Vicodin® (10mg)	Oxycodone (20mg)	Butrans® (20mcg/hr)
10 MMEs	30 MMEs	36 MMEs/Day

[9] www.cdc.gov/drugoverdose/pdf/calculating_total_daily_dose-a.pdf

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

Chart 17

Average Yearly MME per Opioid Claim by Service Year



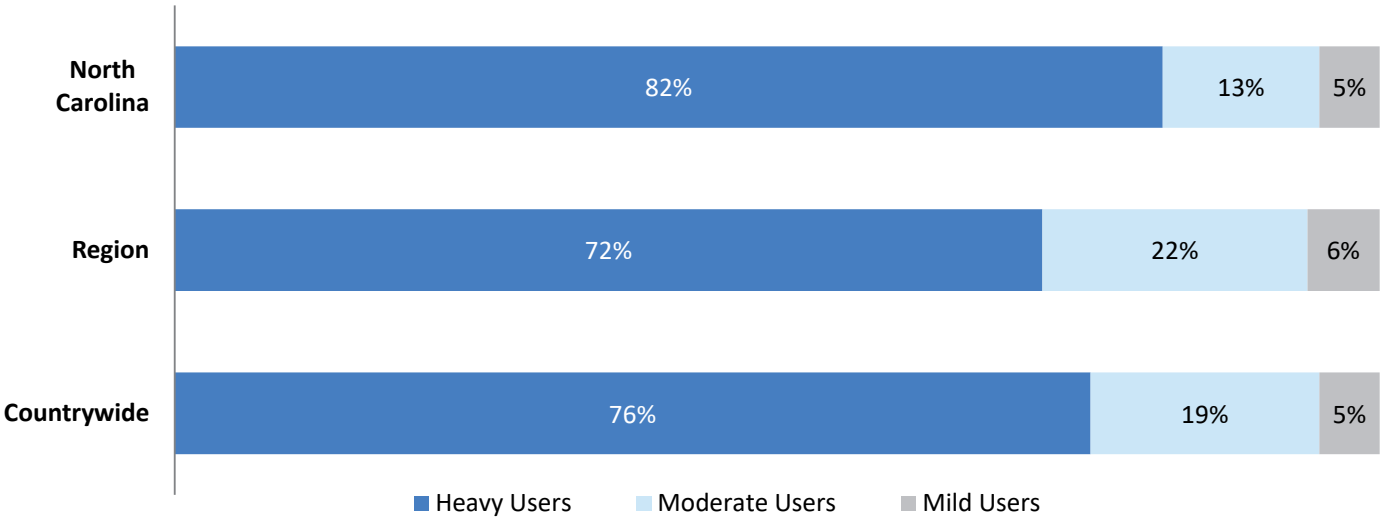
One way to recognize the extensive use of opioids is to classify claims into groups with different levels of opioid use. NCCI classifies opioid claimants based on yearly MME consumption:

- "Heavy users" represent the top 10% of claims by MME consumption
- "Moderate users" are in the next 20% of claims by MME consumption
- "Mild users" are in the bottom 70% of claims by MME consumption

Chart 18 shows the distribution of MME by consumption classification in North Carolina, the region, and countrywide for SY 2020.

