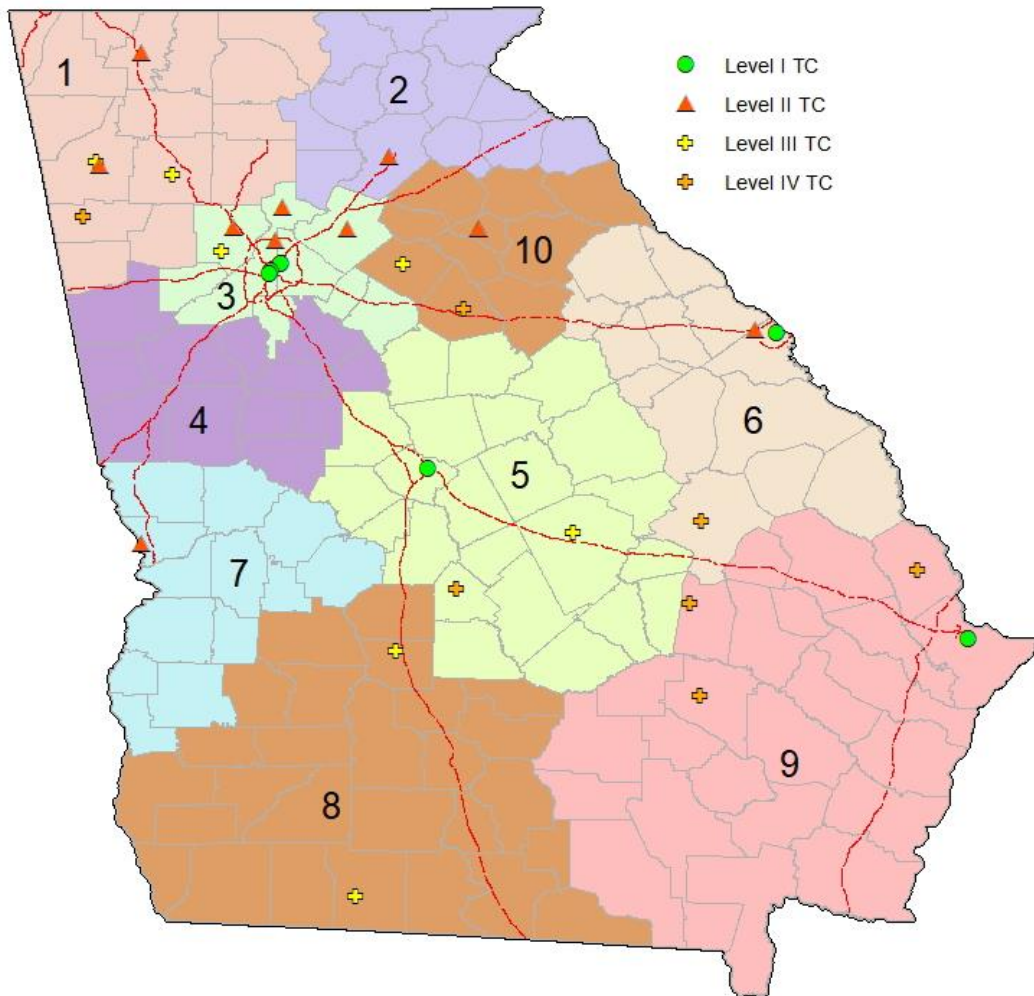


# AN ANALYSIS OF THE GEORGIA TRAUMA SYSTEM

Submitted to the  
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## SUMMARY

The purpose of this analysis is to assess the effectiveness of the Georgia trauma system in providing access to inpatient trauma services to the state's residents. In 2022, the state's trauma system included six Level I (including a Pediatric Center), nine Level II (including a Pediatric Center), eight Level III, and seven Level IV designated trauma centers (DTCs). Geographically, the centers are distributed such that, in 2022, 89.2% of the state's residents lived within a driving distance of 50 miles of a Level I or II DTC. Almost 96% of residents lived within 50 miles of a DTC when Level III and IV facilities were included. In terms of ground transportation driving time, 83.8% of residents lived within 60 minutes of the nearest Level I or II DTC. Slightly over 90% lived within 60 minutes of a Level I, II, III, or IV facility.

The study period covered five calendar years (2016-2020) following the transition from the ICD9CM to ICD10CM coding system. During the study period there were 89,255 inpatient episodes classified as trauma alerts. Approximately eight percent (7,159) of trauma alert patients had an ICISS < 0.85, indicating a significant mortality risk level. In addition to the trauma alert episodes, there were 336,218 episodes classified as emergent. The percentage of emergent cases classified as at-risk (ICISS < 0.85), was 3.61.

The proportion of at-risk injured (ICISS < 0.85) trauma alert patients treated at a Level I or II DTC fluctuated between 94.44 and 96.47% annually. When Level III and IV facilities were included, the proportion of trauma alert patients treated at a DTC increased to 100%.<sup>1</sup> When at-risk emergent injured patients were added to the trauma alert population, the average annual percentage treated at a DTC was around 83%.

The demographic distribution of at risk injured patients indicates that most are male (64.5%), non-elderly adults (52.3%, median age=53), and white (58.1%). At risk patients treated at a DTC had a similar demographic distribution: male (66%), non-elderly adult (55.5%), and white (56.4%). The percentage treated at a Level I or II DTC varied significantly by EMS region, ranging from 51.98% in EMS Region 8 to 94.9% in EMS Region 10.

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<sup>1</sup> The proportion of severely injured trauma alert patients treated at a DTC was 99.93% in 2018. The deviation from 100% was likely due to a misclassification at a non-DTC.

# AN ANALYSIS OF THE GEORGIA TRAUMA SYSTEM

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## 1. THE GEORGIA TRAUMA SYSTEM

The Georgia Trauma System, in 2022, included 30 facilities designated as trauma centers (DTCs). Trauma centers may be classified as Levels I, II, III, or IV and/or pediatric. Six are designated as Level I, nine as level II, eight as Level III, and seven as Level IV facilities. Table 1.1 shows the DTCs, the county in which they are located, their EMS region, and the designation level. For a detailed explanation of the different levels, please refer to the American Trauma Society's "Trauma Center Levels Explained" at <https://www.amtrauma.org/page/traumalevels> (accessed 4/18/2022).[1]

Table 1.1: Designated trauma hospitals in Georgia in 2022

Facility Name	County	EMS	Level
Augusta University Medical Center	Richmond	6	1
Children's Healthcare of Atlanta - Egleston	Dekalb	3	1/P
Grady Memorial Hospital	Fulton	3	1
Memorial University Medical Center	Chatham	9	1
Navicent Health, Medical Center off Central Georgia	Bibb	5	1
Wellstar Atlanta Medical Center	Fulton	3	1
Children's Healthcare Atlanta - Scottish Rite	Fulton	3	2/P
Doctors Hospital of Augusta	Richmond	9	2
Floyd Medical Center	Floyd	1	2
Northeast Georgia Medical Center	Hall	2	2
Gwinnett Medical Center	Gwinnett	3	2
Athens Regional Medical Center	Clarke	10	2
Piedmont Columbus Regional	Muscogee	7	2
Wellstar Kennestone Hospital	Cobb	3	2
Wellstar North Fulton Hospital	Fulton	3	2
Hamilton Medical Center	Whitfield	1	3
John D. Archbold Memorial Hospital	Thomas	8	3
Cartersville Medical Center	Bartow	1	3
Crisp Regional Hospital	Crisp	8	3
Fairview Park Hospital	Laurens	5	3
Clearview Regional Medical Center	Walton	10	3
Redmond Regional Medical Center	Floyd	1	3
Wellstar Cobb Hospital	Cobb	3	3
Taylor Regional Hospital	Pulaski	5	4
Appling Healthcare System	Appling	9	4
Effingham Health System	Effingham	9	4
Emanuel Medical Center	Emanuel	6	4
Meadows Regional Medical Center	Toombs	9	4
Morgan Memorial Hospital	Morgan	10	4
Polk Medical Center	Polk	1	4

The geographic distribution of Georgia DTCs shows a high concentration in EMS Region 3 which contains approximately 40% of the state's population (Figure 1.1). A detailed analysis by EMS region is contained in Appendix C. With the exception of EMS Regions 4 and 8, all EMS Regions have at least one Level I or II DTC. EMS Region 8 contains two Level III DTCs.



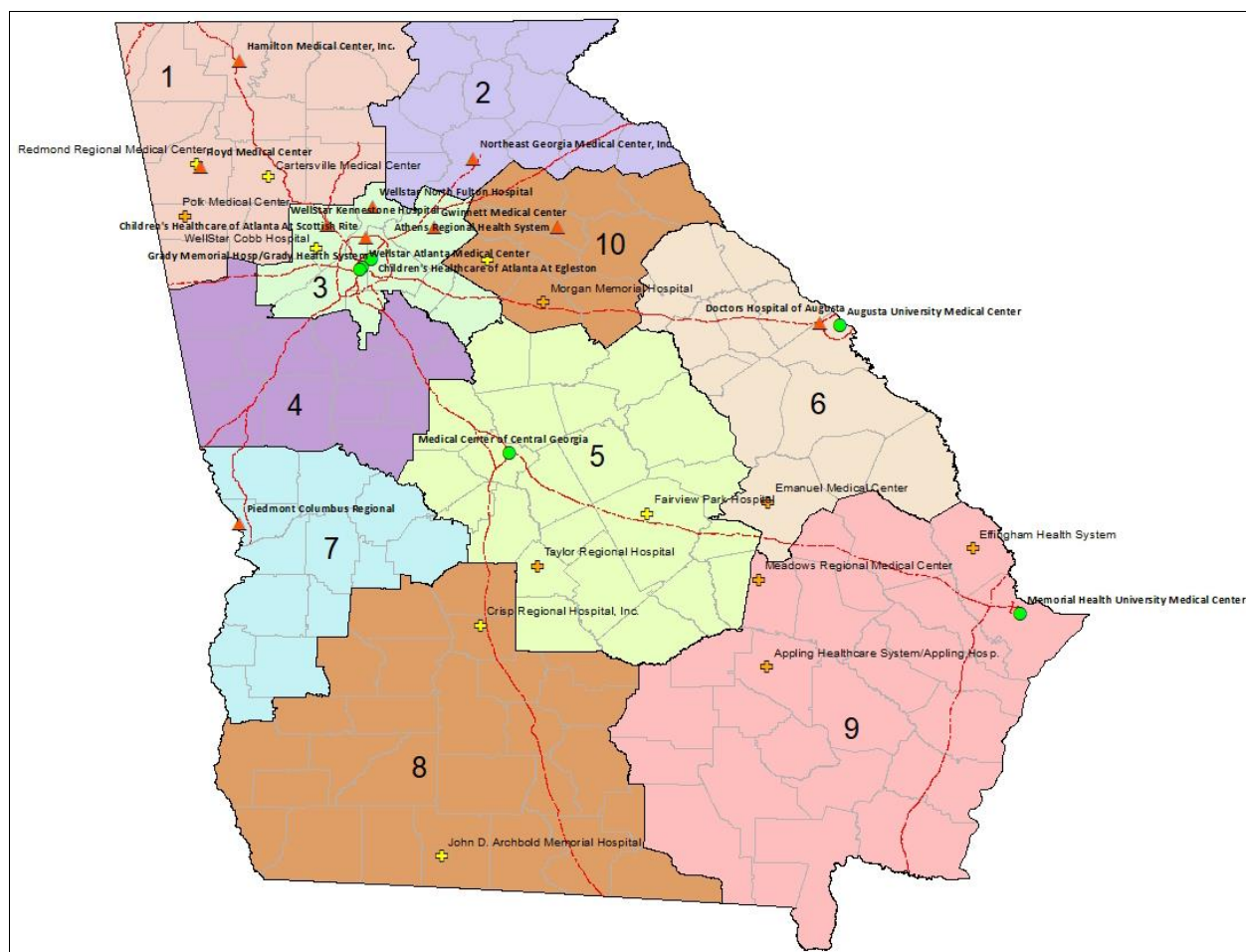


Figure 1.1: Geographic distribution of Georgia trauma centers in 2022

## 2. Proximity of the Georgia Population to a DTC

Proximity is an important factor determining access to inpatient hospital trauma services. We used the 2020 census data, at the tract/block level to analyze the proximity of Georgia residents to a DTC. The analysis was executed for two sets of trauma centers: (1) considering only Level I and II centers and (2) including all Level I, II, III, and IV centers. Distances are expressed in average driving distances (miles) and times (minutes). Estimates are based on typical road circumstances but will vary by time of day and traffic conditions.

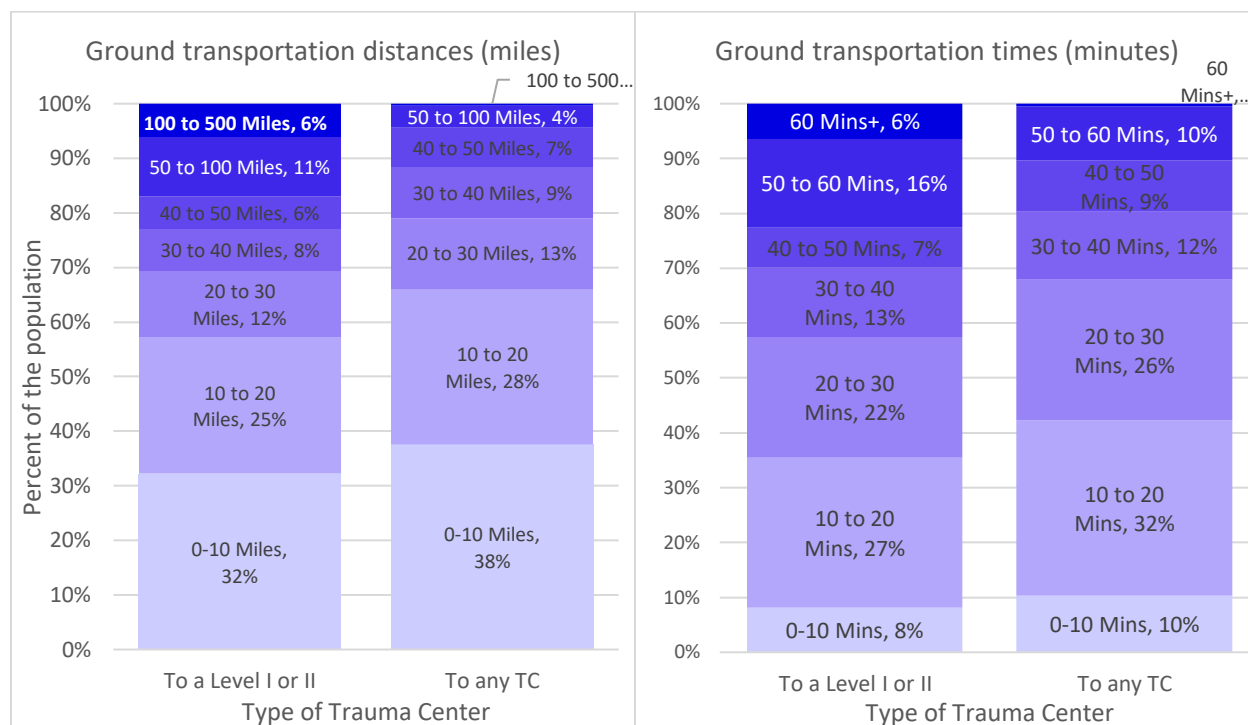


Figure 2.1: Proximity of the population to a DTC in 2022, based on Census 2020 distribution of residents

In 2022, 83 percent of Georgia residents lived within a driving distance of 50 miles to a Level I or II DTC (Figure 2.1, 1<sup>st</sup> Column). When Level III and IV centers were added, the percentage of the population living within 50 miles driving, increased to 96% (Figure 2.1, 2<sup>nd</sup> column). An analysis of driving times, instead of distance, indicates that 94% of the state's overall population resides within an hour of a Level I or II center (Figure 2.1, 3<sup>rd</sup> Column). When all levels of DTC were included, the percent of the population within 60 minutes increased to over 99% (Figure 2.1, 4<sup>th</sup> Column). It is worth reiterating that the accuracy of these values depends on typical traffic conditions. Furthermore, there is substantial variation between EMS regions. Appendix A contains tables showing average ground transportation distances and times by EMS Region and county.

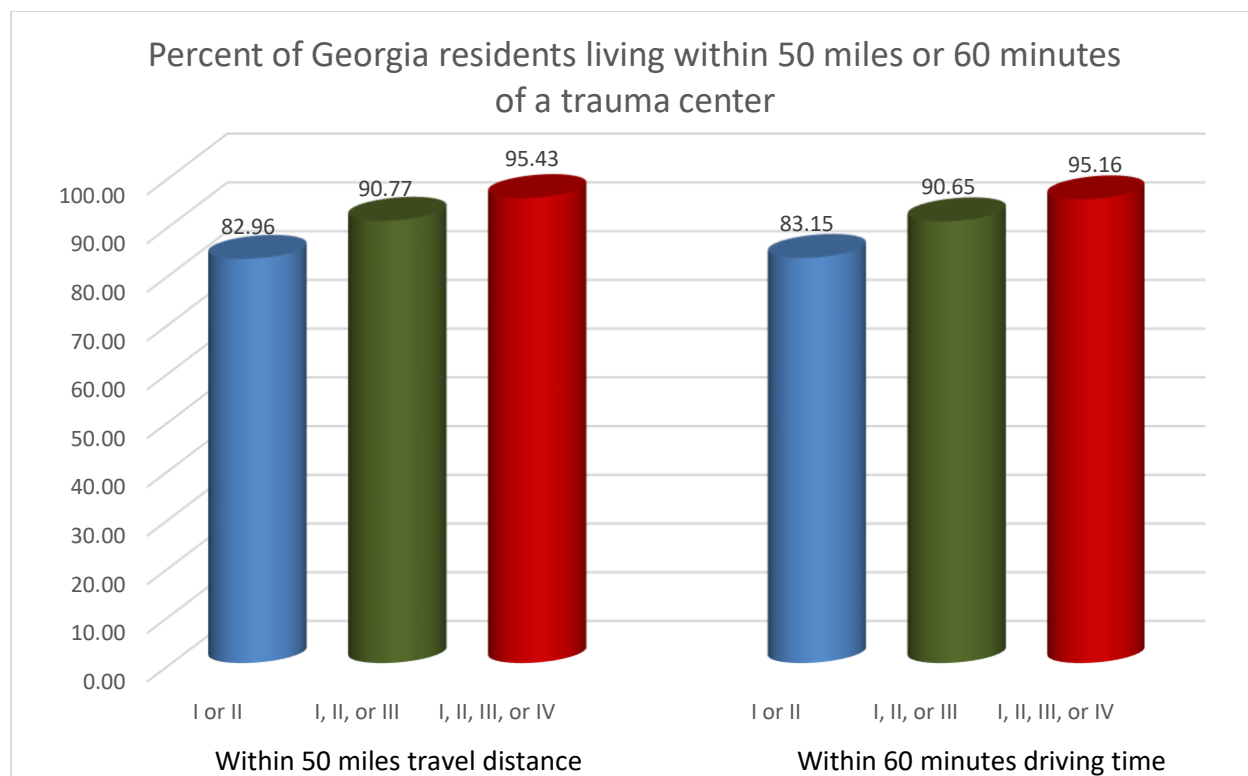


Figure 2.2: The percent of Georgia residents residing within a ground transportation distance of 50 miles or travel time of 60 minutes to a designated trauma center

Figure 2.2 (left side) shows the percent of Georgia residents living within a ground transportation driving distance of 50 miles to a trauma center. The blue bar indicates nearly 83% of residents live within 50 miles of a Level I or II center. When Level III centers are included in the calculation, the percent living within 50 miles driving distance increases to approximately 91%. Finally, when Level IV centers are added to the calculation, the percentage increases to 95.<sup>2</sup> The bars on the right show proximity to trauma centers using driving times below one hour, as opposed to physical distances. The data indicate 83% of the population reside within one hour of travel time from a Level I or II center. When Level III and IV centers are added to the calculation, the percentage living within one hour increases to, respectively, 91 and 95%.

Figure 2.3 shows the locations of trauma centers, driving distances by geographic location to the nearest trauma center. The left panel shows the driving distances to the nearest Level I or II DTC; the center panel shows the driving distances when Level III centers are included; finally, the right panel shows the driving distances when Level IV centers are included. The figures also show the interstate highway system for reference, and the density of the state's population using the 2020 U.S. Census. Each dot represents 1,000 Georgia residents. Darker blue shading indicates greater ground transportation distance to the nearest Level I or II center. The dark gray shaded areas indicate driving distances exceeding 50 miles. Similarly, Figure 2.4 shows average ground transportation times, as opposed to driving distances, to the nearest Level I or II DTC (left panel), the nearest Level I, II, or III center (center panel), and the nearest Level I, II, III, or IV center (right panel). Dark gray shading represents census tracts with driving times over one hour.

<sup>2</sup> Estimates of proximity to trauma centers presented in the 2014 report were based on straight line distance. The percentages discussed here are based on estimated driving distances and times.