Chart 18

Distribution of MME by Consumption Classification

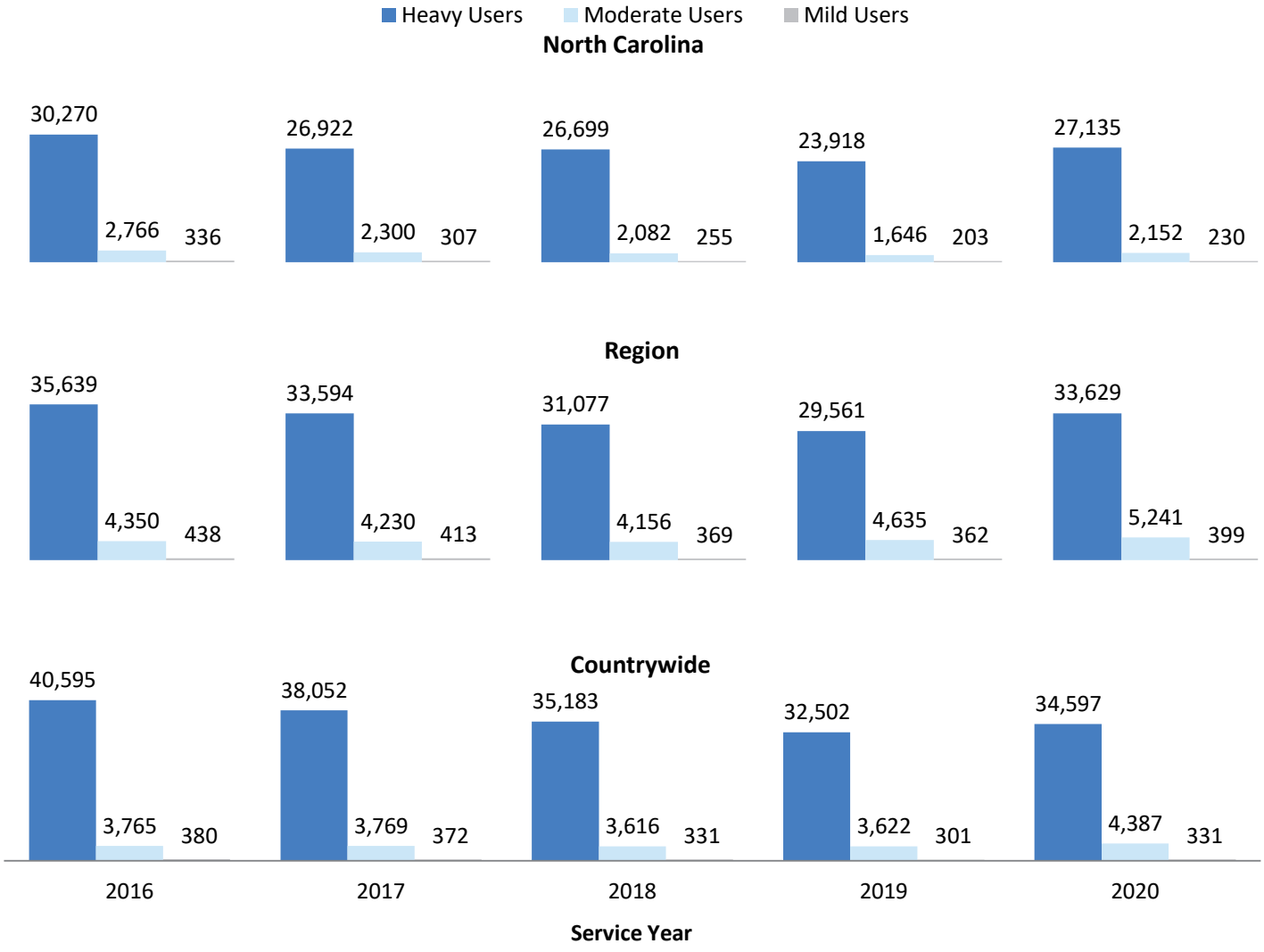


According to the "CDC Guideline for Prescribing Opioids for Chronic Pain,"[10] clinicians "should avoid increasing dosage to ≥90 MME/day or carefully justify a decision to titrate dosage to ≥90 MME/day." A claimant who consumes 90 MME per day for each day of the year would have a yearly MME consumption of 32,850. In SY 2020, average heavy users in North Carolina were prescribed approximately 83% of the MME of such a claimant.

Chart 19 shows the distribution of average MME consumption within each usage classification for the latest five service years for North Carolina, the region, and countrywide.