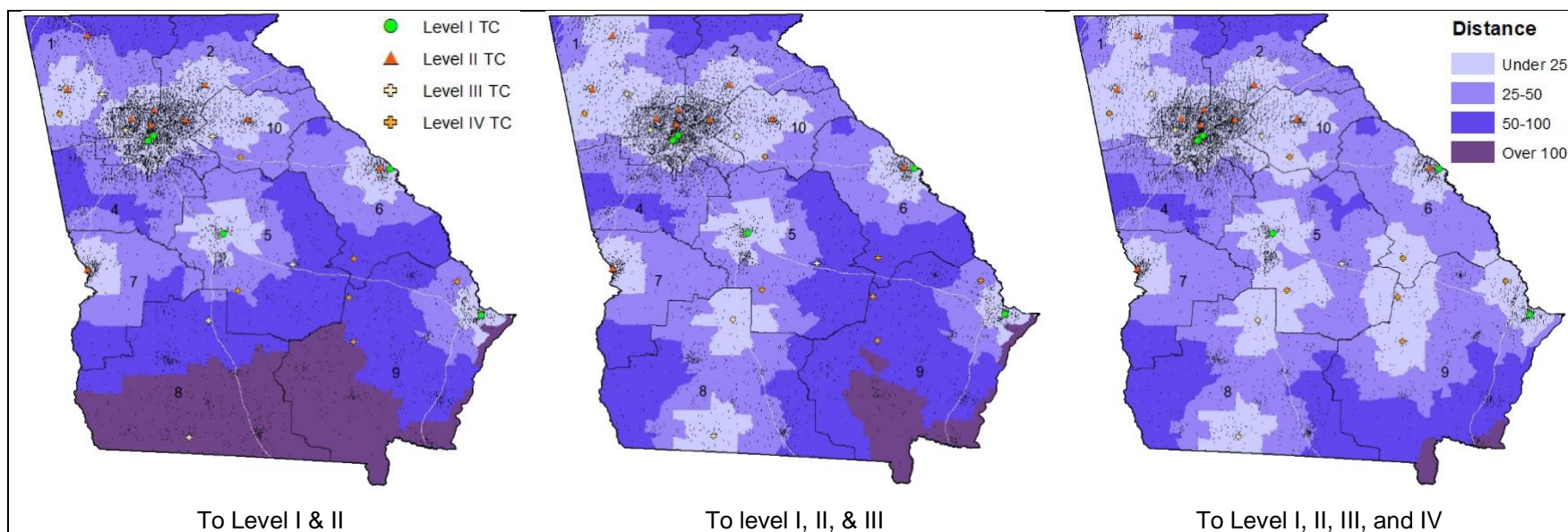


Figure 2.3: Average driving distance in miles to the nearest trauma center

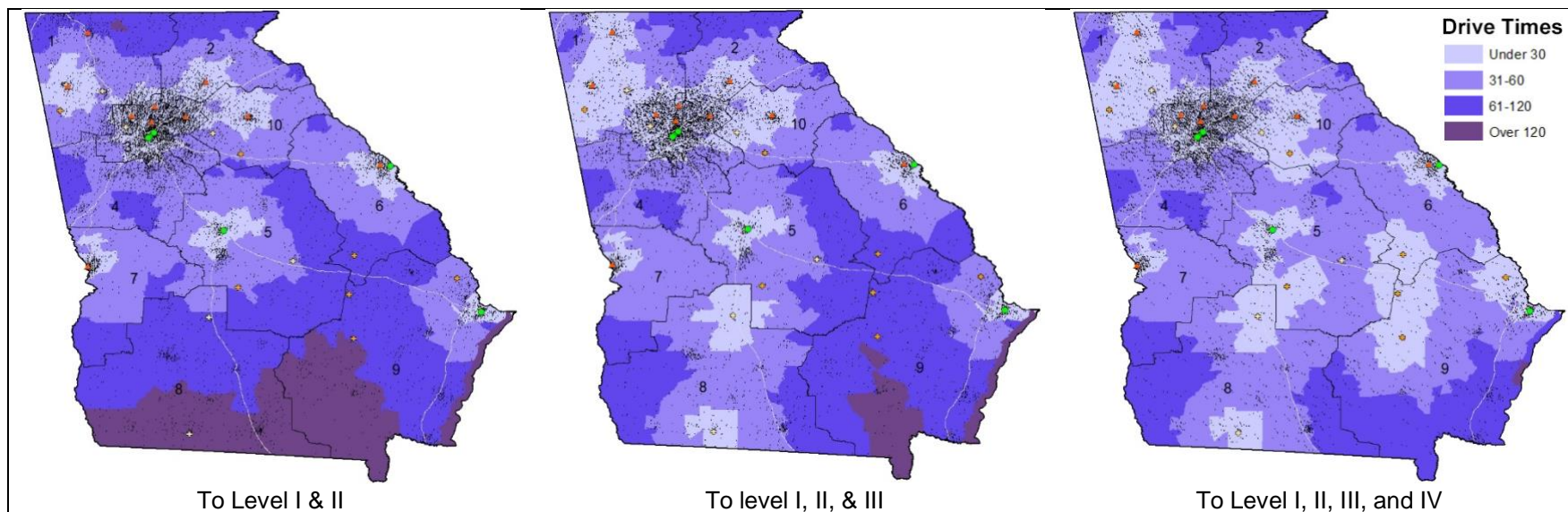


Figure 2.4: Average driving time in minutes to the nearest trauma center



## Trauma Centers in Neighboring States

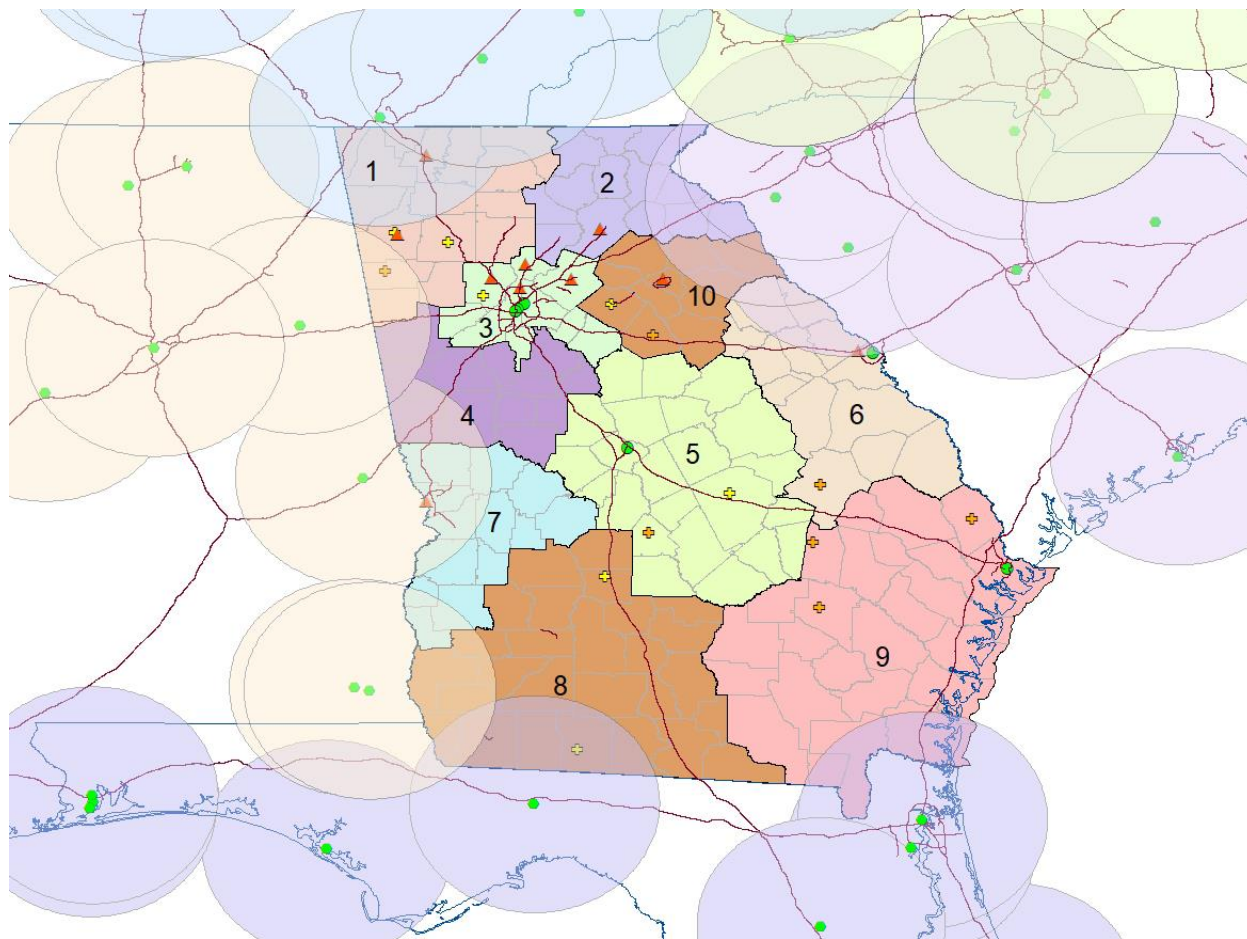


Figure 2.5: Level I & II Trauma Centers in Neighboring States with 50 Mile Buffers

Figure 2.5 shows the location of Level I & II Trauma Centers located in neighboring states. The figure also shows which of the neighboring states' centers are located within 50 miles of the Georgia state border. For example, the southern most parts of EMS Regions 8 and 9 are within the 50 mile buffers of trauma centers located in Jacksonville (Duval County) and Tallahassee (Leon County), Florida. In 2020, 733 Georgia residents were treated in a Florida center and classified as trauma alerts, with 81% receiving treatment in Duval, Clay, Leon, and Alachua Counties. Approximately 38% of Georgia residents treated in Florida presented at the treating facility as a transfer from another facility, including short term general hospitals, clinics, nursing, other ambulatory care, or the court system.

### 3. The Data and Definition of Trauma

The primary data used for the analysis was obtained from the Georgia Department of Public Health through the Public Health Information Portal (PHIP). The main analysis will include five calendar years from 2016 to 2020. While data from 2014 down to 2010 was available, it was excluded from the primary analysis to avoid potential biases and discontinuities caused by the 2015 transition from the ICD9CM to ICD10CM classification systems. Pre-2016 values for the number of at-risk injured patients, and associated DTC triage percentages, are presented by DTC in Appendix A in the third table of each EMS Region's series.

Injured patients included in this analysis had to meet one of two criteria: admitted as an emergency or a trauma alert. From this point forward, the term “emergency” will be applied to injured patients who were classified as emergent by the medical staff of the facility. However, they were NOT designated as a trauma alert. This allows cases from both DTCs and non-trauma centers (NC). Patients classified as trauma alerts are expected to get transported to a DTC, therefore, if a patient is classified as such at a non-DTC, we will assume a data coding error (this affected fewer than 0.07% of alerts). Because the trauma alert designation typically happens prior to arrival at the hospital, no other exclusions will be made to the initial population. However, patients triaged to either a DTC or NC will be compared based on injury type, including Traumatic Brain Injury (TBI), Skull and Spinal Cord Injury (SSCI) other than TBI, Fractures (excluding those with TBI or SSCI), injuries to the thorax (TORSO), and vascular injuries. Observe that burns were excluded from this list. Selected statistics concerning burns are presented in Appendix B.

Table 3.1: The number of injured patients classified as trauma alerts or emergencies by severity level.

Year	All patients classified as trauma alert	All patients classified as emergency but not trauma alert	Patients classified as trauma alert with (ICISS < 0.85)	Patients classified as emergency but not trauma alert with (ICISS < 0.85)	Patients classified as trauma alert or emergent with (ICISS < 0.85)
2016	13,783	62863	1128 (8.18)	3111 (4.95)	4239 (5.53)
2017	18,064	62315	1546 (8.56)	2239 (3.59)	3785 (4.71)
2018	17,712	67670	1360 (7.68)	2129 (3.15)	3489 (4.09)
2019	19,263	72413	1525 (7.92)	2257 (3.12)	3782 (4.13)
2020	20,433	70957	1600 (7.83)	2394 (3.37)	3994 (4.37)
	89,255	336,218	7159 (8.02)	12130 (3.61)	19289 (4.53)

Percent treated at a Level I or II DTC					
2016	98.30	58.13	99.02	74.06	80.70
2017	91.13	57.07	96.12	82.85	88.27
2018	92.23	57.18	96.47	84.26	89.02
2019	92.49	56.93	96.79	83.07	88.60
2020	88.06	56.95	94.44	84.88	88.71

Percent treated at a Level I, II, III, or IV DTC					
2016	99.91	61.83	100.00	76.31	82.61
2017	99.08	59.80	100.00	83.83	90.44
2018	99.65	61.48	99.93	86.57	91.77
2019	99.94	62.84	100.00	86.00	91.64
2020	99.93	63.23	100.00	88.30	92.99

Table 3.1 shows that there were 89,255 and 336,218 patients classified as, respectively, trauma alerts or emergencies. The data shows a steady rise in the number of trauma alerts from 2016 (13,783) to 2020 (20,433), increasing by nearly 50%.

#### 4. Injury Severity and At-Risk Status

Injury severity will be measured using the International Classification of Diseases Injury Severity Score (ICISS) which was developed in response to two weaknesses inherent to the more traditionally used Injury Severity Score (ISS).[2, 3] In particular, the ISS is dependent on “consensus driven approximations of individual injury severities” and can incorporate at most three of an individual patient’s injuries.[3] The ICISS is defined as the product of the survival risk ratios (SRRs) associated with each patient’s injuries, which can be as many as recorded, but is typically limited to ten. A low survival rate, implying greater severity, translates into a lower SRR and, by extension, a lower ICISS. Furthermore, the greater the number of injuries, the lower the ICISS, unless the mortality associated with the injuries is strictly zero meaning an SRR of one. In their comparison of ISS versus ICISS, Osler et al. (1996) concluded that the latter performed significantly better in predicting mortality. The ICISS methodology is database dependent. In this analysis ICISS scores were based on SRRs which were, in turn, calculated using a moving window consisting of the five years preceding the year in which the patient was injured. This progressive method allows for time sensitive changes in care to be incorporated into the calculation.

The five-year moving window method used in the calculation of SRRs meant calculation using 2010-2014 SRR databases and required a conversion from ICD10-CM to ICD9-CM. We used the Centers for Medicare & Medicaid Services (CMS) general equivalence mapping procedure for this step. Only codes associated with initial injuries were considered for conversion. Codes associated with sequelae were not included. For 89% of ICD10CM initial injury codes, there was only one ICD9CM match. For the remaining 11%, each possible ICD9CM code was incremented. For example, ICD10CM code S82.409B could be mapped to either ICD9CM 823.31 or 823.91, so the denominators (meaning the incidence) both ICD9CM codes were incremented. With few exceptions, this involved codes with SRRs above 0.95.

To assign an SRR to an ICD10CM code, we used the same CMS general equivalence mapping procedure, described in the previous paragraph. There were three possible outcomes for this.

1. The ICD10CM mapped to a single ICD9CM, in which case no further action was required except assigning the appropriate SRR. This accounted for 89% of cases.
2. The ICD10CM code mapped to multiple ICD9CM codes, but each had the same SRR (all such cases involved a value of 1.0, indicating zero probability of mortality). In this case it did not matter which SRR was assigned. This accounted for 5% of cases.
3. For the remaining 6% of codes, the weighted average of SRRs associated with all possible ICD9CM codes, to which the ICD10CM could be mapped, was assigned.

Following convention established in existing literature, we will use  $ICISS < 0.85$  as the threshold for classifying patients as severely injured or “at risk”. See, for example, Ashley et al. (2015 and 2018).[4, 5] Table 3 shows that approximately 8% of trauma alert patients had  $ICISS < 0.85$ . This group is referred to as “at risk”. The percent of patients who were classified as emergencies and at-risk was 3.61.

Table 4.1: Demographic distribution of trauma alert patients, 2016-2020

All severity levels									
	All (N)	Ped%	NEAdlt%	Eld%	Fem%	Male%	Black%	White%	Other%
2016	13783	0.93	70.70	28.29	32.45	67.55	23.69	67.23	9.08
2017	18064	1.63	65.40	32.94	35.45	64.55	23.12	68.37	8.50
2018	17712	0.97	64.62	34.30	36.63	63.37	24.16	67.27	8.57
2019	19263	1.08	61.03	37.71	36.42	63.58	23.37	66.81	9.82
2020	20433	1.13	64.15	34.52	33.65	66.35	25.31	65.38	9.30
Rate/100,000 pop in 2020	198	11.08	190.54	520.74	34.92	65.08	23.93	67.01	270.50

At risk patients (ICISS < 0.85)									
	All (N)	Ped%	NEAdlt%	Eld%	Fem%	Male%	Black%	White%	Other%
2016	1128	1.77	56.12	41.84	32.54	67.46	26.42	64.54	9.04
2017	1546	2.39	53.23	44.24	33.76	66.24	26.26	65.01	8.73
2018	1360	1.76	52.28	45.66	34.56	65.44	25.81	65.44	8.75
2019	1525	1.57	52.33	45.51	33.64	66.36	26.75	62.49	10.75
2020	1600	0.44	58.25	40.81	30.88	69.13	30.00	60.31	9.69
Rate/100,000 pop in 2020	16	0.34	13.55	48.21	9.34	22.04	14.53	15.31	22.06

#### 4.1 The Rate of Trauma Alerts

All rates are based on the U.S. Census of 2020. The rates were calculated per 100,000 population for each category. Table 4.1 shows the percent distribution of trauma alert patients, including all levels of severity (top half) and at-risk patients (bottom half). The last row of each panel shows the rate/100,000 population for each demographic group.

In each year, including all severity levels (Table 4.1, top half), NE-adults account for the majority ( $\pm 65.2\%$ ) of trauma alert patients while pediatric and elderly make up  $\pm 1.15\%$  and  $\pm 33.55\%$ . Males account for  $\pm 65.08\%$  of trauma alert patients. The racial distribution of trauma alert patients is  $\pm 67.01\%$  white,  $\pm 23.93\%$  black, and  $\pm 9.06\%$  other. The bottom half of Table 3 shows the demographic distribution of at-risk (ICISS < 0.85) patients. In this severity category, the average annual percent of at-risk patients identified as elderly is  $\pm 43.61\%$ , whereas NE-Adults and children account for  $\pm 54.44\%$  and  $\pm 1.59\%$ . Concerning gender, most at-risk trauma alert patients are male ( $\pm 66.93\%$ ). Examining patient race,  $\pm 63.56\%$  are white, while  $\pm 27.05\%$  and  $\pm 9.39\%$  are, respectively, black or other.

The rate/100,000 population shows that the highest rate occurs in the elderly population: 520.74 when all severity levels are included and 48.21 in the at-risk category. When all severity levels were included, the rate for the elderly was 2.73 times that of non-elderly adults; when only at-risk patients were counted, the elderly rate increased to 3.56 times that of the non-elderly, indicating a higher conditional likelihood for the elderly to fall in the at-risk category ( $P < 0.001$ ). Focusing on gender in the at-risk category, the rate for males (22.04) is 2.36 times higher compared to their female (9.34) counterparts, indicating a significantly higher conditional likelihood for males to experience severe injury ( $P = 0.018$ ). Racially, the rates for blacks and whites are almost identical. It is noteworthy that the rates for whites when all severity levels were included was 180% greater, however, focusing only on at-risk patients, the difference falls to 135%, indicating a higher likelihood for blacks to fall in the at-risk category following injury ( $p < 0.001$ ).



## 4.2 The Rate of all Injuries Regardless of Trauma Alert Status

Table 4.2: Demographic distribution of trauma alert and emergency patients, 2016-2020

	All severity levels								
	All (N)	Ped%	NEAdlt%	Eld%	Fem%	Male%	Black%	White%	Other%
2016	76646	3.13	53.41	43.33	43.95	56.05	24.68	68.95	6.38
2017	80379	2.76	51.24	45.84	45.16	54.84	24.25	69.06	6.69
2018	85382	2.50	50.44	46.91	45.79	54.21	26.39	67.26	6.36
2019	91676	2.52	49.68	47.66	44.99	55.01	25.69	67.25	7.07
2020	91390	2.54	51.87	45.39	42.97	57.03	27.37	65.59	7.04
Rate/100,000 pop in 2020	887	111.85	689.14	3062.86	742.30	1038.64	756.96	951.25	915.66

	At risk patients (ICISS < 0.85)								
	All (N)	Ped%	NEAdlt%	Eld%	Fem%	Male%	Black%	White%	Other%
2016	4239	4.32	51.43	44.09	37.79	62.21	31.54	61.19	7.27
2017	3785	3.38	50.86	45.57	35.93	64.07	31.23	60.58	8.19
2018	3489	3.64	49.44	46.72	37.12	62.88	32.96	59.01	8.03
2019	3782	3.54	51.45	44.58	33.58	66.42	33.71	56.93	9.36
2020	3994	2.63	57.79	38.81	32.90	67.10	37.48	53.00	9.51
Rate/100,000 pop in 2020	39	5.06	33.55	114.44	24.84	53.41	45.31	33.59	54.07

Table 4.2 shows the demographic distribution of injury related cases when emergency cases were added to the analysis (i.e. the population includes both trauma alerts and emergencies). The top half of the table shows the percentages for all episodes, regardless of the level of severity. Non-elderly adults account for slightly over 50% of episodes, while the elderly and children make up, respectively  $\pm 45.8\%$  and  $\pm 2.7\%$ . The gender distribution of these cases was  $\pm 55.4\%$  male and  $\pm 44.6\%$  female. Approximately two-thirds ( $\pm 67.6\%$ ) were white, while  $\pm 25.7\%$  identified as African American. The bottom half of the table shows the percentages for patients who were considered at-risk. Non-elderly adults again account for a little over 50% while the elderly and children make up  $\pm 43.9\%$  and  $\pm 3.5\%$ . The gender distribution is skewed toward males ( $\pm 64.5\%$ ) in the at-risk group. Concerning race, the at-risk category is  $\pm 33.4\%$  African American,  $\pm 58.14\%$  white, and  $\pm 8.47\%$  other.

Focusing on the larger population, i.e. ignoring severity, the rate/100,000 shows rates of 112, 689, and 3062 for pediatric, non-elderly adults, and the elderly. Males have a rate (1038) approximately 40% higher compared to females (742). In terms of race, whites have the highest rate/100,000 at 951; the rates for African Americans and other race were, respectively, 757 and 916.

When only at-risk patients were considered, the rates showed a different pattern. The rate for the elderly when all severity levels were included was 4.44 times that of non-elderly adults. That factor dropped to 3.4 when only at-risk cases were considered ( $P < 0.001$ ). Comparing male to female rates in the overall to at-risk groups, the ratio of rates increased from 1.39 to 2.15, indicating males are more likely to be counted as at-risk ( $P < 0.001$ ). Similarly, the rates indicate that African American injured patients are more likely to be classified as at-risk ( $P < 0.001$ ) when compared to whites.

### 4.3 Insurance Status and Type

Table 4.3: Insurance Status of Injured Patients

	Uninsured	Medicare	Medicaid	Commercial	Work-Comp	Other Ins
Trauma alerts only						
2016	13.41	24.79	8.06	33.84	2.52	16.57
2017	11.12	27.23	7.80	27.46	2.32	23.11
2018	14.74	30.16	7.17	18.42	1.65	27.16
2019	14.53	31.77	6.55	16.38	1.24	28.75
2020	17.37	31.97	6.96	19.37	1.30	22.27
Trauma alerts and emergencies						
2016	12.03	41.89	8.92	20.21	1.99	14.27
2017	12.41	44.56	8.86	18.70	1.68	13.20
2018	13.31	46.44	9.05	15.68	1.61	13.49
2019	13.52	46.96	8.35	14.86	1.43	14.23
2020	14.90	45.88	8.75	15.48	1.31	13.09

Table 4.3 shows the distribution of the primary payer. The top half of the table shows the percentages for trauma alert patients. Annually, approximately 14% were uninsured, while Medicare and Medicaid covered on average, respectively, 29 and 7.3%. It is noteworthy that the percent uninsured reached a high of 17.37 in 2020. Commercial sources and workers' compensation covered 23% and 1.8%, on average. When emergency patients were included (bottom half of Table 4.3), the Medicare percent increased to 45, on average, the percent uninsured fell to 13, while the Medicaid proportion increased to 11.3. For this larger group, commercial sources and workers' compensation covered 17 and 1.6%, on average. The "other ins" group contains patients who were classified, by the treating facility as having an other or unknown payor. The "unknown" group accounted for approximately 0.35% of the total.

### 4.4: Type of Injury and Outcome

Table 4.4A shows the type of injuries in the trauma alert and emergency patient groups. The percentages are reported for each group (a) regardless of severity and (b) for at risk (ICISS < 0.85) patients only. Observe that patients are likely to have more than one injury, indicating that the sums of the percentages will exceed 100. Observe also that the SSCI category does not include any TBI cases and that the fractures group excludes both TBI and SSCI injuries. This was done to avoid double counting injury types.

When all severity levels are included, the second column of Table 4.4A shows that the most common injury is SSCI (63.3%), followed by fractures (14.8%), injuries to the thorax (13%). Slightly over 12% of patients in this larger group had TBI while only 2.1% had a vascular injury. The other injuries category accounted for 14.6%. This group includes injuries such as sprains, strains, contusions, and other "mild" injuries. To be counted in this group, patients did not have any of the five major injury types.

The third column of Table 4.4A shows the injury distribution of at-risk trauma alerts (ICISS < 0.85). Most notable are the increases in the percentages of TBI (46.9%) and Torso (56.2%) related injuries. SSCI injuries remain the most common at 57.8% while fractures increased to 25.1%. The percentage of patients with a vascular injury is the lowest of the major injury types but quintupled to 10.8%. The percentage with other injuries declined to 2.7.

The fourth and fifth columns show the injury type distributions for patients classified as emergencies (i.e. but NOT trauma alerts). First, ignoring injury severity (column 4), the percentages in order of incidence were SSCI (41.5%), other injuries (34.3%), fractures (17.1%), TBI (7.3%), torso (6.8%),

and vascular (1.3%). Focusing on patients classified as at-risk, 48.1% had an injury to the torso, 47.7% had SSCI, 38.5% had TBI, 21.1% had a fracture, 12.6% had a vascular injury, and 9.8% had an “other injury.”

Table 4.4 also shows the average length of stay (LOS) in days for each group of patients. Trauma alerts, including all severity levels, were associated with an average LOS of 8.3 days. The average LOS increased by approximately 50% to 12.34 for trauma alerts classified as at risk. Similarly, in the group of patients classified as emergencies, the average LOS increased from 6.4 days to 11.4 days when only at-risk patients were included.

Table 4.4: Injury type by alert and at-risk status

	Trauma Alerts		Emergency		All Injury Cases	
	All	At-risk	All	At-risk	All	At-risk
	(N=89,255)	(N=7,159)	(N=336,218)	(N=12,130)	(N=425,473)	(N=19,289)
TBI	12.1%	46.9%	7.3%	38.5%	8.3%	41.6%
SSCI	63.3%	57.8%	41.5%	47.7%	46.0%	51.4%
Fractures	14.8%	25.1%	17.1%	21.1%	16.6%	22.6%
Torso	13.0%	56.2%	6.8%	48.1%	8.1%	51.1%
Vascular	2.1%	10.8%	1.3%	12.6%	1.4%	11.9%
Other Injuries*	14.6%	2.7%	34.3%	9.8%	30.2%	7.2%
LOS (mean,std)	8.3 (12.1)	12.3 (17.3)	6.4 (8.5)	11.4 (17.6)	6.8 (9.4)	11.7 (17.4)
Expired	4.8%	16.1%	2.6%	11.7%	3.1%	13.3%

## 5. Treated at a DTC

Figure 5.1 shows the geographic distribution of three categories of injured patients: (a) injured patients admitted as trauma alerts, regardless of the level of severity, at a DTC (blue dots), (b) at-risk patients admitted as emergencies at a DTC (green dots), and (c) at-risk patients admitted as emergencies at an NC (red dots). Each dot represents 10 patients and is placed at a random location within the county of residence. The highest concentration of at-risk patients who were not treated at a DTC resided in EMS region 8 in the south.

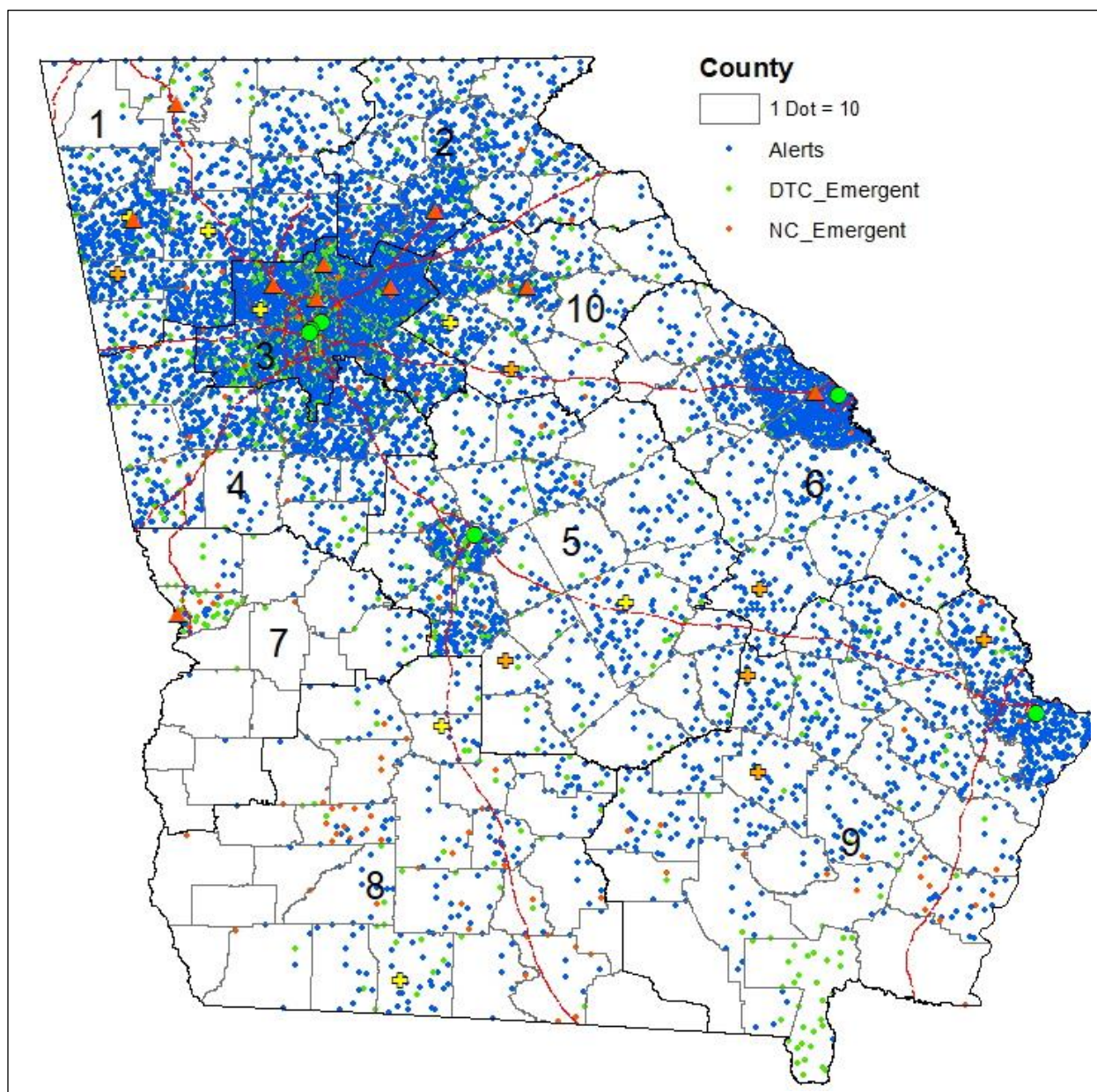


Figure 5.1: Trauma alerts treated at DTC (blue dots), at-risk emergency injured treated at DTC (green dots) and at-risk emergency injured treated at NC (red dots), 2016-2020.

Table 5.1 shows the annual number of injured patients and the percentage treated at a DTC, including both trauma alerts and emergent cases. The table is divided into three parts with the left third showing all patients, regardless of at-risk status. Annually, approximately 21% were treated at a DTC as a trauma alert. Another 46 to 51% were treated at a DTC but classified as emergencies. The center third of the table shows the number of injured patients who were classified as at-risk. On average, over 90% of this group was treated at a DTC. From 2017 to 2020, the percentage triaged as trauma alerts was around 40% with another 52%, on average, classified as emergencies. The final third of Table 5.1 shows where low to moderate risk patients were treated. Close to 70% of this group was treated at a DTC.

Table 5.1: The number and percentage of injured patients, by year and severity level, treated at a DTC

Year	All injured patients				At risk injured patients				Low to moderate risk			
	To a DTC				To a DTC				To a DTC			
	All	As Alert	As EM*	Total	All	As Alert	As EM*	Total	All	As Alert	As EM*	Total
2016	76,646	18%	51%	69%	4,239	27%	56%	83%	72,407	17%	50%	68%
2017	80,379	22%	46%	69%	3,785	41%	50%	90%	76,594	21%	46%	68%
2018	85,382	21%	49%	69%	3,489	39%	53%	92%	81,893	20%	49%	68%
2019	91,676	21%	50%	71%	3,782	40%	51%	92%	87,894	20%	50%	70%
2020	91,390	22%	49%	71%	3,994	40%	53%	93%	87,396	22%	49%	70%

\*EM = Emergency

Table 5.2: The number and percentage of at-risk injured patients, by year and age group, treated at a DTC

	Pediatric				Non-Elderly Adults				Elderly			
	To a DTC				To a DTC				To a DTC			
	N	As Alert	As EM	Total	N	As Alert	As EM	Total	N	As Alert	As EM	Total
2016	183	11%	87%	98%	2180	29%	61%	90%	1869	25%	48%	73%
2017	128	29%	71%	100%	1925	43%	53%	96%	1725	40%	44%	83%
2018	127	19%	81%	100%	1725	41%	56%	97%	1630	38%	47%	85%
2019	134	18%	82%	100%	1946	41%	56%	97%	1686	41%	44%	85%
2020	105	7%	92%	99%	2308	40%	56%	97%	1550	42%	45%	87%

Table 5.2 shows the proportion of at-risk injured patients who were treated at a DTC by age group. Nearly 100% of pediatric patients categorized as at-risk were treated at a DTC. With the exception of 2016, the percent of non-elderly adults treated at a DTC was over 96%. In contrast, the percentage of elderly injured patients, classified as at-risk and triaged to a DTC, was under 90% in all years, reaching a high of 87% in 2020. Figure 5.2 shows the trend in triage to a DTC for 2003 to 2020. Figure 5.3 shows the same information, using a different format, for selected years to emphasize the longitudinal improvement in triage of at-risk patients to the right type of facility. Finally, Figures 5.4 and 5.5 show the percentage of at-risk injured patients treated at a DTC by age group. In 2020, nearly all at-risk pediatric injured patients were discharged from a DTC. The percentage of at-risk non-elderly adults triaged to a DTC increased from 83 to 97 during the past decade, while the proportion of at-risk elderly treated at a DTC increased from 55 to 87 during that time.

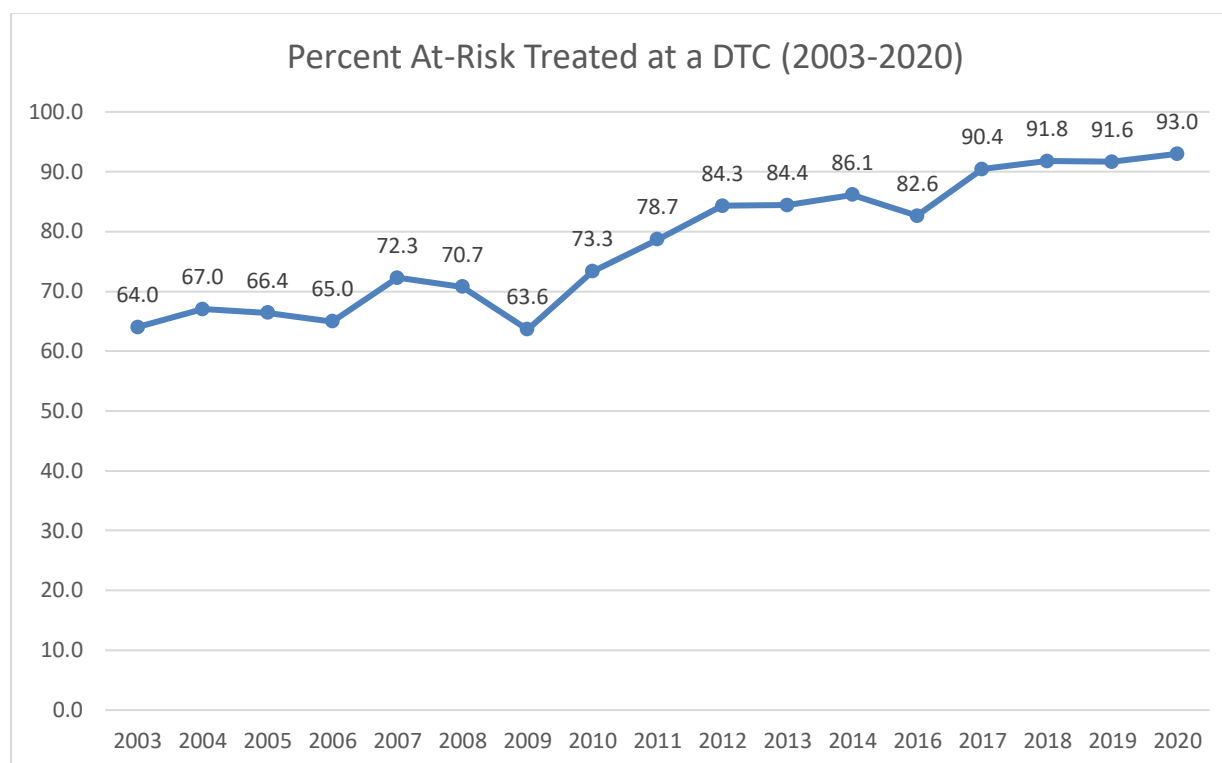


Figure 5.2: The proportion of at-risk patients treated at a DTC (2003-2020)

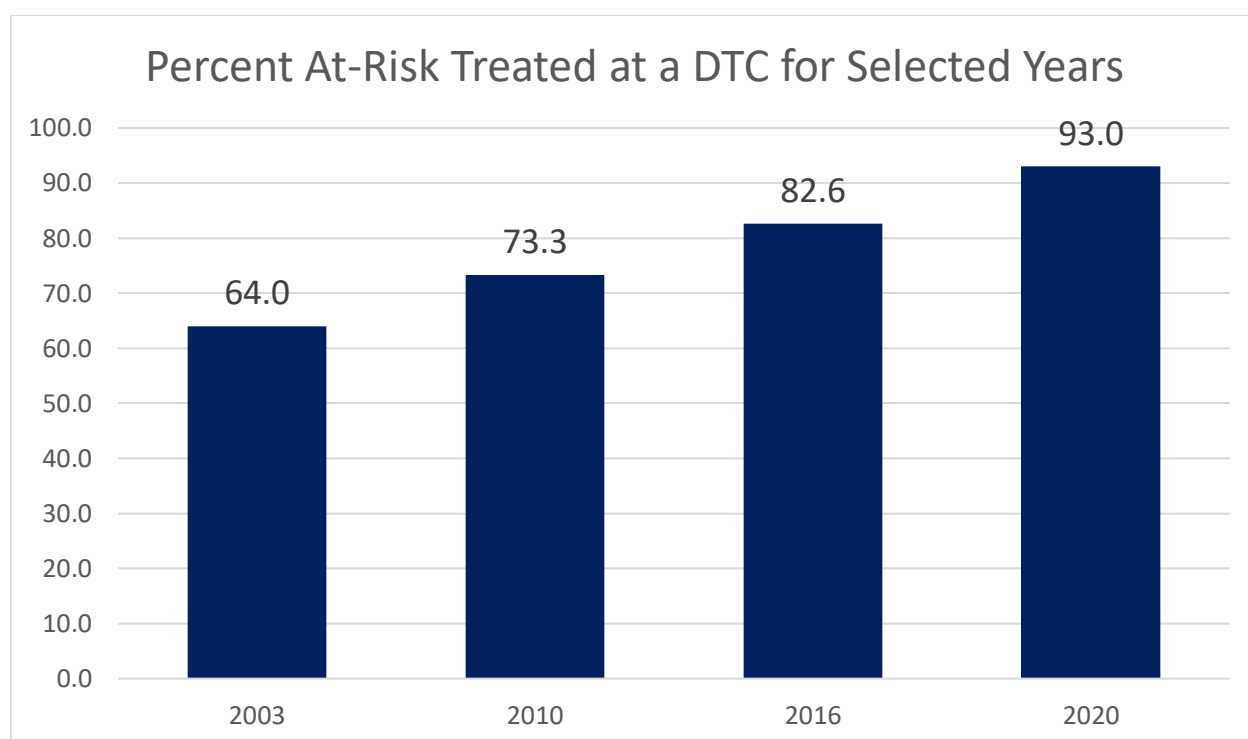


Figure 5.3: The proportion of at-risk patients treated at a DTC for selected years

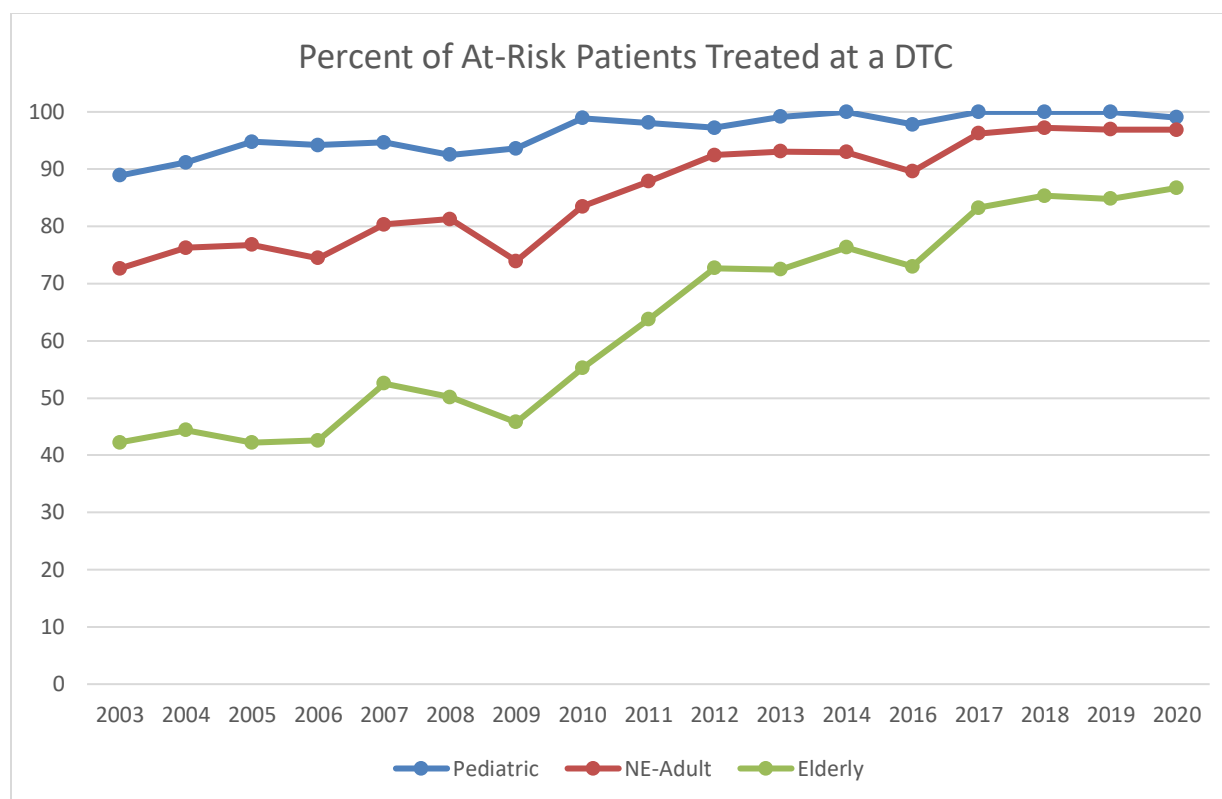


Figure 5.4: The percentage of at-risk injured patients by age group treated at a DTC from 2003 to 2020

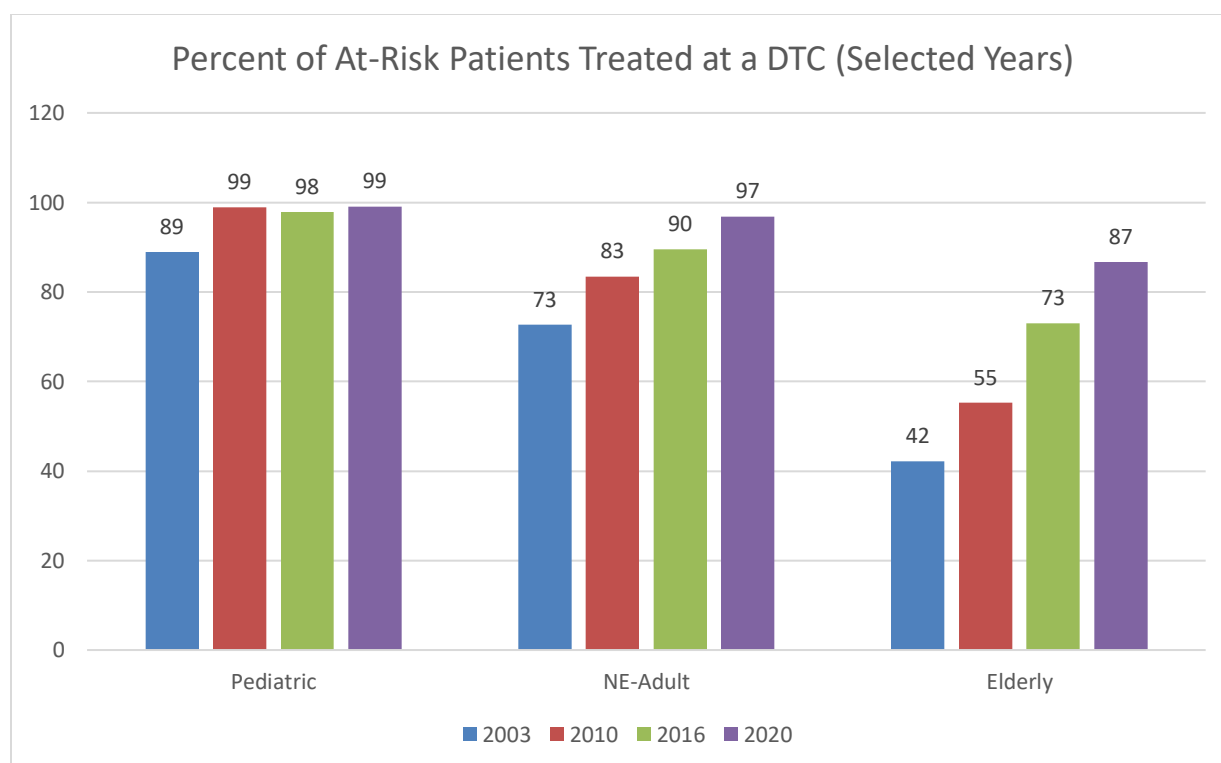


Figure 5.5: Percent of at-risk injured patients treated at a DTC in selected years by age group

## 6. Potential Under or Over Triage

The trauma system is designed to transport injured patients to the appropriate level of care in the shortest possible time. When an at-risk patient is transported to a non-trauma center, it may present an inappropriate level of care, holding all other factors such as distance to the nearest trauma center fixed. Patients in this group (severely injured, indicating relatively high mortality risk, but triaged to a non-trauma center) are categorized here as “potentially under-triaged”. Conversely, potential over-triage happens when patients with low to moderately severe injuries but are transported to a trauma center, again holding all other factors such as distance fixed.

Before examining the rates of potential under or over triage, it is noteworthy that the system is designed to minimize under-triage, which could result in delays in definitive life-saving care. In other words, the system has a built-in bias toward over-triage, even though this (minor injuries treated at a trauma center) may have adverse effects, particularly the overuse of limited trauma center resources. It is further noteworthy that our definition of over-triage is overly broad as it does not account for patients who are injured in relative proximity of the treating trauma center. This scenario is most likely in urban and suburban areas with a relatively high density of trauma centers and would not represent over-triage but transport of a patient to the nearest facility. This is to say that the over-triage figures presented here should be interpreted with caution.

Table 6.1 provides a comparison of two groups of patients. The first (center column) involves potentially under-triaged patients who were classified as at-risk, meaning severe injuries associated with high probability of mortality, but who were treated at a non-trauma center. There were 1,981 patients in this group between 2016 and 2020. They tended to be elderly (75.4%), relatively evenly distributed based on gender, white (73.7%), and covered through Medicare (69.4%). EMS Region 3 accounted for 31.7% of under-triaged patients. EMS Regions 8 and 9 accounted for, combined, another 32.7% of under-triaged patients. Approximately a third (31.6%) of under-triaged patients had TBI, while SSCI and injuries to the thorax affected, respectively, 29.4 and 28.1%. The mortality rate of under-triaged patients was 10.4% (compared to 16.1% for all at-risk trauma alert patients treated at a DTC). The third column of Table 6.1 shows the comparative characteristics of potentially over-triaged (low to moderately severe injuries treated at a DTC) patients. They tended to be non-elderly adults (65.8%), male (64.9%), and white (67.2%). Approximately 14.6% were uninsured. The most frequently occurring sources of insurance coverage for this group were Medicare (29.3%) and commercial (22.9%). Almost 45% of over-triaged patients were treated in EMS Region 3. The percent of TBI was much lower in comparison (9.1%) while SSCI affected 63.8%. The mortality rate for this group was relatively low at 3.7%.