Chart 19

Average Yearly MME per Opioid Claim by Service Year and Classification

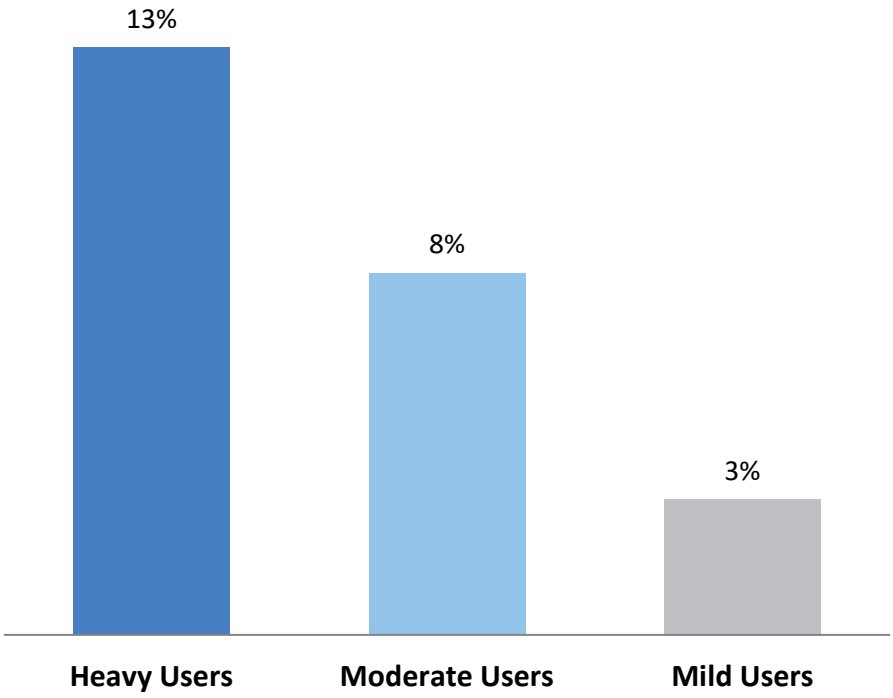


[10] www.cdc.gov/drugoverdose/pdf/guidelines_at-a-glance-a.pdf

Heavy users are also more likely to be concurrently prescribed benzos—nearly one in five countrywide are also prescribed benzos. Chart 20 shows how often heavy users are prescribed benzos compared to mild and moderate users in North Carolina.

Chart 20

Share of Claims Prescribed Both Opioids and Benzos by Classification in North Carolina



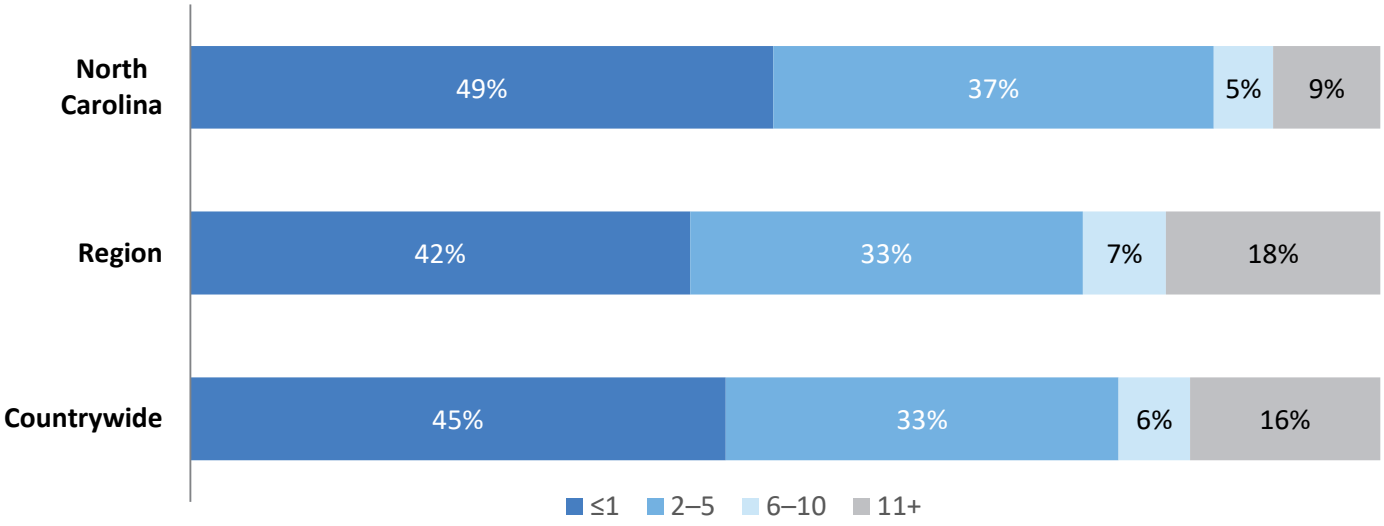
Claim Distribution by Claim Maturity

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 21 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 21

Opioid Claim Distribution by Claim Maturity in Years



The decrease in the number of opioid prescriptions is significant for opioid claims at all years of maturity. Chart 22 shows the change in MME per opioid claim between SYs 2016 and 2020.