Table 6.1: Comparison of Patient Characteristics by Triage and Discharge Facility

	At-Risk Patients Treated at NC (Potential Under-triage)	Low to Moderate Severity Treated at a DTC (Potential Over-triage)
N (2016-2020)	1981	81829
Pediatric	0.3	1.1
NE-Adult	24.2	65.8
Elderly	75.4	32.9
Female	48.5	35.1
Male	51.5	64.9
Black	22.6	23.7
White	73.7	67.2
Other Race	3.7	9.1
Uninsured	9.8	14.6
Medicaid	3.5	7.2
Medicare	69.4	29.3
Commercial	8.3	22.9
Workers Comp	0.5	1.8
Other Ins	8.2	24.2
EMS Region of Facility		
1	3.9	6.9
2	6.9	9.4
3	31.7	44.9
4	9.2	
5	4.1	8.5
6	3.6	15.6
7	4.3	0.1
8	19.9	0.9
9	12.8	10.7
10	2.1	3.0
Injury Type		
TBI	31.6	9.1
SSCI	29.4	63.8
Fracture	9.3	13.9
Thorax	28.1	9.3
Vascular	4.4	1.4
Other Injury	26.0	15.6
Outcomes		
LOS (Mean Days)	7.1	8.0
Mortality	10.40	3.77

## 7. At Risk Patients Treated at TC & NC

Table 7.1: At risk patients treated at TC & NC

Facility Number	Name	County	TC Level	At-risk patients (2016-2020)
EMS01				
142	Floyd Medical Center	Floyd	2	296
82	Hamilton Medical Center	Whitfield	3	117
164	Redmond Regional Medical Center	Floyd	3	94
126	Northside Hospital Cherokee	Cherokee		35
127	Cartersville Medical Center*	Bartow		27
EMS02				
145	Northeast Medical Center	Hall	2	883
59	Northside Hospital Forsyth	Forsyth		109
9	Cobb Medical Center	Franklin		23
EMS03				
179	Grady Memorial Hospital	Fulton	1	4750
178	Atlanta Medical Center	Fulton	1	1570
147	Wellstar Kennestone Hospital	Cobb	2	1461
69	Gwinnett Medical Center	Gwinnett	2	1035
49	North Fulton Regional Hospital	Fulton	2	472
83	Children's Healthcare Atlanta - Engleston	DeKalb	1	306
113	Children's Healthcare Atlanta - Scottish Rite	Fulton	2	234
130	Cartersville Medical Center*	Cobb	3	159
176	Emory University Hospital	DeKalb		146
182	Saint Joseph's Hospital of Atlanta	Fulton		104
EMS04				
43	Piedmont Fayette Hospital	Fayette		51
91	Tanner Medical Center Carrollton	Carroll		34
EMS05				
180	Medical Center of Central Georgia (Navicent)	Bibb	1	2075
92	Houston Medical Center	Houston		43
110	Polk Medical Center	Laurens	3	34
163	Coliseum Medical Centers (Piedmont Macon)	Bibb		21

Table 7.1 (continued): At risk patients treated at TC &amp; NC

Facility Number	Name	County	TC Level	At-risk patients (2016-2020)
EMS06				
<b>184</b>	<b>Augusta University Medical College of GA</b>	<b>Richmond</b>	<b>1</b>	<b>1200</b>
<b>190</b>	<b>Doctor's Hospital of Augusta</b>	<b>Richmond</b>	<b>2</b>	<b>356</b>
183	Select Specialty Hospital Augusta	Richmond		79
EMS07				
<b>174</b>	<b>Midtown Medical Center</b>	<b>Muscogee</b>	<b>2</b>	<b>534</b>
151	St Francis Hospital	Muscogee		90
EMS08				
148	Phoebe Putney Memorial Hospital	Dougherty		242
<b>146</b>	<b>John D. Archbold Memorial Hospital</b>	<b>Thomas</b>	<b>3</b>	<b>239</b>
150	South Georgia Medical Center	Lowndes		121
EMS09				
<b>173</b>	<b>Memorial Health University Medical Center</b>	<b>Chatham</b>	<b>1</b>	<b>1776</b>
108	Southeast GA H-Systems Brunswick Campus	Glynn		100
153	St. Joseph's Hospital Savannah	Chatham		73
EMS10				
<b>139</b>	<b>Athens Regional Medical Center</b>	<b>Clarke</b>	<b>2</b>	<b>749</b>
154	St. Mary's Health Care System	Clarke		48
733	St Josephs at East Georgia	Greene		13
<b>54</b>	<b>Clearview Regional Medical Center</b>	<b>Walton</b>	<b>3</b>	<b>11</b>

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## **Appendix A: EMS Regions, Ground Transportation Times, Treatment at DTC, and Retention**

This appendix contains detailed tables for each of Georgia's 10 EMS Regions. For each region, there is one figure showing the location of the EMS Region, the counties contained in it, and their 2020 Census population.

The figure is followed by three tables, showing the following:

- A. The average ground transportation distances and times for the EMS Region's residents to the nearest DTC by county. In each case, the average ground transportation distance is shown, in miles, for residents to the nearest Level I or II DTC in the 2<sup>nd</sup> column. The 3<sup>rd</sup> column shows the average ground transportation distance to the nearest DTC including Level III and IV facilities. The 4<sup>th</sup> and 5<sup>th</sup> columns show the average ground transportation times to a DTC, excluding and including Level III and IV facilities.
- B. The second table for each EMS Region shows the following.  
Column:
  1. County name
  2. The number of at-risk patients residing in the county
  3. The number of at-risk patients treated at a DTC
  4. The percentage of at-risk patients treated at a DTC (a measure of access)
  5. The number of at-risk patients treated at a DTC in the EMS region where they reside.
  6. The percentage of at-risk patients treated at a DTC in the EMS region where they reside (a measure of retention).
  7. The annual average rate of at-risk patients per 100,000 population.
- C. The third table associated with each EMS Region shows the time series of at-risk patients, the proportion who were triaged to a DTC, and the retention rate.

In addition to the EMS Region specific figures and charts, three tables at the conclusion of the appendix show comparative statistics relevant to the 10 regions. They include the demographic characteristics of at-risk patients, the percent of inpatient episodes involving major injury types, and the population per square mile.

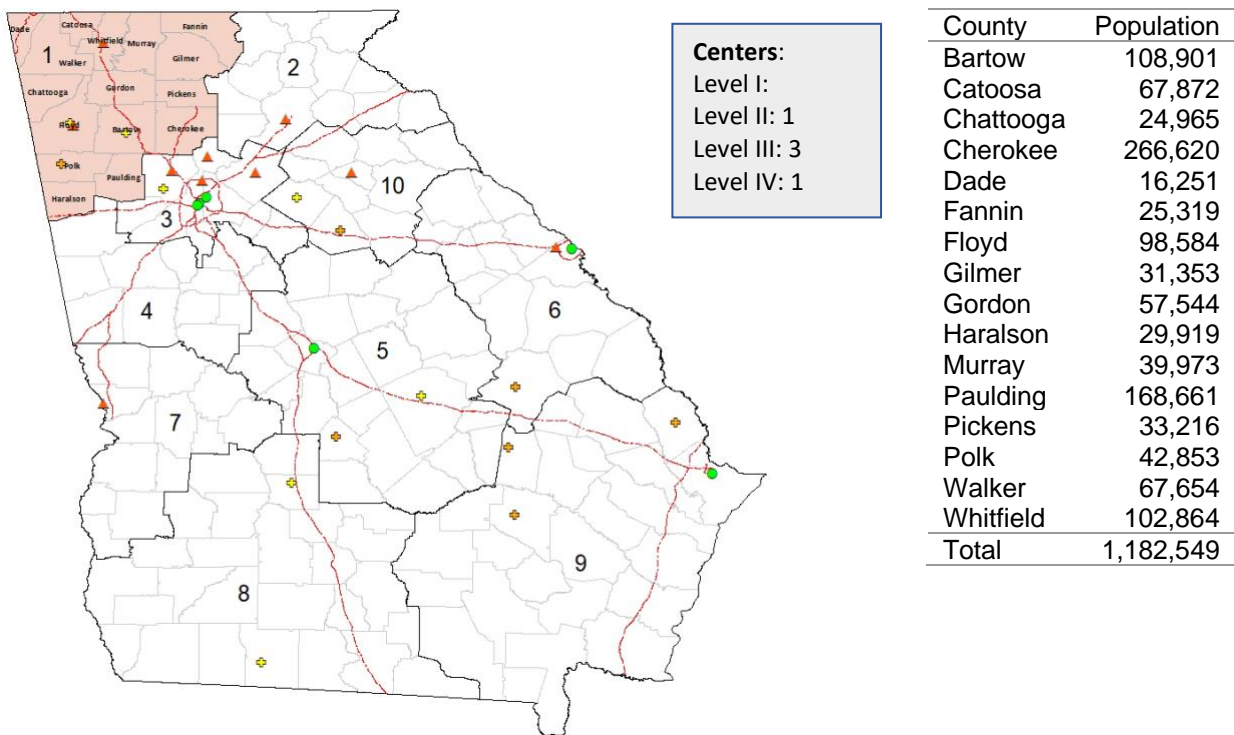
**A1: EMS Region 1**

Figure A1.1: EMS Region 1

Table A1.1: Average ground transportation distances and times for EMS Region 1 residents to the nearest DTC

County	Average ground transportation			
	Distance to		Time to	
	Nearest Level I or II	Nearest Level I, II, III, or IV	Nearest Level I or II	Nearest Level I, II, III, or IV
Bartow	23.4	9.1	29.8	15.6
Catoosa	60.8	19.6	69.4	25.3
Chattooga	25.7	25.4	34.5	34.4
Cherokee	16.2	15.6	25.4	24.5
Dade	69.1	47.7	85.9	53.4
Fannin	72.2	59.2	86.8	81.6
Floyd	6.6	6.3	12.2	11.7
Gilmer	54.5	40.4	67.4	58.6
Gordon	27.9	23.6	36.9	28.8
Haralson	41.4	24.2	50.6	29.6
Murray	50.0	16.5	67.4	28.8
Paulding	20.6	16.1	35.0	27.2
Pickens	38.0	35.0	48.8	46.0
Polk	21.4	7.7	29.8	11.0
Walker	50.3	27.4	65.0	39.6
Whitfield	50.0	6.5	59.7	13.8
EMS 1 Mean	32.0	17.8	42.2	26.5
EMS 1 Median	26.1	15.7	36.5	25.0

Table A1.2: At risk patients, triage to a DTC, retention, and rate/100,000 population for EMS Region 1

County	At risk patients	At risk patients treated at a center	Percent treated at a center	At risk patients treated at a center in EMS1	Retention (% of TC treated in EMS1)	Annual average at risk patients per 100000 population
Bartow	194	181	93%	41	23%	35.63
Catoosa	6	5	83%	3	60%	1.77
Chattooga	41	41	100%	39	95%	32.85
Cherokee	308	274	89%	7	3%	23.10
Dade	2	2	100%		0%	2.46
Fannin	28	24	86%	1	4%	22.12
Floyd	197	196	99%	173	88%	39.97
Gilmer	54	49	91%		0%	34.45
Gordon	47	38	81%	27	71%	16.34
Haralson	81	77	95%	13	17%	54.15
Murray	28	28	100%	24	86%	14.01
Paulding	254	237	93%	8	3%	30.12
Pickens	66	64	97%		0%	39.74
Polk	78	77	99%	44	57%	36.40
Walker	12	8	67%	4	50%	3.55
Whitfield	83	83	100%	73	88%	16.14
Total	1479	1384	94%	457	33%	25.01

Table A1.3: At risk patients from EMS Region 1, triage to a DTC, and retention by year, 2010-2020

Year	At Risk	DTC	DTC in EMS 1	Level I/II DTC in EMS 1	% DTC	% Retention	% Retention Level I or II
2010	239	145	60	60	60.7%	25.1%	25.1%
2011	217	133	46	46	61.3%	21.2%	21.2%
2012	210	172	53	53	81.9%	25.2%	25.2%
2013	226	183	59	59	81.0%	26.1%	26.1%
2014	241	218	91	73	90.5%	37.8%	30.3%
2016	289	256	107	87	88.6%	37.0%	30.1%
2017	271	254	77	66	93.7%	28.4%	24.4%
2018	285	271	80	63	95.1%	28.1%	22.1%
2019	286	277	82	60	96.9%	28.7%	21.0%
2020	348	326	111	85	93.7%	31.9%	24.4%

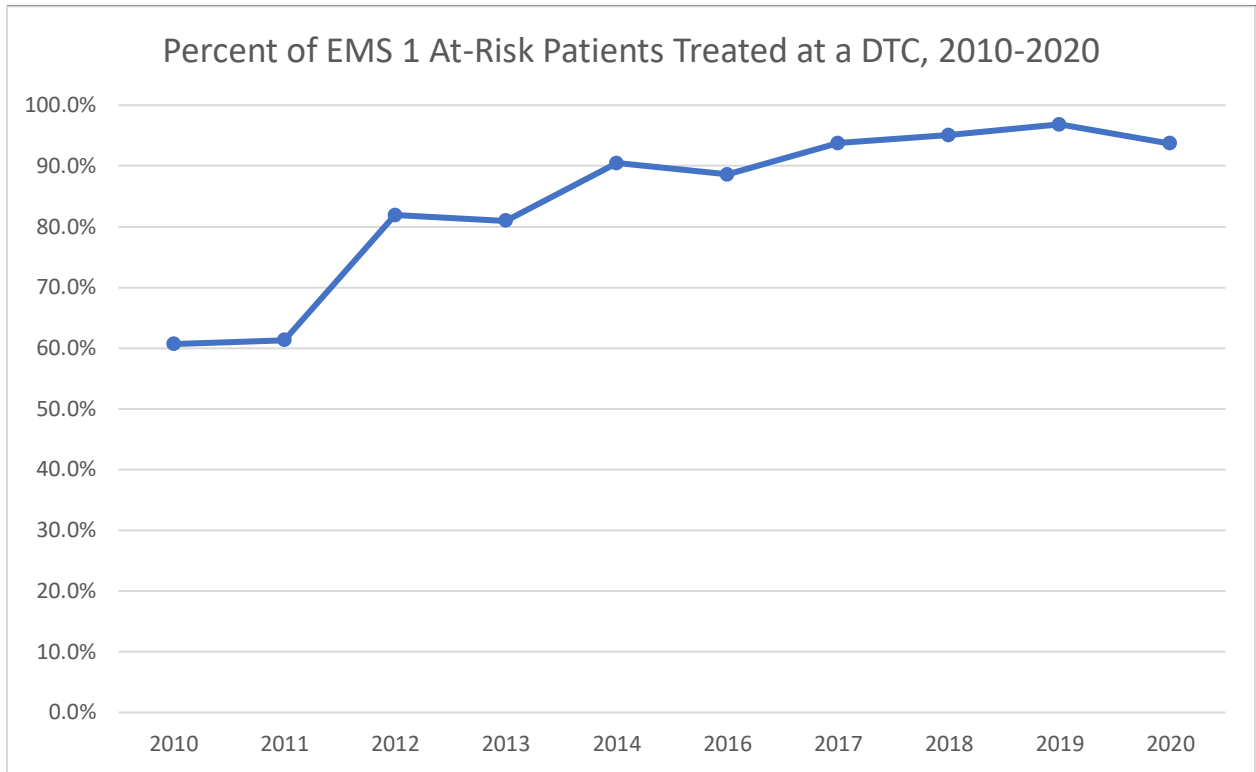


Figure A1.2: The percent of EMS Region 1 at-risk patients treated at a DTC, 2010-2020



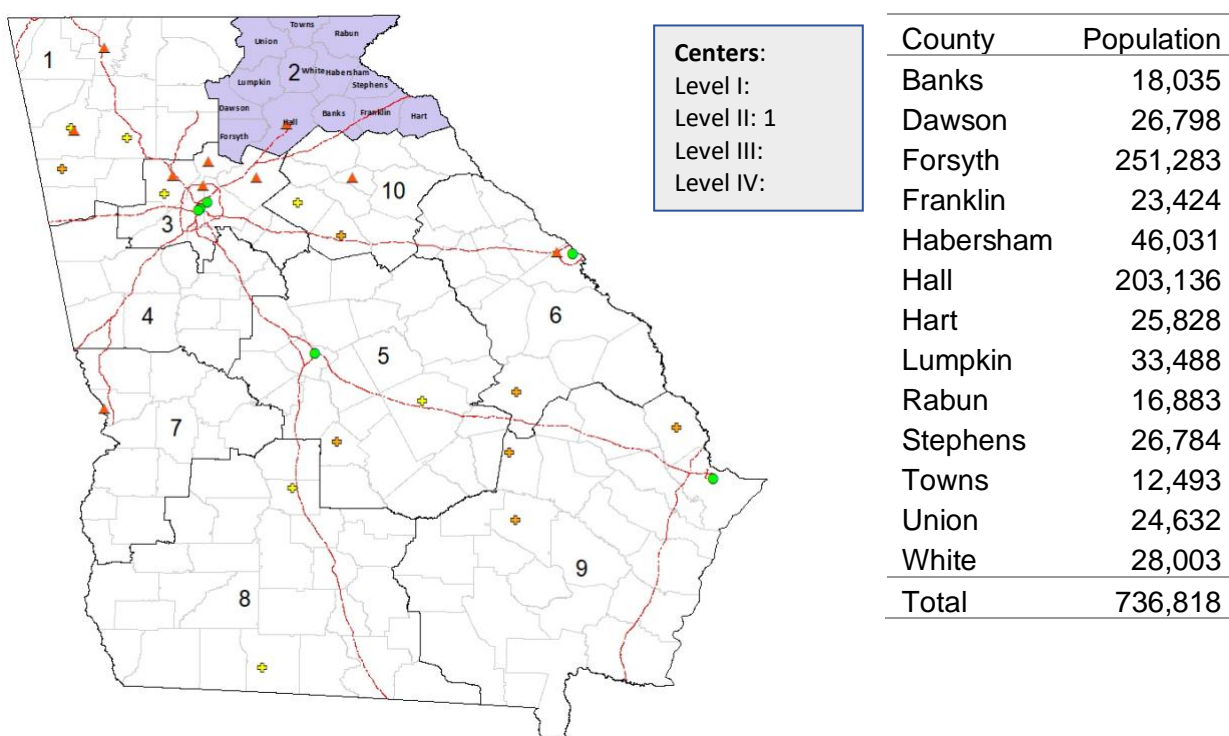
**A2: EMS Region 2**

Figure A2.1: EMS Region 2

Table A2.1: Average ground transportation distances and times for EMS Region 2 residents to the nearest DTC

County	Average ground transportation			
	Distance to		Time to	
	Nearest Level I or II	Nearest Level I, II, III, or IV	Nearest Level I or II	Nearest Level I, II, III, or IV
Banks	23.7	23.7	33.7	33.7
Dawson	26.0	26.0	41.2	41.2
Forsyth	16.6	16.6	27.0	27.0
Franklin	37.7	37.7	49.4	49.4
Habersham	29.2	29.2	36.9	36.9
Hall	8.8	8.8	16.6	16.6
Hart	45.5	45.5	59.1	59.1
Lumpkin	23.4	23.4	35.5	35.5
Rabun	59.3	59.3	74.1	74.1
Stephens	43.9	43.9	51.6	51.6
Towns	58.3	58.3	84.7	84.7
Union	58.9	58.7	85.1	84.7
White	27.4	27.4	39.8	39.8
EMS 2 Mean	25.3	25.3	36.4	36.4
EMS 2 Median	20.0	20.0	30.0	30.0

Table A2.2: At risk patients, triage to a DTC, retention, and rate/100,000 population for EMS Region 2

County	At risk patients	At risk patients treated at a center	Percent treated at a center	At risk patients treated at a center in EMS2	Retention (% of TC treated in EMS2)	Annual average at risk patients per 100000 population
Banks	31	30	97%	18	60%	34.38
Dawson	52	41	79%	25	61%	38.81
Forsyth	247	169	68%	29	17%	19.66
Franklin	45	37	82%	9	24%	38.42
Habersham	75	68	91%	60	88%	32.59
Hall	323	319	99%	265	83%	31.80
Hart	13	10	77%	1	10%	10.07
Lumpkin	59	57	97%	43	75%	35.24
Rabun	32	31	97%	29	94%	37.91
Stephens	57	48	84%	39	81%	42.56
Towns	25	22	88%	22	100%	40.02
Union	53	51	96%	40	78%	43.03
White	59	58	98%	50	86%	42.14
Total	1071	941	88%	630	67%	29.07

Table A2.3: At risk patients from EMS Region 2, triage to a DTC, and retention by year, 2010-2020

Year	At Risk	DTC	DTC in EMS 2	Level I/II DTC in EMS 2	% DTC	% Retention	% Retention Level I or II
2010	190	68	0	0	35.8%	0.0%	0.0%
2011	185	96	0	0	51.9%	0.0%	0.0%
2012	141	77	0	0	54.6%	0.0%	0.0%
2013	164	73	0	0	44.5%	0.0%	0.0%
2014	148	117	56	56	79.1%	37.8%	37.8%
2016	225	184	117	117	81.8%	52.0%	52.0%
2017	196	180	130	130	91.8%	66.3%	66.3%
2018	207	196	126	126	94.7%	60.9%	60.9%
2019	225	199	128	128	88.4%	56.9%	56.9%
2020	218	182	129	129	83.5%	59.2%	59.2%

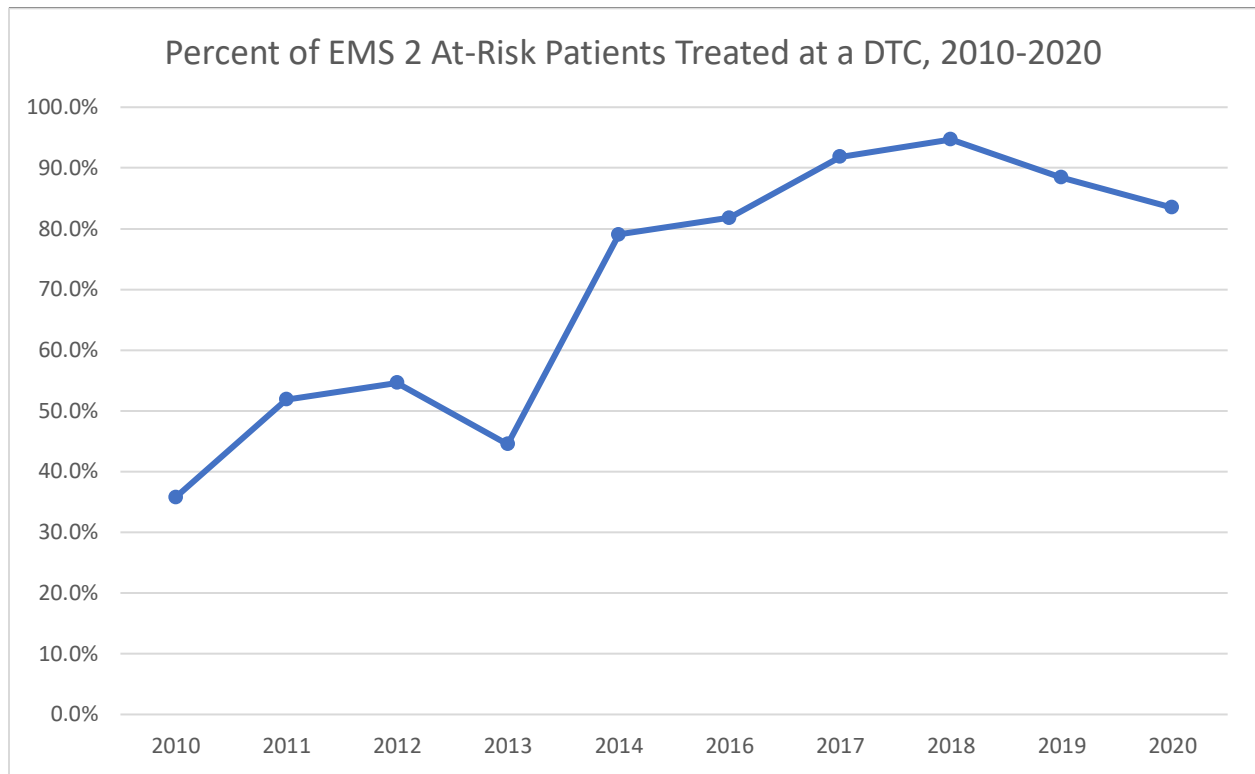


Figure A2.2: The percent of EMS Region 2 at-risk patients treated at a DTC, 2010-2020

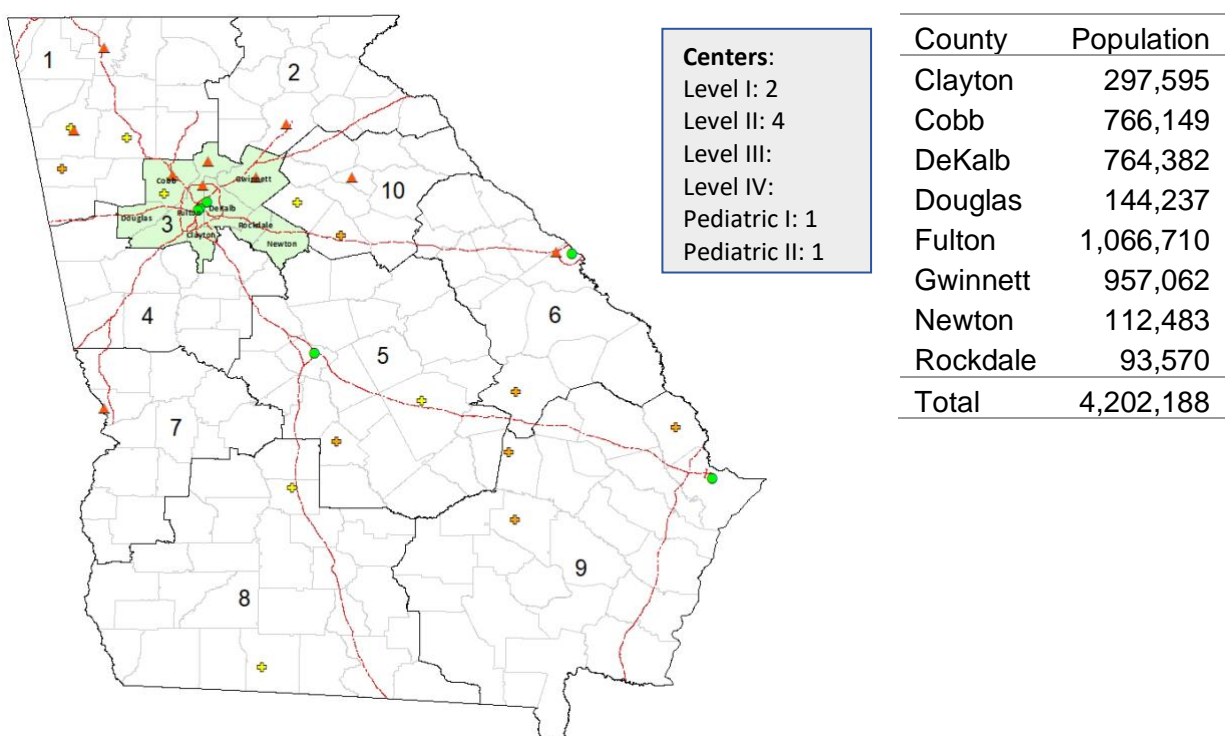
**A3: EMS Region 3**

Figure A3.1: EMS Region 3

Table A3.1: Average ground transportation distances and times to the nearest DT for EMS Region 3 residents C

County	Average ground transportation			
	Distance to		Time to	
	Nearest Level I or II	Nearest Level I, II, III, or IV	Nearest Level I or II	Nearest Level I, II, III, or IV
Clayton	17.1	17.1	26.3	26.3
Cobb	8.7	7.1	17.1	14.6
DeKalb	8.3	8.3	17.8	17.8
Douglas	23.9	15.8	31.3	27.4
Fulton	7.4	7.3	14.7	14.7
Gwinnett	9.6	9.6	19.0	18.9
Newton	33.7	22.8	43.4	33.2
Rockdale	26.2	22.1	33.6	31.9
EMS 3 Mean	10.4	9.5	18.9	18.0
EMS 3 Median	8.8	8.3	18.0	17.0

Table A3.2: At risk patients, triage to a DTC, retention, and rate/100,000 population for EMS Region 3

County	At risk patients	At risk patients treated at a center	Percent treated at a center	At risk patients treated at a center in EMS3	Retention (% of TC treated in EMS3)	Annual average at risk patients per 100000 population
Clayton	614	585	95%	563	96%	Clayton
Cobb	1043	975	93%	947	97%	Cobb
DeKalb	1525	1349	88%	1317	98%	DeKalb
Douglas	231	215	93%	211	98%	Douglas
Fulton	2192	2008	92%	1955	97%	Fulton
Gwinnett	1220	1124	92%	1049	93%	Gwinnett
Newton	225	210	93%	181	86%	Newton
Rockdale	189	168	89%	158	94%	Rockdale
Total	7239	6634	92%	6381	96%	Total

Table A3.3: At risk patients from EMS Region 3, triage to a DTC, and retention by year, 2010-2020

Year	At Risk	DTC	DTC in EMS 3	Level I/II DTC in EMS 3	% DTC	% Retention	% Retention Level I or II
2010	858	648	624	624	75.5%	72.7%	72.7%
2011	922	721	694	694	78.2%	75.3%	75.3%
2012	896	783	748	748	87.4%	83.5%	83.5%
2013	889	782	746	746	88.0%	83.9%	83.9%
2014	968	852	822	822	88.0%	84.9%	84.9%
2016	1512	1269	1203	1203	83.9%	79.6%	79.6%
2017	1297	1203	1149	1149	92.8%	88.6%	88.6%
2018	1335	1240	1200	1200	92.9%	89.9%	89.9%
2019	1477	1377	1331	1312	93.2%	90.1%	88.8%
2020	1618	1545	1498	1477	95.5%	92.6%	91.3%

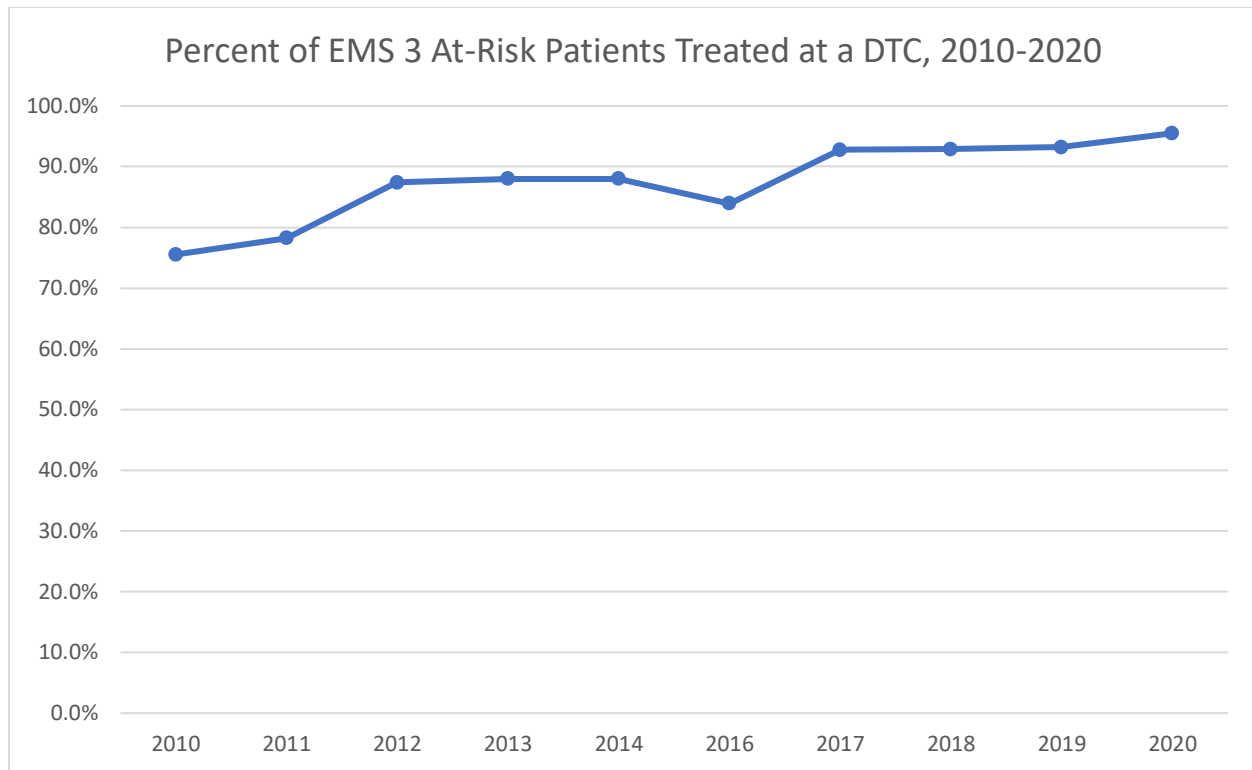


Figure A3.2: The percent of EMS Region 3 at-risk patients treated at a DTC, 2010-2020

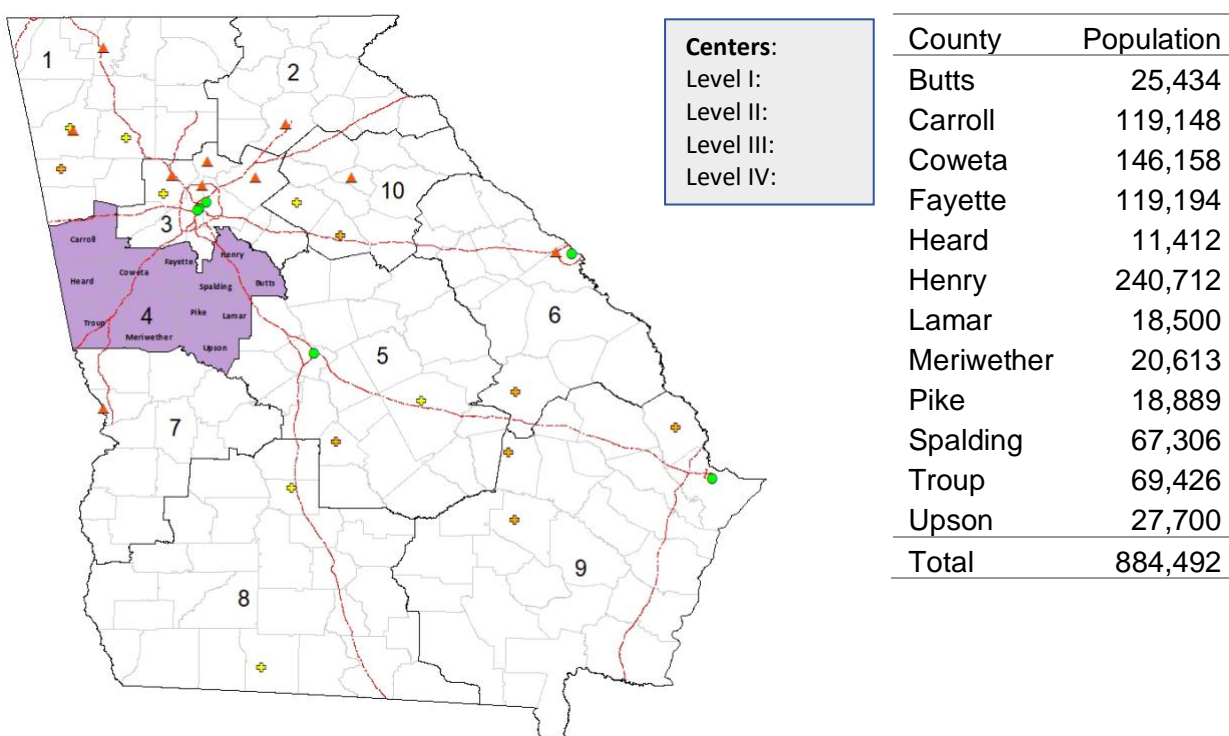
**A4: EMS Region 4**

Figure A4.1: EMS Region 4

Table A4.1: Average ground transportation distances and times for EMS Region 4 residents to the nearest DTC

County	Average ground transportation			
	Distance to		Time to	
	Nearest Level I or II	Nearest Level I, II, III, or IV	Nearest Level I or II	Nearest Level I, II, III, or IV
Butts	42.9	40.8	50.9	48.9
Carroll	46.2	35.8	53.1	44.5
Coweta	39.4	39.3	44.4	44.4
Fayette	28.7	28.7	39.7	39.7
Heard	63.5	58.0	71.9	68.0
Henry	29.7	29.3	37.9	37.7
Lamar	39.8	39.8	46.7	46.7
Meriwether	46.8	46.8	56.2	56.2
Pike	50.2	50.2	65.3	65.3
Spalding	41.0	41.0	53.5	53.5
Troup	46.1	46.1	50.9	50.9
Upson	46.2	46.2	59.9	59.9
EMS 4 Mean	38.6	36.8	47.0	45.6
EMS 4 Median	38.65	37.1	47	45

Table A4.2: At risk patients, triage to a DTC, retention, and rate/100,000 population for EMS Region 4

	At risk patients	At risk patients treated at a center	Percent treated at a center	At risk patients treated at a center in EMS4	Retention (% of TC treated in EMS4)	Annual average at risk patients per 100000 population
Butts	67	64	96%	0	0.0	52.69
Carroll	265	250	94%	0	0.0	44.48
Coweta	247	222	90%	0	0.0	33.80
Fayette	204	176	86%	0	0.0	34.23
Heard	47	46	98%	0	0.0	82.37
Henry	377	348	92%	0	0.0	31.32
Lamar	33	29	88%	0	0.0	35.68
Meriwether	47	35	74%	0	0.0	45.60
Pike	44	43	98%	0	0.0	46.59
Spalding	147	136	93%	0	0.0	43.68
Troup	156	134	86%	0	0.0	44.94
Upson	65	55	85%	0	0.0	46.93
Total	1699	1538	91%	0	0.0	38.42

Table A4.3: At risk patients from EMS Region 4, triage to a DTC, and retention by year, 2010-2020

Year	At Risk	DTC	DTC in EMS 4	Level I/II DTC in EMS 4	% DTC	% Retention	% Retention Level I or II
2010	188	149	0	0	79.3%	0.0%	0.0%
2011	232	196	0	0	84.5%	0.0%	0.0%
2012	236	196	0	0	83.1%	0.0%	0.0%
2013	209	180	0	0	86.1%	0.0%	0.0%
2014	220	192	0	0	87.3%	0.0%	0.0%
2016	336	264	0	0	78.6%	0.0%	0.0%
2017	315	283	0	0	89.8%	0.0%	0.0%
2018	320	300	0	0	93.8%	0.0%	0.0%
2019	350	329	0	0	94.0%	0.0%	0.0%
2020	378	362	0	0	95.8%	0.0%	0.0%



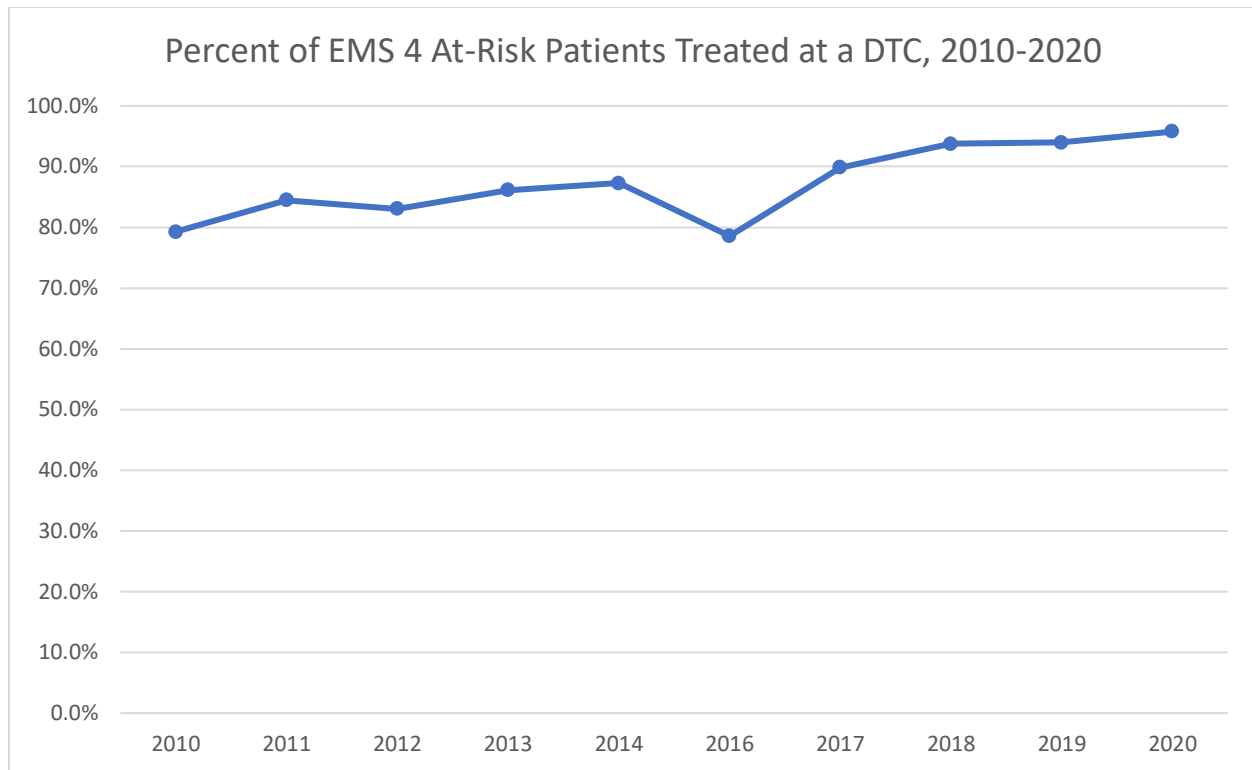


Figure A4.2: The percent of EMS Region 4 at-risk patients treated at a DTC, 2010-2020

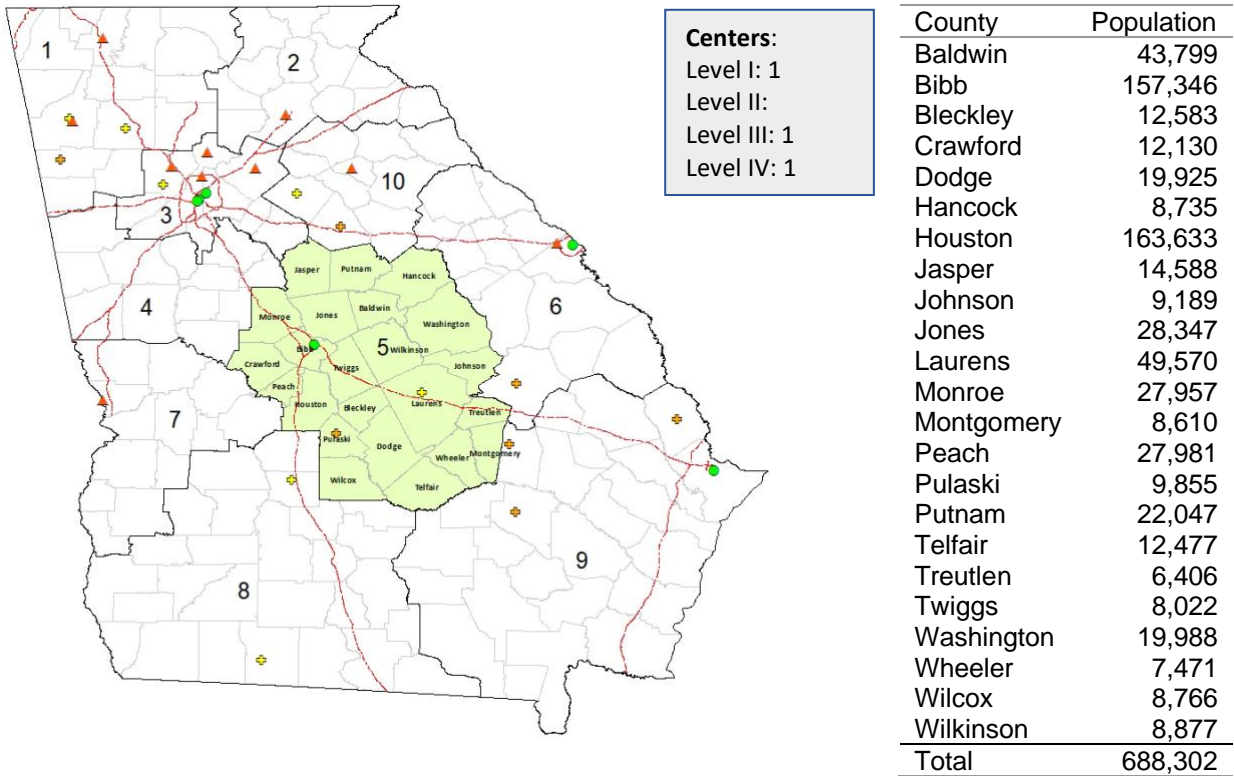
**A5: EMS Region 5**

Figure A5: EMS Region 5

Table A5.1: Average ground transportation distances and times for EMS Region 5 residents to the nearest DTC

County	Average ground transportation			
	Distance to		Time to	
	Nearest Level I or II	Nearest Level I, II, III, or IV	Nearest Level I or II	Nearest Level I, II, III, or IV
Baldwin	34.1	34.0	45.6	45.0
Bibb	5.7	5.7	12.7	12.7
Bleckley	40.0	14.0	47.3	19.8
Crawford	24.3	24.3	34.9	34.9
Dodge	60.7	24.1	69.2	29.5
Hancock	57.4	49.2	66.7	56.1
Houston	22.5	20.0	30.6	27.1
Jasper	43.0	27.1	55.1	34.2
Johnson	64.8	24.6	75.0	29.5
Jones	14.2	14.2	22.9	22.9
Laurens	55.3	35.3	57.5	43.1
Monroe	24.5	24.5	30.2	30.2
Montgomery	86.9	14.3	88.4	21.7
Peach	24.9	24.6	30.4	30.2
Pulaski	48.3	5.2	56.9	7.9
Putnam	44.3	25.6	57.0	33.7
Telfair	86.8	37.0	92.2	45.8
Treutlen	74.4	20.0	71.9	25.9
Twiggs	21.6	21.3	29.0	29.0
Washington	59.5	44.2	64.1	51.3
Wheeler	80.3	26.9	82.0	37.0
Wilcox	73.7	22.9	80.6	28.7
Wilkinson	29.6	29.6	38.0	38.0
EMS 5 Mean	30.9	20.4	38.2	27.7
EMS 5 Median	26.1	20.2	33.0	27.0

Table A5.2: At risk patients, triage to a DTC, retention, and rate/100,000 population for EMS Region 5

County	At risk patients	At risk patients treated at a center	Percent treated at a center	At risk patients treated at a center in EMS5	Retention (% of TC treated in EMS5)	Annual average at risk patients per 100000 population
Baldwin	98	90	92%	84	93%	44.75
Bibb	441	422	96%	402	95%	56.05
Bleckley	18	17	94%	16	94%	28.61
Crawford	49	47	96%	45	96%	80.79
Dodge	40	37	93%	34	92%	40.15
Hancock	21	19	90%	14	74%	48.08
Houston	296	265	90%	235	89%	36.18
Jasper	35	35	100%	15	43%	47.98
Johnson	25	24	96%	16	67%	54.41
Jones	66	66	100%	64	97%	46.57
Laurens	121	116	96%	97	84%	48.82
Monroe	82	79	96%	73	92%	58.66
Montgomery	23	23	100%	3	13%	53.43
Peach	65	59	91%	56	95%	46.46
Pulaski	22	22	100%	19	86%	44.65
Putnam	65	60	92%	39	65%	58.96
Telfair	25	25	100%	21	84%	40.07
Treutlen	17	17	100%	9	53%	53.08
Twiggs	31	31	100%	28	90%	77.29
Washington	52	51	98%	18	35%	52.03
Wheeler	13	13	100%	7	54%	34.80
Wilcox	26	26	100%	19	73%	59.32
Wilkinson	34	32	94%	28	88%	76.60
Total	1665	1576	95%	1342	85%	48.38

Table A5.3: At risk patients from EMS Region 5, triage to a DTC, and retention by year, 2010-2020

Year	At Risk	DTC	DTC in EMS 5	Level I/II DTC in EMS 5	% DTC	% Retention	% Retention Level I or II
2010	306	269	227	227	87.9%	74.2%	74.2%
2011	259	230	203	202	88.8%	78.4%	78.0%
2012	290	262	217	214	90.3%	74.8%	73.8%
2013	274	250	211	211	91.2%	77.0%	77.0%
2014	254	223	188	187	87.8%	74.0%	73.6%
2016	343	305	257	256	88.9%	74.9%	74.6%
2017	266	252	208	206	94.7%	78.2%	77.4%
2018	322	313	267	254	97.2%	82.9%	78.9%
2019	359	341	293	287	95.0%	81.6%	79.9%
2020	375	365	317	312	97.3%	84.5%	83.2%

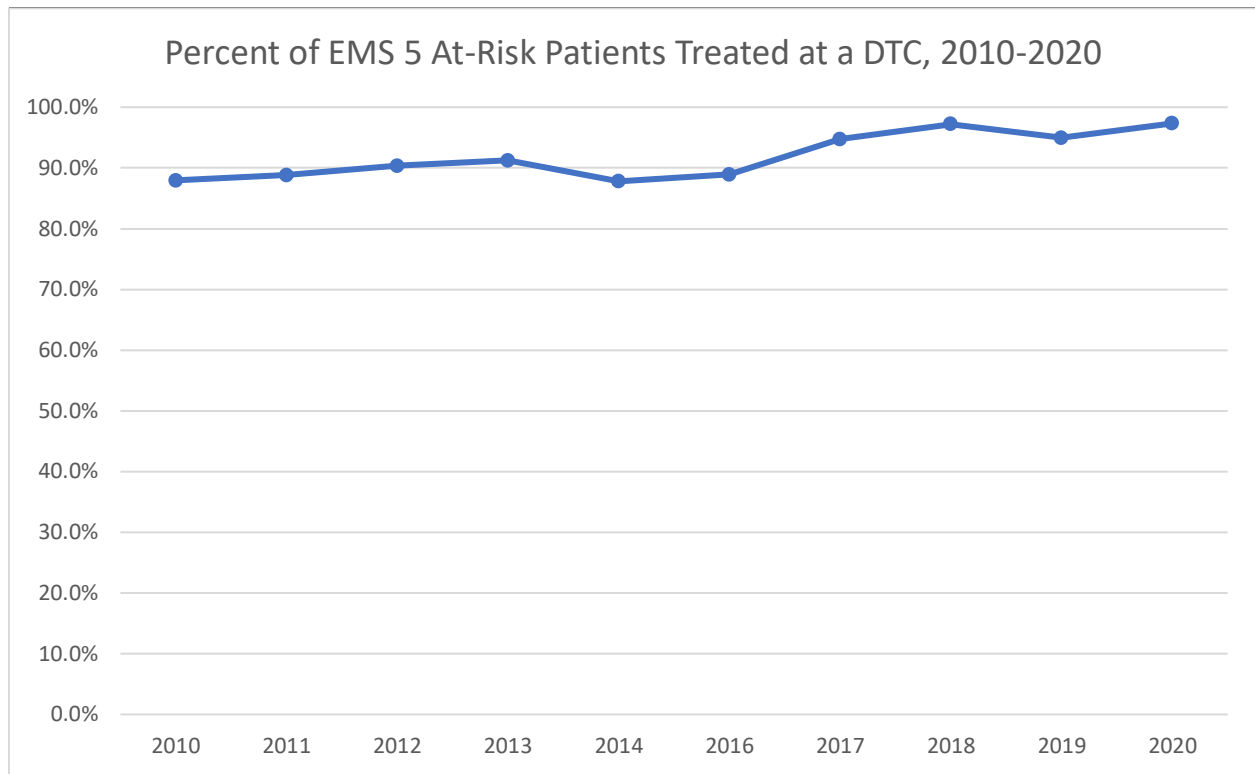


Figure A5.2: The percent of EMS Region 5 at-risk patients treated at a DTC, 2010-2020