Chart 22

Change in MME per Opioid Claim by Maturity

Maturity	SY 2020 MME Share	Change in MME from SY 2016 to SY 2020
North Carolina		
1 Year	7%	-35%
2 to 5 Years	19%	-51%
6 to 10 Years	19%	-39%
Over 10 Years	55%	-39%
Region		
1 Year	5%	-23%
2 to 5 Years	17%	-33%
6 to 10 Years	15%	-35%
Over 10 Years	63%	-28%
Countrywide		
1 Year	4%	-27%
2 to 5 Years	14%	-43%
6 to 10 Years	15%	-36%
Over 10 Years	67%	-30%

Diagnosis Group and Body System Opioid Claim Experience

Charts 23 and 24 display the top 10 body systems and diagnosis groups, respectively, for claims with opioid experience. A body system and diagnosis group are identified for each claim based on an ICD-10 (International Classification of Diseases) code. 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 body systems and diagnosis groups are ranked by total claim payments for North Carolina. This method of ranking shows which body systems and diagnosis groups have the highest percentage share of payments. Payments are based on claims with dates of injury between January 1, 2019, and December 31, 2019, and include all reported services provided for those claims through December 31, 2020. 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 body system and diagnosis group.

Chart 23

Top Body Systems by Amount Paid for Opioid Claims With Dates of Injury in 2019

Body System	Paid Share	Average Amount Paid Per Claim North Carolina	Region	Countrywide
Shoulder	19.5%	$19,854	$25,267	$29,423
Lumbar spine	9.9%	$12,752	$19,510	$21,989
Knee	9.4%	$16,375	$19,825	$22,155
Leg	9.1%	$39,229	$48,444	$46,980
Hand/wrist	8.1%	$9,384	$13,748	$14,070
Ankle/foot	7.9%	$16,798	$20,700	$22,192
Nervous system	5.8%	$140,559	$90,662	$82,093
Arm	5.2%	$22,638	$28,996	$28,552
Neck	3.9%	$18,402	$24,924	$30,174
Head	3.6%	$36,662	$34,463	$37,119

Chart 24

Top Diagnosis Groups by Amount Paid for Opioid Claims With Dates of Injury in 2019

Diagnosis Group	Paid Share	Average Amount Paid Per Claim North Carolina	Region	Countrywide
Minor shoulder injury	6.6%	$15,203	$15,873	$20,418
Rotator cuff tear	6.6%	$23,467	$31,362	$35,532
Spinal cord injury	5.0%	$677,411	$616,139	$567,088
Tibia/fibula fracture	4.7%	$50,097	$67,724	$65,157
Low back pain	3.1%	$6,592	$7,748	$8,753
Hand/wrist fracture	3.1%	$11,248	$17,240	$16,750
Minor knee injury	3.0%	$11,780	$10,368	$13,481
Hip/pelvis fracture/major trauma	2.9%	$69,537	$85,225	$79,385
Lumbar spine degeneration	2.5%	$32,943	$44,805	$50,877
Minor hand/wrist injuries	2.4%	$6,859	$8,531	$9,471

Glossary

Benzodiazepines (Benzos): A class of drugs that produce central nervous system depression and 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 Coding 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 key characteristics, such as the labeler (manufacturer/distributor), active ingredients, strength, dosage form, and package form.

Opioids: 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 on 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 SY 2020 (medical services delivered from January 1, 2020, to December 31, 2020), except where otherwise noted. WC insurance carriers must report paid medical transactions if, over the most recent three years, they write at least 1% of the market share in any one state for which NCCI is the rating or advisory organization. Once a carrier meets the eligibility criteria, it is required to report for all applicable states in which it writes WC insurance. All carriers within an insurance group are required to report.

No data adjustments have been made for the reporting of COVID-19-related claims. For more information on impacts of COVID-19 on medical losses, please see the Medical Indicators & Trends dashboard[11] on **ncci.com**.

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. Nearly 30 data elements are reported.

Wherever possible, standard industry codes are used because they:

- Provide a clear definition of the data
- Increase efficiency of computer systems
- 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 and medical bill review vendors. It's 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 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**.

[11] www.ncci.com/Articles/Pages/Insights-Medical-Indicators-Trends-Dashboard.aspx