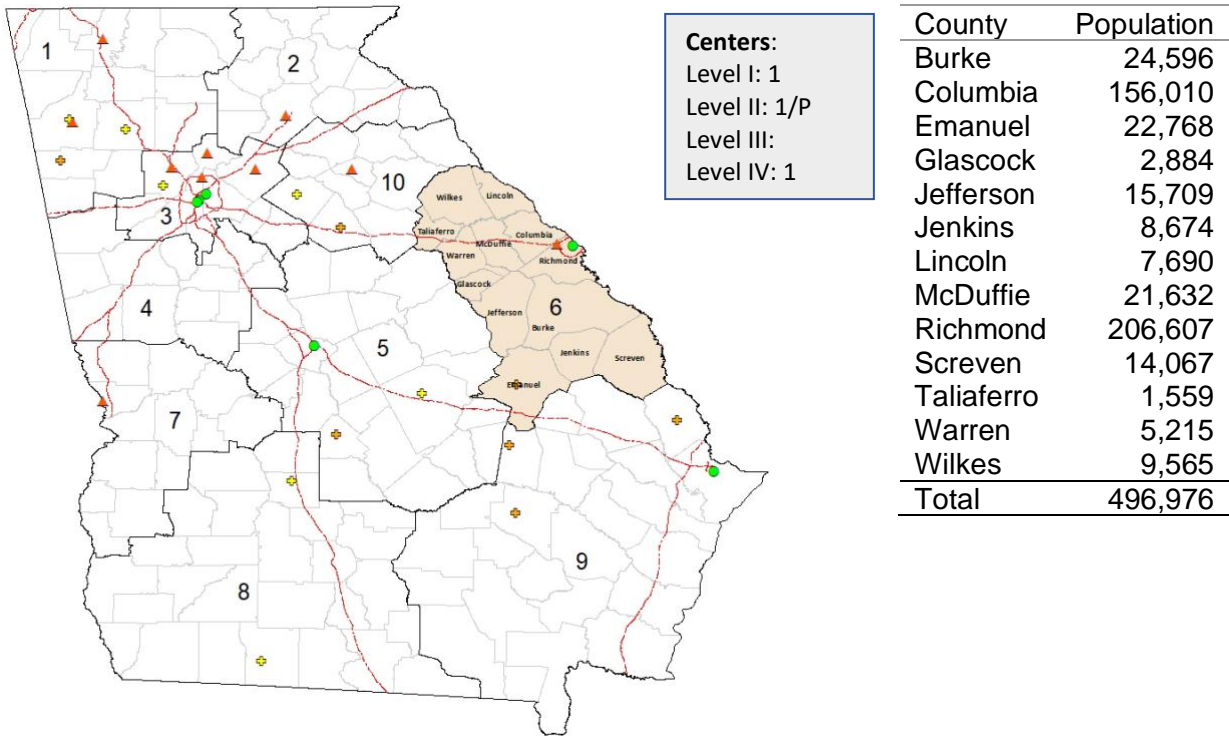
**A6: EMS Region 6**

Figure A6.2: EMS Region 6

Table A6.1: Average ground transportation distances and times for EMS Region 6 residents to the nearest DTC

County	Average ground transportation			
	Distance to		Time to	
	Nearest Level I or II	Nearest Level I, II, III, or IV	Nearest Level I or II	Nearest Level I, II, III, or IV
Burke	32.1	30.8	38.4	37.0
Columbia	9.6	9.6	16.2	16.2
Emanuel	72.0	10.8	79.6	16.6
Glascock	46.7	46.7	54.0	54.0
Jefferson	43.1	30.4	48.8	33.9
Jenkins	53.6	34.6	60.0	43.4
Lincoln	34.7	34.7	48.6	48.6
McDuffie	27.9	27.9	30.9	30.9
Richmond	5.4	5.4	9.7	9.7
Screven	60.8	34.3	71.8	36.1
Taliaferro	47.1	41.1	50.3	42.7
Warren	42.4	42.1	44.5	44.3
Wilkes	46.0	46.0	55.3	54.9
EMS Mean	20.1	15.0	25.9	20.2
EMS 6 Median	10.0	9.6	16.0	15.0

Table A6.2: At risk patients, triage to a DTC, retention, and rate/100,000 population for EMS Region 6

County	At risk patients	At risk patients treated at a center	Percent treated at a center	At risk patients treated at a center in EMS6	Retention (% of TC treated in EMS6)	Annual average at risk patients per 100000 population
Burke	65	63	97%	60	95%	52.85
Columbia	235	225	96%	220	98%	30.13
Emanuel	76	74	97%	49	66%	66.76
Glascok	7	7	100%	7	100%	48.54
Jefferson	44	43	98%	42	98%	56.02
Jenkins	37	36	97%	32	89%	85.31
Lincoln	24	23	96%	22	96%	62.42
McDuffie	51	48	94%	45	94%	47.15
Richmond	479	442	92%	427	97%	46.37
Screven	54	52	96%	10	19%	76.78
Taliaferro	2	2	100%			25.66
Warren	23	23	100%	23	100%	88.21
Wilkes	35	34	97%	28	82%	73.18
Total	1132	1072	95%	965	90%	45.56

Table A6.3: At risk patients from EMS Region 6, triage to a DTC, and retention by year, 2010-2020

Year	At Risk	DTC	DTC in EMS 6	Level I/II DTC in EMS 6	% DTC	% Retention	% Retention Level I or II
2010	179	154	138	138	86.0%	77.1%	77.1%
2011	200	178	163	163	89.0%	81.5%	81.5%
2012	209	192	177	177	91.9%	84.7%	84.7%
2013	204	183	173	169	89.7%	84.8%	82.8%
2014	174	157	145	140	90.2%	83.3%	80.5%
2016	205	170	156	138	82.9%	76.1%	67.3%
2017	225	219	199	172	97.3%	88.4%	76.4%
2018	219	215	193	147	98.2%	88.1%	67.1%
2019	220	214	197	147	97.3%	89.5%	66.8%
2020	263	254	220	174	96.6%	83.7%	66.2%

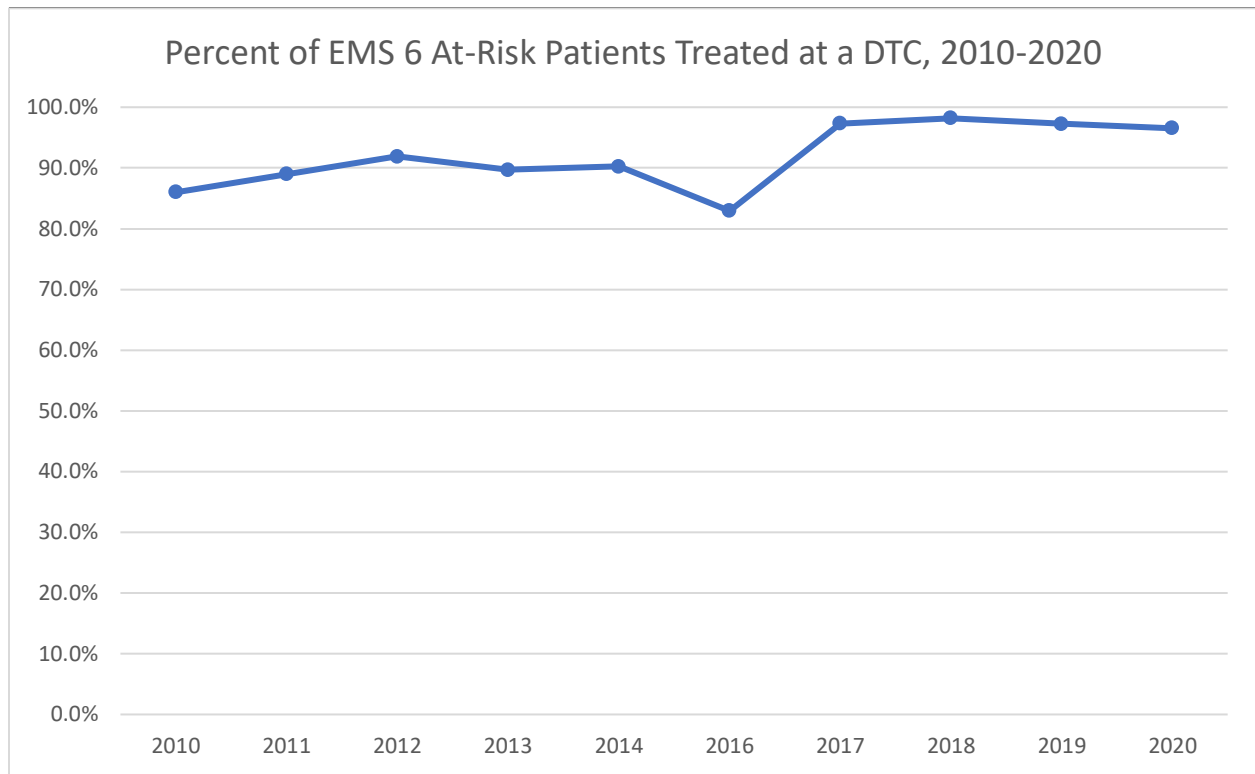


Figure A6.2: The percent of EMS Region 6 at-risk patients treated at a DTC, 2010-2020



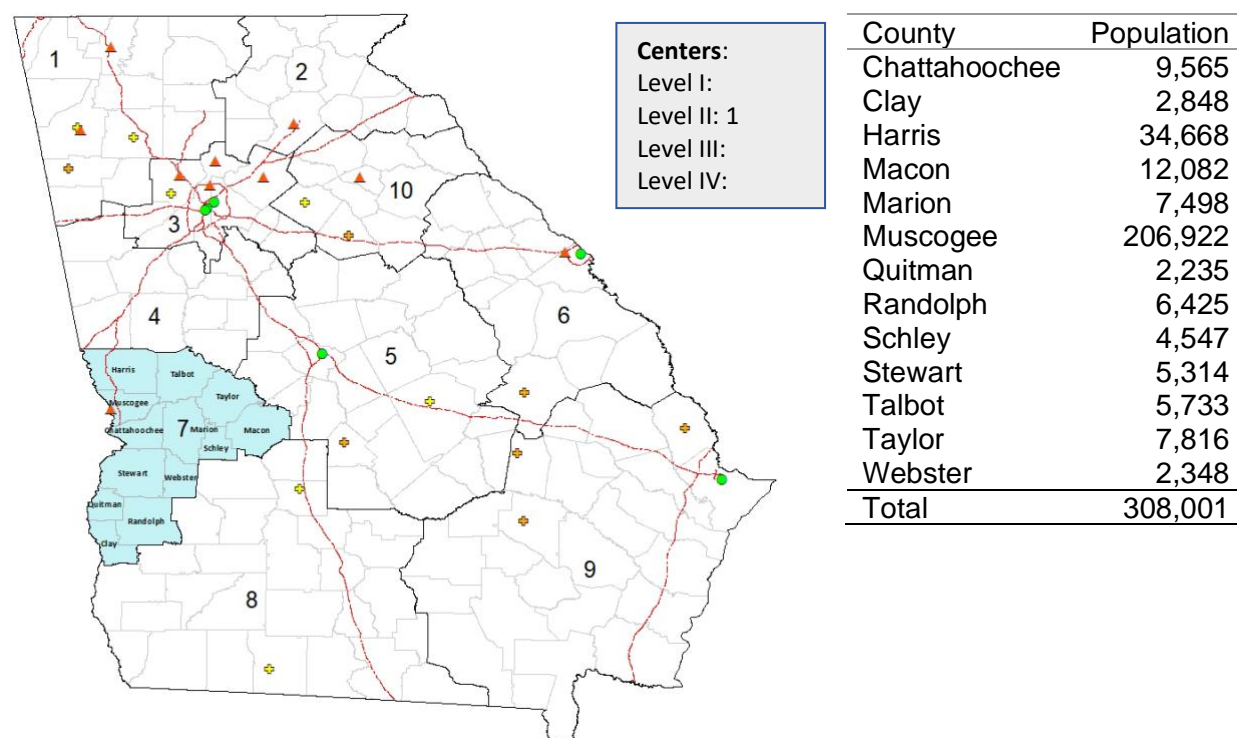
**A7: EMS Region 7**

Figure A7.2: EMS Region 7

Table A7.1: Average ground transportation distances and times for EMS Region 7 residents to the nearest DTC

County	Average ground transportation			
	Distance to		Time to	
	Nearest Level I or II	Nearest Level I, II, III, or IV	Nearest Level I or II	Nearest Level I, II, III, or IV
Chattahoochee	15.9	15.9	27.6	27.6
Clay	74.1	74.1	81.0	81.0
Harris	24.4	24.4	34.0	34.0
Macon	49.9	32.8	54.8	39.4
Marion	38.7	38.7	48.0	48.0
Muscogee	5.6	5.6	12.5	12.5
Quitman	58.6	58.6	68.0	68.0
Randolph	63.7	63.0	71.7	71.6
Schley	51.1	46.7	62.0	55.7
Stewart	38.8	38.8	48.6	48.6
Talbot	33.6	33.6	43.8	43.8
Taylor	44.4	44.4	52.1	51.9
Webster	47.4	47.4	56.5	56.5
EMS 7 Mean	18.2	17.1	25.8	24.8
EMS 7 Median	7.7	7.7	16.0	16.0

Table A7.2: At risk patients, triage to a DTC, retention, and rate/100,000 population for EMS Region 7

County	At risk patients	At risk patients treated at a center	Percent treated at a center	At risk patients treated at a center in EMS7	Retention (% of TC treated in EMS7)	Annual average at risk patients per 100000 population
Chattahoochee	5	4	80%	3	75%	10.45
Clay						0.00
Harris	50	37	74%	15	41%	28.85
Macon	32	29	91%			52.97
Marion	17	12	71%	7	58%	45.35
Muscogee	292	239	82%	196	82%	28.22
Quitman	1	1	100%	1	100%	8.95
Randolph	5	2	40%	1	50%	15.56
Schley	4	4	100%			17.59
Stewart	13	10	77%	7	70%	48.93
Talbot	10	10	100%	6	60%	34.89
Taylor	23	22	96%	2	9%	58.85
Webster	6	4	67%	3	75%	51.11
Total	458	374	82%	241	64%	29.74

Table A7.3: At risk patients from EMS Region 7, triage to a DTC, and retention by year, 2010-2020

Year	At Risk	DTC	DTC in EMS 7	Level I/II DTC in EMS 7	% DTC	% Retention	% Retention Level I or II
2010	2010	112	92	82	82	82.1%	73.2%
2011	2011	74	58	47	47	78.4%	63.5%
2012	2012	109	92	75	75	84.4%	68.8%
2013	2013	84	64	49	49	76.2%	58.3%
2014	2014	74	51	40	40	68.9%	54.1%
2016	2016	67	47	26	26	70.1%	38.8%
2017	2017	88	67	42	42	76.1%	47.7%
2018	2018	116	100	84	84	86.2%	72.4%
2019	2019	100	84	48	48	84.0%	48.0%
2020	2020	87	76	41	41	87.4%	47.1%

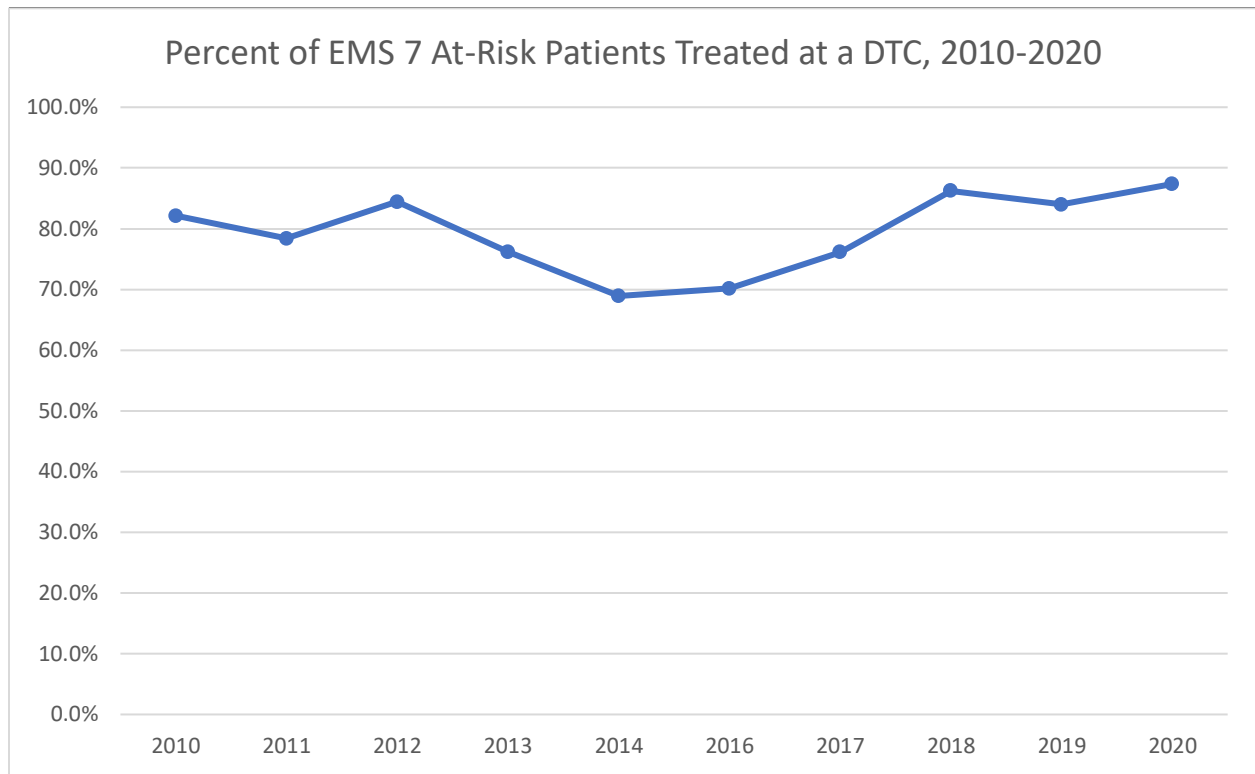


Figure A7.2: The percent of EMS Region 7 at-risk patients treated at a DTC, 2010-2020

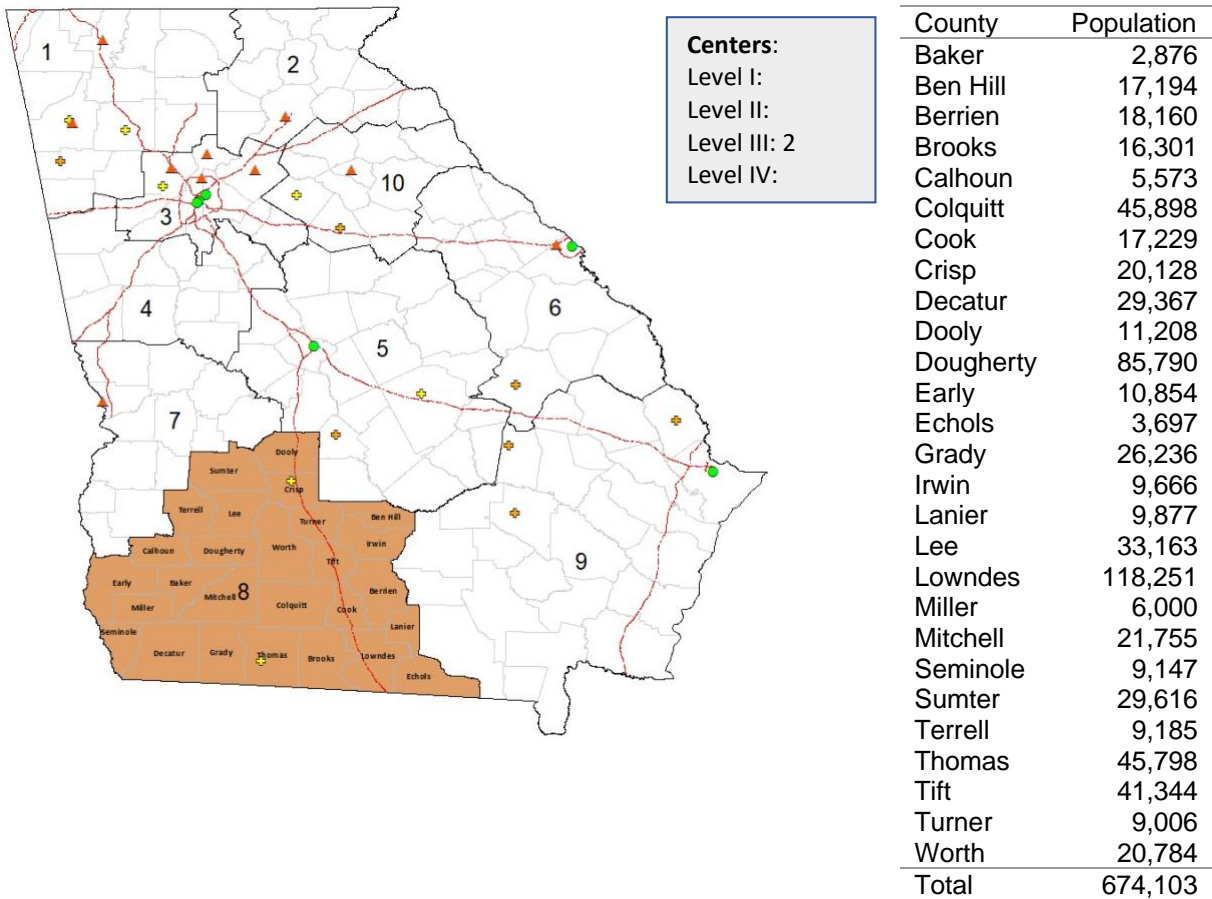
**A8: EMS Region 8**

Figure A8.2: EMS Region 8

Table A8.1: Average ground transportation distances and times for EMS Region 8 residents to the nearest DTC

County	Average ground transportation			
	Distance to		Time to	
	Nearest Level I or II	Nearest Level I, II, III, or IV	Nearest Level I or II	Nearest Level I, II, III, or IV
Baker	102.3	54.8	112.8	66.0
Ben Hill	99.5	44.0	100.9	50.0
Berrien	129.6	58.7	123.8	69.9
Brooks	152.4	29.5	145.3	38.9
Calhoun	80.1	72.0	87.2	82.5
Colquitt	124.0	31.6	123.4	43.0
Cook	127.6	46.5	115.8	58.7
Crisp	67.4	4.6	64.5	8.4
Decatur	134.8	41.9	138.3	52.8
Dooly	54.1	15.5	54.2	20.0
Dougherty	88.4	40.8	97.3	48.4
Early	94.7	80.2	98.8	90.5
Echols	176.3	67.0	165.7	81.3
Grady	142.7	19.6	152.3	28.9
Irwin	109.3	48.2	104.3	52.0
Lanier	149.4	62.0	142.3	75.0
Lee	84.2	37.0	91.7	42.9
Lowndes	150.9	47.2	138.2	58.7
Miller	107.2	66.3	111.0	77.8
Mitchell	116.6	35.3	124.9	44.9
Seminole	125.0	61.6	128.7	74.3
Sumter	63.9	31.8	74.5	39.7
Terrell	65.7	48.2	72.0	57.8
Thomas	145.6	7.3	153.0	14.0
Tift	104.7	43.5	96.1	43.7
Turner	86.8	25.6	80.9	28.2
Worth	99.0	35.4	97.1	42.0
EMS 8 Mean	114.6	38.1	114.8	46.6
EMS 8 Median	117.5	40.5	116.5	48.0

Table A8.2: At risk patients, triage to a DTC, retention, and rate/100,000 population for EMS Region 8

County	At risk patients	At risk patients treated at a center	Percent treated at a center	At risk patients treated at a center in EMS8	Retention (% of TC treated in EMS8)	Annual average at risk patients per 100000 population
Baker	5	2	40%	1	50%	34.77
Ben Hill	45	40	89%	2	5%	52.34
Berrien	21	12	57%	1	8%	23.13
Brooks	16	8	50%	6	75%	19.63
Calhoun	8	2	25%		0%	28.71
Colquitt	63	37	59%	27	73%	27.45
Cook	27	14	52%	3	21%	31.34
Crisp	42	42	100%	15	36%	41.73
Decatur	20	15	75%	15	100%	13.62
Dooly	30	28	93%	4	14%	53.53
Dougherty	152	43	28%	2	5%	35.44
Early	9	4	44%		0%	16.58
Echols	4		0%			21.64
Grady	31	28	90%	28	100%	23.63
Irwin	22	18	82%		0%	45.52
Lanier	3	2	67%		0%	6.07
Lee	34	12	35%	1	8%	20.50
Lowndes	74	16	22%	3	19%	12.52
Miller	1	1	100%	1	100%	3.33
Mitchell	53	33	62%	30	91%	48.72
Seminole	1		0%			2.19
Sumter	51	36	71%	2	6%	34.44
Terrell	15	4	27%		0%	32.66
Thomas	90	86	96%	85	99%	39.30
Tift	61	40	66%	3	8%	29.51
Turner	19	13	68%	1	8%	42.19
Worth	38	19	50%	3	16%	36.57
Total	935	555	59%	233	42%	27.74

Table A8.3: At risk patients from EMS Region 8, triage to a DTC, and retention by year, 2010-2020

Year	At Risk	DTC	DTC in EMS 8	Level I/II DTC in EMS 8	% DTC	% Retention	% Retention Level I or II
2010	149	60	35	35	40.3%	23.5%	23.5%
2011	142	74	33	33	52.1%	23.2%	23.2%
2012	161	84	37	37	52.2%	23.0%	23.0%
2013	126	77	31	29	61.1%	24.6%	23.0%
2014	125	68	27	24	54.4%	21.6%	19.2%
2016	182	95	51	40	52.2%	28.0%	22.0%
2017	161	83	32	30	51.6%	19.9%	18.6%
2018	164	100	38	34	61.0%	23.2%	20.7%
2019	222	149	63	58	67.1%	28.4%	26.1%
2020	206	135	49	0	65.5%	23.8%	0.0%

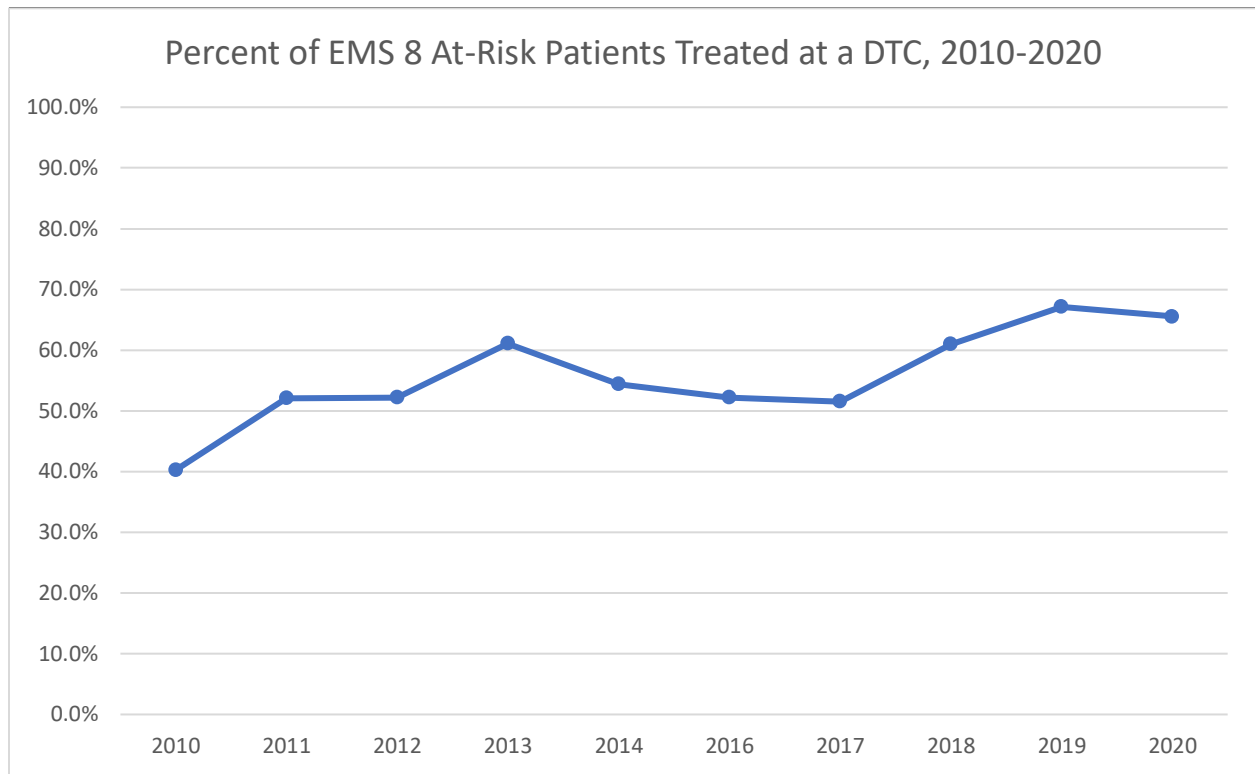


Figure A8.2: The percent of EMS Region 8 at-risk patients treated at a DTC, 2010-2020

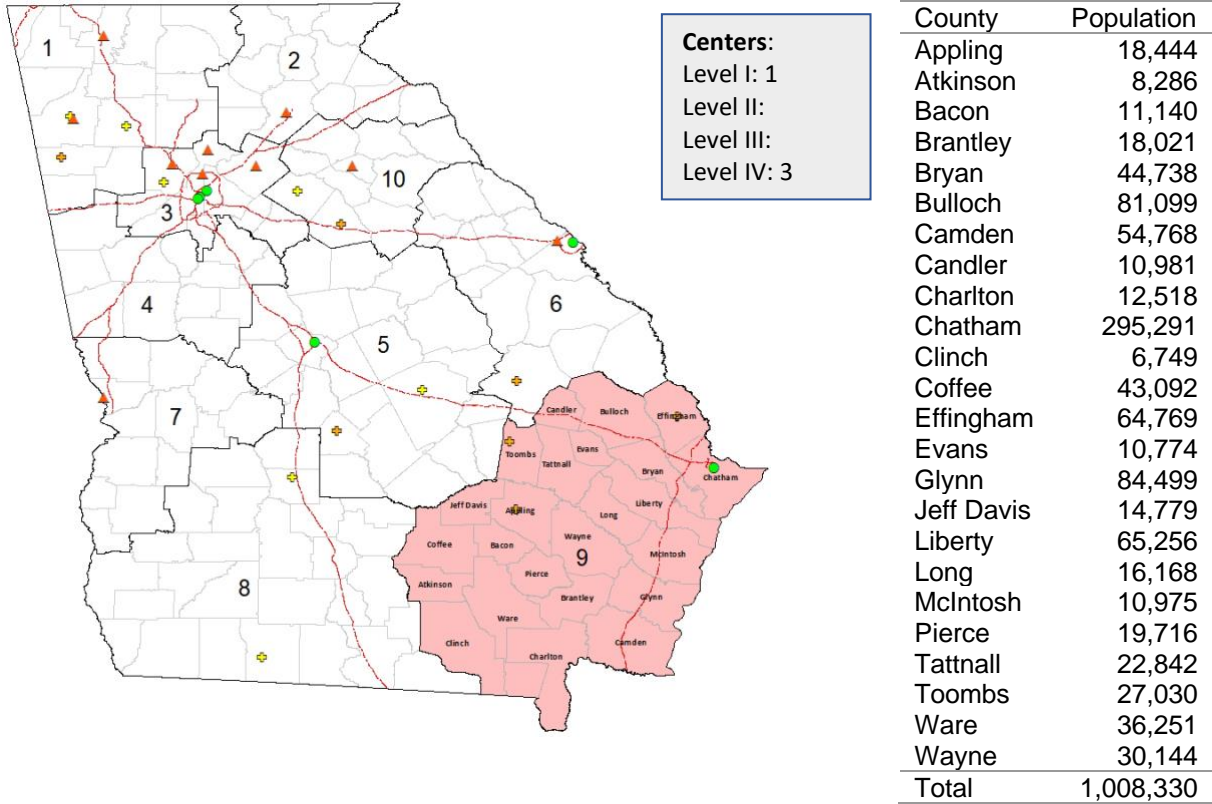
**A9: EMS Region 9**

Figure A9.1: EMS Region 9



Table A9.1: Average ground transportation distances and times for EMS Region 9 residents to the nearest DTC

County	Average ground transportation			
	Distance to		Time to	
	Nearest Level I or II	Nearest Level I, II, III, or IV	Nearest Level I or II	Nearest Level I, II, III, or IV
Appling	96.4	7.9	114.3	12.6
Atkinson	144.8	54.9	140.3	64.5
Bacon	108.5	20.7	131.5	25.6
Brantley	105.0	53.3	112.1	63.5
Bryan	29.6	25.6	40.6	35.4
Bulloch	61.1	31.5	70.9	38.7
Camden	137.8	97.2	126.3	105.0
Candler	74.4	23.1	80.1	29.8
Charlton	171.1	82.9	158.9	93.7
Chatham	12.0	8.3	19.0	16.4
Clinch	154.9	73.5	163.3	81.9
Coffee	119.2	42.4	132.8	50.1
Effingham	29.8	10.4	43.5	14.5
Evans	58.1	31.0	65.9	39.2
Glynn	85.0	72.0	86.7	81.4
Jeff Davis	107.8	19.7	113.4	26.1
Liberty	55.8	43.4	63.5	54.6
Long	56.5	44.5	74.6	55.7
McIntosh	59.7	59.5	71.4	71.4
Pierce	102.4	36.9	121.7	43.5
Tattnall	70.2	24.9	80.2	31.0
Toombs	89.1	6.9	93.1	11.0
Ware	127.8	45.6	139.5	52.2
Wayne	72.1	32.3	89.7	38.6
EMS 9 Mean	61.9	31.8	69.5	39.6
EMS 9 Median	60.8	26.1	69	33

Table A9.2: At risk patients, triage to a DTC, retention, and rate/100,000 population for EMS Region 9

County	At risk patients	At risk patients treated at a center	Percent treated at a center	At risk patients treated at a center in EMS9	Retention (% of TC treated in EMS9)	Annual average at risk patients per 100000 population
Appling	38	36	95%	33	92%	41.21
Atkinson	17	10	59%	8	80%	41.03
Bacon	24	21	88%	20	95%	43.09
Brantley	19	9	47%	9	100%	21.09
Bryan	59	54	92%	52	96%	26.38
Bulloch	131	119	91%	102	86%	32.31
Camden	14	2	14%	2	100%	5.11
Candler	30	29	97%	20	69%	54.64
Charlton	3		0%			4.79
Chatham	658	610	93%	602	99%	44.57
Clinch	4	1	25%	1	100%	11.85
Coffee	68	51	75%	35	69%	31.56
Effingham	116	111	96%	104	94%	35.82
Evans	24	21	88%	20	95%	44.55
Glynn	112	40	36%	28	70%	26.51
Jeff Davis	31	30	97%	18	60%	41.95
Liberty	102	93	91%	90	97%	31.26
Long	24	24	100%	23	96%	29.69
McIntosh	29	21	72%	21	100%	52.85
Pierce	17	12	71%	11	92%	17.24
Tattnall	81	78	96%	70	90%	70.92
Toombs	81	78	96%	66	85%	59.93
Ware	48	37	77%	33	89%	26.48
Wayne	61	56	92%	55	98%	40.47
Total	1791	1543	86%	1423	92%	35.52

Table A9.3: At risk patients from EMS Region 9, triage to a DTC, and retention by year, 2010-2020

Year	At Risk	DTC	DTC in EMS 9	Level I/II DTC in EMS 9	% DTC	% Retention	% Retention Level I or II
2010	350	296	286	286	84.6%	81.7%	81.7%
2011	337	285	276	276	84.6%	81.9%	81.9%
2012	325	285	271	271	87.7%	83.4%	83.4%
2013	361	311	295	295	86.1%	81.7%	81.7%
2014	328	285	264	264	86.9%	80.5%	80.5%
2016	371	283	262	257	76.3%	70.6%	69.3%
2017	343	294	258	257	85.7%	75.2%	74.9%
2018	329	284	264	264	86.3%	80.2%	80.2%
2019	384	345	324	324	89.8%	84.4%	84.4%
2020	364	337	315	315	92.6%	86.5%	86.5%

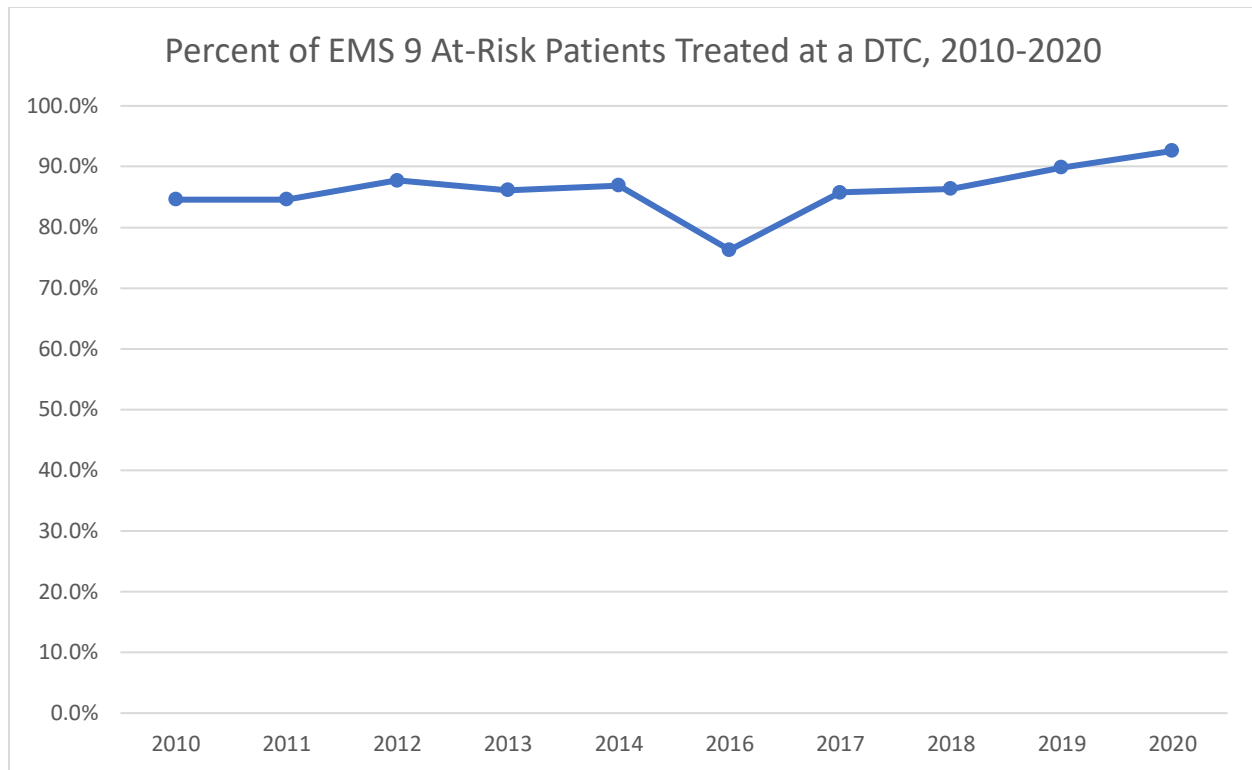


Figure A9.2: The percent of EMS Region 9 at-risk patients treated at a DTC, 2010-2020

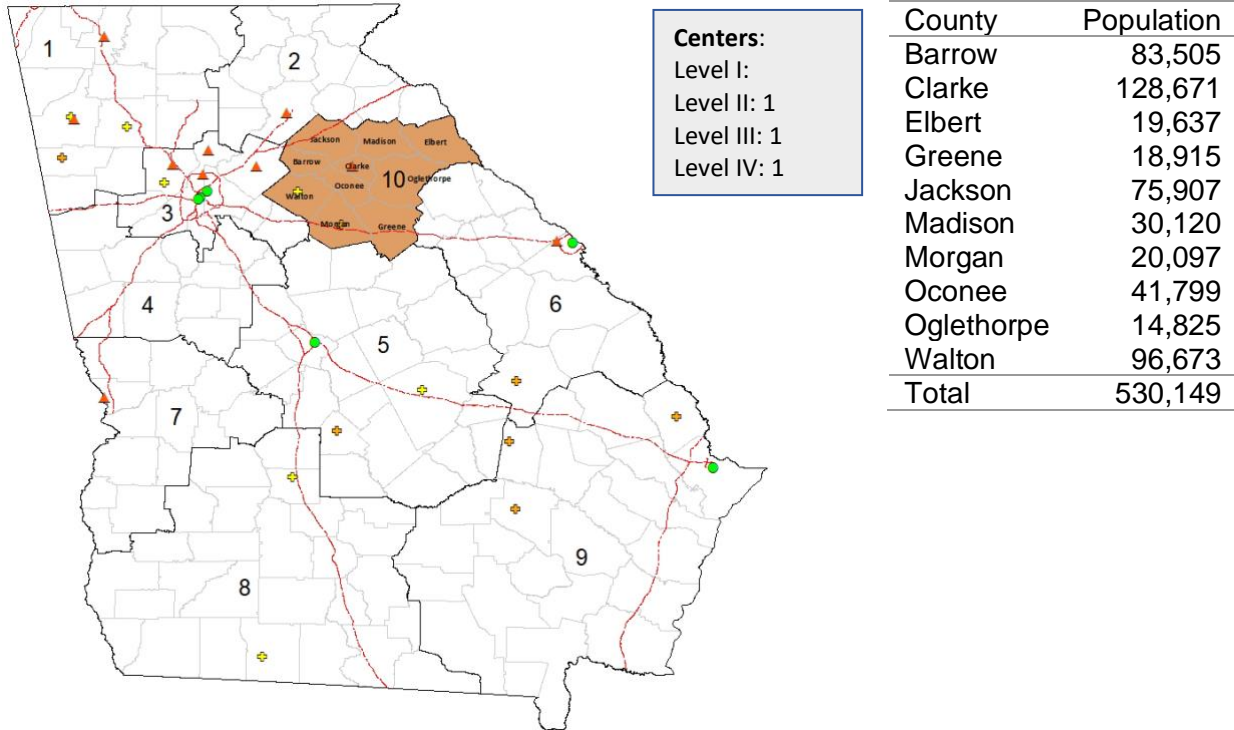
**A10: EMS Region 10**

Figure A10: EMS Region 10

Table A10.1: Average ground transportation distances and times for EMS Region 10 residents to the nearest DTC

County	Average ground transportation			
	Distance to		Time to	
	Nearest Level I or II	Nearest Level I, II, III, or IV	Nearest Level I or II	Nearest Level I, II, III, or IV
Barrow	18.0	15.4	26.6	25.1
Clarke	4.5	4.5	12.4	12.4
Elbert	38.6	38.6	48.8	48.8
Greene	40.8	26.3	56.7	33.2
Jackson	17.4	17.4	25.9	25.9
Madison	18.4	18.4	26.3	26.3
Morgan	32.4	8.5	47.5	13.6
Oconee	11.7	11.5	21.3	20.0
Oglethorpe	19.5	19.5	33.5	33.5
Walton	21.2	8.5	35.5	15.4
EMS 10 Mean	17.7	13.6	28.0	21.9
EMS 10 Median	16.9	11.8	26.5	21.0

Table A10.2: At risk patients, triage to a DTC, retention, and rate/100,000 population for EMS Region 10

County	At risk patients	At risk patients treated at a center	Percent treated at a center	At risk patients treated at a center in EMS2	Retention (% of TC treated in E)	Annual average at risk patients per 100000 population
Barrow	158	152	96%	76	50%	37.84
Clarke	188	177	94%	146	82%	29.22
Elbert	31	29	94%	23	79%	31.57
Greene	53	47	89%	29	62%	56.04
Jackson	128	125	98%	58	46%	33.73
Madison	70	70	100%	61	87%	46.48
Morgan	43	42	98%	28	67%	42.79
Oconee	64	59	92%	48	81%	30.62
Oglethorpe	26	24	92%	21	88%	35.08
Walton	189	181	96%	78	43%	39.10
Total	950	906	95%	568	63%	35.84

Table A10.3: At risk patients from EMS Region 10, triage to a DTC, and retention by year, 2010-2020

Year	At Risk	DTC	DTC in EMS 10	Level I/II DTC in EMS 10	% DTC	% Retention	% Retention Level I or II
2010	126	42	3	0	33.3%	2.4%	0.0%
2011	167	141	97	93	84.4%	58.1%	55.7%
2012	158	144	97	89	91.1%	61.4%	56.3%
2013	139	125	82	68	89.9%	59.0%	48.9%
2014	164	149	99	94	90.9%	60.4%	57.3%
2016	283	269	216	213	95.1%	76.3%	75.3%
2017	179	171	113	113	95.5%	63.1%	63.1%
2018	192	183	102	102	95.3%	53.1%	53.1%
2019	159	151	71	69	95.0%	44.7%	43.4%
2020	137	132	66	63	96.4%	48.2%	46.0%

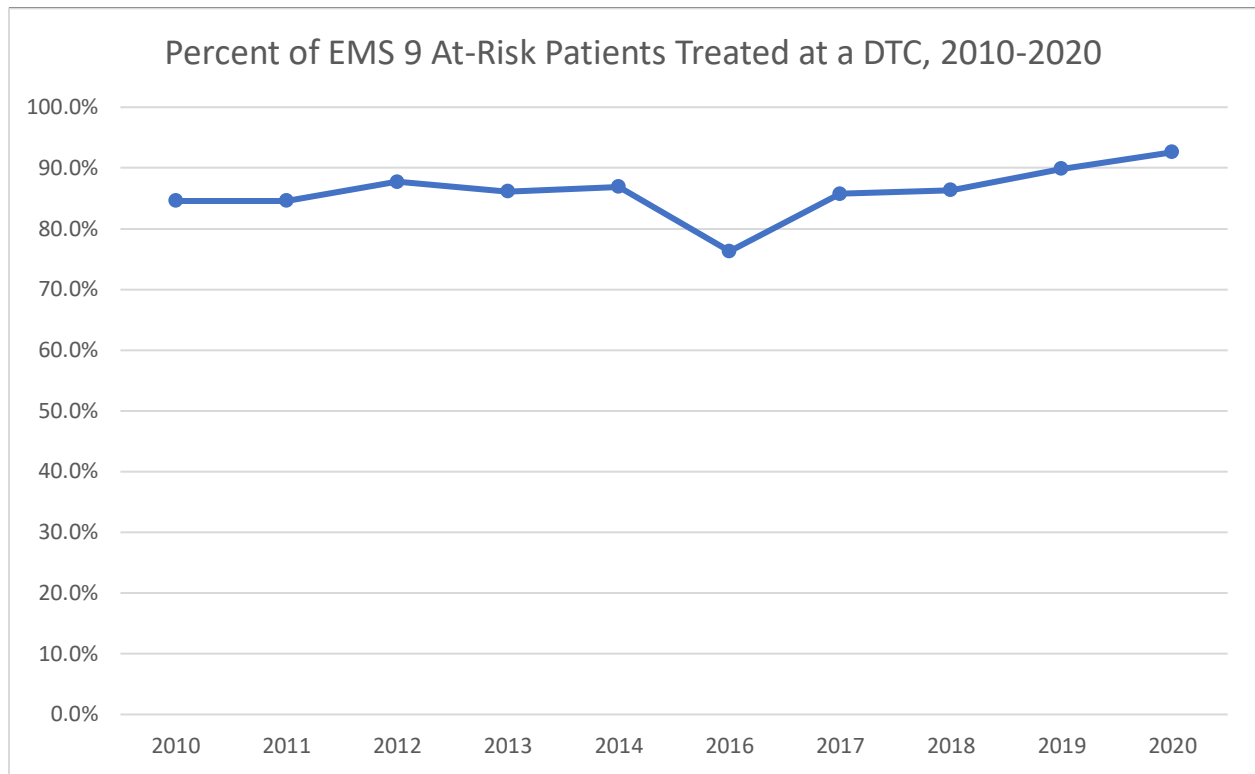


Figure A10.2: The percent of EMS Region 10 at-risk patients treated at a DTC, 2010-2020

Table A11: Demographic characteristics of at-risk patients by EMS region (2016-2020)

EMS	At risk patients	Male	Female	White	Black	Other	Ped	NE Adult	Elderly	uninsured
1	1479	62.6%	37.4%	83.8%	9.3%	6.9%	2.1%	46.7%	51.0%	9.7%
2	1071	60.4%	39.6%	88.7%	3.7%	7.6%	2.5%	36.6%	60.5%	9.5%
3	7239	66.9%	33.1%	38.5%	48.3%	13.2%	2.7%	59.2%	37.3%	17.0%
4	1699	62.2%	37.8%	69.7%	23.8%	6.4%	4.2%	49.7%	45.7%	7.9%
5	1665	63.3%	36.7%	64.1%	32.9%	3.1%	1.8%	49.3%	47.0%	16.0%
6	1132	64.0%	36.0%	55.7%	39.0%	5.3%	0.0%	52.6%	42.1%	15.0%
7	458	69.2%	30.8%	52.6%	42.4%	5.0%	3.1%	55.0%	40.6%	19.9%
8	935	61.1%	38.9%	58.1%	36.8%	5.1%	1.4%	49.2%	45.6%	16.3%
9	1791	67.1%	32.9%	68.0%	27.1%	4.9%	0.1%	48.9%	45.8%	16.0%
10	950	58.4%	41.6%	80.7%	15.1%	4.2%	3.2%	41.8%	55.1%	10.9%

\*Tan shading indicates maximum; green shading means minimum

Table A12: Percent of inpatient episodes involving major injury types by EMS region (2016-2020)

EMS	At risk patients	Fracture	SSCI	TBI	Torso	Vascular	Died
1	1479	23.8%	52.5%	42.4%	50.0%	8.2%	13.0%
2	1071	23.6%	52.7%	45.0%	46.8%	6.4%	16.2%
3	7239	23.0%	50.2%	38.3%	51.4%	14.8%	12.1%
4	1699	24.4%	55.0%	43.1%	52.5%	13.4%	12.5%
5	1665	23.5%	56.9%	47.9%	51.4%	8.9%	14.7%
6	1132	21.2%	49.9%	41.3%	53.2%	14.0%	16.2%
7	458	21.0%	49.3%	40.6%	49.3%	10.9%	16.8%
8	935	22.0%	48.7%	41.8%	55.6%	8.2%	15.3%
9	1791	20.3%	51.0%	45.6%	49.6%	12.1%	14.6%
10	950	20.8%	49.5%	43.1%	47.8%	7.8%	9.3%

\*Tan shading indicates maximum; green shading means minimum

Table A13: Percent of At-risk Patients Treated at a DTC by Region and Year

EMS	At risk patients	% Treated at DTC									
		2010	2011	2012	2013	2014	2016	2017	2018	2019	2020
1	1479	60.7%	61.3%	81.9%	81.0%	90.5%	88.6%	93.7%	95.1%	96.9%	93.7%
2	1071	35.8%	51.9%	54.6%	44.5%	79.1%	81.8%	91.8%	94.7%	88.4%	83.5%
3	7239	75.5%	78.2%	87.4%	88.0%	88.0%	83.9%	92.8%	92.9%	93.2%	95.5%
4	1699	79.3%	84.5%	83.1%	86.1%	87.3%	78.6%	89.8%	93.8%	94.0%	95.8%
5	1665	87.9%	88.8%	90.3%	91.2%	87.8%	88.9%	94.7%	97.2%	95.0%	97.3%
6	1132	86.0%	89.0%	91.9%	89.7%	90.2%	82.9%	97.3%	98.2%	97.3%	96.6%
7	458	82.1%	78.4%	84.4%	76.2%	68.9%	70.1%	76.1%	86.2%	84.0%	87.4%
8	935	40.3%	52.1%	52.2%	61.1%	54.4%	52.2%	51.6%	61.0%	67.1%	65.5%
9	1791	84.6%	84.6%	87.7%	86.1%	86.9%	76.3%	85.7%	86.3%	89.8%	92.6%
10	950	33.3%	84.4%	91.1%	89.9%	90.9%	95.1%	95.5%	95.3%	95.0%	96.4%
Min		33.3%	51.9%	52.2%	44.5%	54.4%	52.2%	51.6%	61.0%	67.1%	65.5%
Max		87.9%	89.0%	91.9%	91.2%	90.9%	95.1%	97.3%	98.2%	97.3%	97.3%

\*Tan shading indicates maximum; green shading means minimum

Table A14: Population per Square Mile

EMS	Population	% of Georgia Population	Number of Counties	Total Area (Square Miles)	Land Area (Square Miles)	Population/Sq Mile (Total)	Population/Sq Mile (Land)
1	1,182,549	11.0%	16	5,482	5,428	216	218
2	736,818	6.9%	13	3,516	3,392	210	217
3	4,202,188	39.2%	8	2,343	2,308	1,793	1,821
4	884,492	8.3%	12	3,848	3,772	230	235
5	688,302	6.4%	23	8,558	8,437	80	82
6	496,976	4.6%	13	5,324	5,201	93	96
7	308,001	2.9%	13	4,143	4,073	74	76
8	674,103	6.3%	27	10,671	10,460	63	64
9	1,008,330	9.4%	24	12,535	11,507	80	88
10	530,149	4.9%	10	3,006	2,936	176	181
	10,711,908			59,425	57,513	180	186

\*Tan shading indicates maximum; green shading means minimum



## Appendix B: Burns

Table B1: Burn Victims, Trauma Alert/Emergency Status, At-Risk Status, and Type of Facility

	All	Trauma Alerts	Emergencies	At-Risk	At-risk DTC	%At Risk Treated at a DTC
2016	195	37	158	54	52	96%
2017	212	84	128	57	52	91%
2018	193	26	167	37	34	92%
2019	228	41	187	48	48	100%
2020	201	30	171	45	43	96%
Total	1029	218	811	241	229	95%

Figure B1: Demographic Distribution of Burn Victims

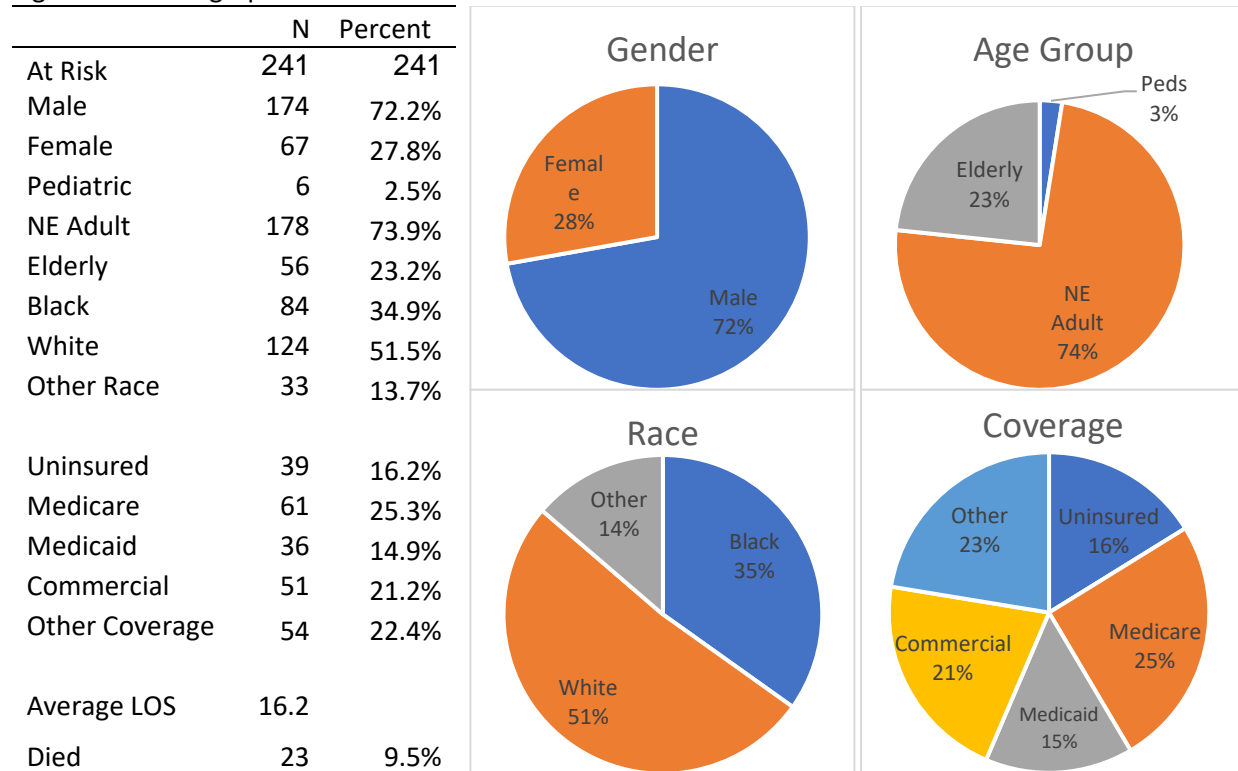


Table B2: Geographic Distribution of Burn Victims

Patient EMS Region	Burn Victims from EMS Region	Where Burn Victims were Treated	Average Annual Rate/100000 Residents
0	35		
1	20	1	0.338
2	13	1	0.353
3	91	153	0.433
4	13		0.294
5	15	7	0.436
6	16	59	0.644
7	5	1	0.325
8	8	4	0.237
9	16	12	0.317
10	9	3	0.340

**Appendix C: County Rankings**

Table C1 shows how Georgia counties rank based on four measures.

1. The annual average number of at-risk patients per 100,000 population (column 2)
2. The raw number of at-risk patients (2016-2020)
3. The percent of at-risk patients who were treated at a trauma center (2016-2020)
4. The population per square mile (2020)

The data displayed in columns 2-5 in Table C1 consist of three parts: (a) the County, (b) the EMS region in parentheses, and (c) the value used to determine the county's rank. For example, as indicated in the second column, Warren County had the most at-risk patients per 100,000 population, it is located in EMS Region 6 with an average of 88.21 at-risk patients per 100,000 population. Similarly, the third column indicates that Fulton County, in EMS Region 3 had the most at-risk patients at 2192 from 2016 to 2020. It ranked 66<sup>th</sup> in terms of the annual average at-risk patients per 100,000 population. Column 4 shows the percent of at-risk patients treated at a center; the top 23 counties, as it pertains to this measure, 100% of at-risk patients were treated at a trauma center. Finally, Column 5 shows that the five most populous counties are all in EMS Region 3.

Table C1: County rankings by annual average at-risk patients per 100,000 population, number of at-risk patients, percent of at-risk patients treated at a center, and population per square mile

Rank	Annual average at risk patients per 100000 population	Number of at risk patients	Percent at risk treated at a center	Population per square mile
1	Warren(6) 88.21	Fulton(3) 2192	Whitfield(1) 100	DeKalb(3) 5296.02
2	Jenkins(6) 85.31	DeKalb(3) 1525	Madison(10) 100	Fulton(3) 2442.24
3	Heard(4) 82.37	Gwinnett(3) 1220	Jones(5) 100	Clayton(3) 2252.84
4	Crawford(5) 80.79	Cobb(3) 1043	Crisp(8) 100	Cobb(3) 2223.83
5	Twiggs(5) 77.29	Chatham(9) 658	Chattooga(1) 100	Gwinnett(3) 1791.16
6	Screven(6) 76.78	Clayton(3) 614	Jasper(5) 100	Clarke(10) 1063.09
7	Wilkinson(5) 76.6	Richmond(6) 479	Twiggs(5) 100	Forsyth(2) 1016.66
8	Wilkes(6) 73.18	Bibb(5) 441	Murray(1) 100	Muscogee(7) 984.11
9	Tattnall(9) 70.92	Henry(4) 377	Wilcox(5) 100	Chatham(9) 795.95
10	Emanuel(6) 66.76	Hall(2) 323	Telfair(5) 100	Hall(2) 762.38
11	Lincoln(6) 62.42	Cherokee(1) 308	Long(9) 100	Fayette(4) 641.4
12	Toombs(9) 59.93	Houston(5) 296	Warren(6) 100	Cherokee(1) 596.43
13	Wilcox(5) 59.32	Muscogee(7) 292	Montgomery(5) 100	Newton(3) 559.54
14	Putnam(5) 58.96	Carroll(4) 265	Pulaski(5) 100	Henry(4) 539.76
15	Taylor(7) 58.85	Paulding(1) 254	Treutlen(5) 100	Houston(5) 533.71
16	Monroe(5) 58.66	Coweta(4) 247	Wheeler(5) 100	Douglas(3) 516.61
17	Bibb(5) 56.05	Forsyth(2) 247	Talbot(7) 100	Columbia(6) 507.18
18	Greene(10) 56.04	Columbia(6) 235	Glascok(6) 100	Coweta(4) 447.59
19	Jefferson(6) 56.02	Douglas(3) 231	Schley(7) 100	Bibb(5) 411.77
20	Candler(9) 54.64	Newton(3) 225	Taliaferro(6) 100	Jackson(10) 407.29
21	Johnson(5) 54.41	Fayette(4) 204	Dade(1) 100	Catoosa(1) 389.71
22	Haralson(1) 54.15	Floyd(1) 197	Quitman(7) 100	Troup(4) 369.21
23	Dooly(8) 53.53	Bartow(1) 194	Miller(8) 100	Whitfield(1) 353.42
24	Montgomery(5) 53.43	Rockdale(3) 189	Floyd(1) 99.5	Bartow(1) 348.88
25	Treutlen(5) 53.08	Walton(10) 189	Hall(2) 98.8	Floyd(1) 348.14
26	Macon(7) 52.97	Clarke(10) 188	Polk(1) 98.7	Rockdale(3) 345.1
27	Burke(6) 52.85	Barrow(10) 158	White(2) 98.3	Lowndes(8) 338.69
28	McIntosh(9) 52.85	Troup(4) 156	Washington(5) 98.1	Paulding(1) 325.31
29	Butts(4) 52.69	Dougherty(8) 152	Heard(4) 97.9	Richmond(6) 315.01
30	Ben Hill(8) 52.34	Spalding(4) 147	Jefferson(6) 97.7	Glynn(9) 295.63
31	Washington(5) 52.03	Bulloch(9) 131	Pike(4) 97.7	Walton(10) 281.76
32	Webster(7) 51.11	Jackson(10) 128	Morgan(10) 97.7	Liberty(9) 262.22
33	Stewart(7) 48.93	Laurens(5) 121	Jackson(10) 97.7	Murray(1) 246.05
34	Laurens(5) 48.82	Effingham(9) 116	Emanuel(6) 97.4	Carroll(4) 236.48
35	Mitchell(8) 48.72	Glynn(9) 112	Jenkins(6) 97.3	Barrow(10) 235.48
36	Glascok(6) 48.54	Liberty(9) 102	Wilkes(6) 97.1	Spalding(4) 223.54
37	Hancock(5) 48.08	Baldwin(5) 98	Pickens(1) 97	Harris(7) 215.91
38	Jasper(5) 47.98	Thomas(8) 90	Burke(6) 96.9	Baldwin(5) 199.88

Table C1 (continued): County rankings by annual average at-risk patients per 100,000 population, number of at-risk patients, percent of at-risk patients treated at a center, and population per square mile

Rank	Annual average at risk patients per 100000 population	Number of at risk patients	Percent at risk treated at a center	Population per square mile
39	McDuffie(6) 47.15	Whitfield(1) 83	Rabun(2) 96.9	Colquitt(8) 196.82
40	Upson(4) 46.93	Monroe(5) 82	Jeff Davis(9) 96.8	Habersham(2) 190.05
41	Pike(4) 46.59	Tattnall(9) 81	Banks(2) 96.8	Walker(1) 188.96
42	Jones(5) 46.57	Toombs(9) 81	Candler(9) 96.7	Effingham(9) 188.7
43	Madison(10) 46.48	Haralson(1) 81	Lumpkin(2) 96.6	Bulloch(9) 181.35
44	Peach(5) 46.46	Polk(1) 78	Monroe(5) 96.3	Dougherty(8) 166.96
45	Richmond(6) 46.37	Emanuel(6) 76	Tattnall(9) 96.3	Hart(2) 150.18
46	Meriwether(4) 45.6	Habersham(2) 75	Toombs(9) 96.3	Gordon(1) 146.81
47	Irwin(8) 45.52	Lowndes(8) 74	Screven(6) 96.3	Stephens(2) 145.41
48	Marion(7) 45.35	Madison(10) 70	Union(2) 96.2	Polk(1) 136.33
49	Troup(4) 44.94	Coffee(9) 68	Barrow(10) 96.2	Dodge(5) 131.69
50	Baldwin(5) 44.75	Butts(4) 67	Johnson(5) 96	Laurens(5) 130.47
51	Pulaski(5) 44.65	Jones(5) 66	Crawford(5) 95.9	Haralson(1) 128.57
52	Chatham(9) 44.57	Pickens(1) 66	Laurens(5) 95.9	Butts(4) 127.6
53	Evans(9) 44.55	Putnam(5) 65	Lincoln(6) 95.8	Oconee(10) 126.66
54	Carroll(4) 44.48	Burke(6) 65	Walton(10) 95.8	Upson(4) 126.25
55	Spalding(4) 43.68	Upson(4) 65	Columbia(6) 95.7	Tift(8) 122.43
56	Bacon(9) 43.09	Peach(5) 65	Bibb(5) 95.7	Lee(8) 116.94
57	Union(2) 43.03	Oconee(10) 64	Effingham(9) 95.7	Peach(5) 109.57
58	Morgan(10) 42.79	Colquitt(8) 63	Taylor(7) 95.7	Franklin(2) 109.25
59	Stephens(2) 42.56	Wayne(9) 61	Thomas(8) 95.6	Union(2) 105.32
60	Turner(8) 42.19	Tift(8) 61	Butts(4) 95.5	White(2) 100.36
61	White(2) 42.14	White(2) 59	Clayton(3) 95.3	Gilmer(1) 99.99
62	Jeff Davis(9) 41.95	Lumpkin(2) 59	Haralson(1) 95.1	Washington(5) 98.73
63	Crisp(8) 41.73	Bryan(9) 59	Appling(9) 94.7	Lamar(4) 92.69
64	Clayton(3) 41.26	Stephens(2) 57	Bleckley(5) 94.4	Oglethorpe(10) 90.98
65	Appling(9) 41.21	Screven(6) 54	Carroll(4) 94.3	Grady(8) 90.48
66	Fulton(3) 41.1	Gilmer(1) 54	Clarke(10) 94.1	Camden(9) 86.62
67	Atkinson(9) 41.03	Greene(10) 53	McDuffie(6) 94.1	Thomas(8) 82.28
68	Wayne(9) 40.47	Mitchell(8) 53	Wilkinson(5) 94.1	Dawson(2) 81.45
69	Rockdale(3) 40.4	Union(2) 53	Elbert(10) 93.5	Decatur(8) 81.18
70	Dodge(5) 40.15	Washington(5) 52	Cobb(3) 93.5	Toombs(9) 80.59
71	Telfair(5) 40.07	Dawson(2) 52	Newton(3) 93.3	Lumpkin(2) 78.01
72	Towns(2) 40.02	McDuffie(6) 51	Dooly(8) 93.3	Pickens(1) 76.46
73	Newton(3) 40.01	Sumter(8) 51	Paulding(1) 93.3	Wayne(9) 74.65
74	Floyd(1) 39.97	Harris(7) 50	Bartow(1) 93.3	Ware(9) 74.23
75	DeKalb(3) 39.9	Crawford(5) 49	Douglas(3) 93.1	Madison(10) 74.15
76	Pickens(1) 39.74	Ware(9) 48	Chatham(9) 92.7	Chattooga(1) 72.02
77	Thomas(8) 39.3	Heard(4) 47	Spalding(4) 92.5	Ben Hill(8) 67.02

Table C1 (continued): County rankings by annual average at-risk patients per 100,000 population, number of at-risk patients, percent of at-risk patients treated at a center, and population per square mile

Rank	Annual average at risk patients per 100000 population	Number of at risk patients	Percent at risk treated at a center	Population per square mile
78	Walton(10) 39.1	Meriwether(4) 47	Dodge(5) 92.5	Greene(10) 66.23
79	Dawson(2) 38.81	Gordon(1) 47	Henry(4) 92.3	McDuffie(6) 65.83
80	Franklin(2) 38.42	Ben Hill(8) 45	Putnam(5) 92.3	Monroe(5) 62.96
81	Rabun(2) 37.91	Franklin(2) 45	Oglethorpe(10) 92.3	Meriwether(4) 62.93
82	Barrow(10) 37.84	Jefferson(6) 44	Richmond(6) 92.3	Rabun(2) 59.41
83	Worth(8) 36.57	Pike(4) 44	Oconee(10) 92.2	Candler(9) 58.76
84	Polk(1) 36.4	Morgan(10) 43	Gwinnett(3) 92.1	Coffee(9) 55.08
85	Houston(5) 36.18	Crisp(8) 42	Baldwin(5) 91.8	Screven(6) 54.67
86	Effingham(9) 35.82	Chattooga(1) 41	Wayne(9) 91.8	Fannin(1) 53.86
87	Lamar(4) 35.68	Dodge(5) 40	Fulton(3) 91.6	Lincoln(6) 53.24
88	Bartow(1) 35.63	Appling(9) 38	Bryan(9) 91.5	Elbert(10) 52.48
89	Dougherty(8) 35.44	Worth(8) 38	Liberty(9) 91.2	Sumter(8) 51.53
90	Lumpkin(2) 35.24	Jenkins(6) 37	Bulloch(9) 90.8	Crisp(8) 50.66
91	Oglethorpe(10) 35.08	Wilkes(6) 35	Peach(5) 90.8	Bryan(9) 49.27
92	Talbot(7) 34.89	Jasper(5) 35	Gilmer(1) 90.7	Towns(2) 48.62
93	Wheeler(5) 34.8	Wilkinson(5) 34	Habersham(2) 90.7	Banks(2) 47.85
94	Baker(8) 34.77	Lee(8) 34	Macon(7) 90.6	Burke(6) 46.44
95	Gilmer(1) 34.45	Lamar(4) 33	Hancock(5) 90.5	Putnam(5) 46.06
96	Sumter(8) 34.44	Macon(7) 32	Grady(8) 90.3	Morgan(10) 45.46
97	Banks(2) 34.38	Rabun(2) 32	Coweta(4) 89.9	Crawford(5) 45.36
98	Fayette(4) 34.23	Twiggs(5) 31	Houston(5) 89.5	Worth(8) 45.16
99	Coweta(4) 33.8	Jeff Davis(9) 31	Cherokee(1) 89	Brooks(8) 44.94
100	Jackson(10) 33.73	Banks(2) 31	Rockdale(3) 88.9	Berrien(8) 43.16
101	Chattooga(1) 32.85	Elbert(10) 31	Ben Hill(8) 88.9	Jeff Davis(9) 42.9
102	Terrell(8) 32.66	Grady(8) 31	Greene(10) 88.7	Pike(4) 42.37
103	Habersham(2) 32.59	Candler(9) 30	DeKalb(3) 88.5	Appling(9) 40.58
104	Bulloch(9) 32.31	Dooly(8) 30	Towns(2) 88	Jasper(5) 40.23
105	Douglas(3) 32.03	McIntosh(9) 29	Lamar(4) 87.9	Tattnall(9) 39.8
106	Hall(2) 31.8	Fannin(1) 28	Evans(9) 87.5	Dooly(8) 39.51
107	Elbert(10) 31.57	Murray(1) 28	Bacon(9) 87.5	Dade(1) 37.68
108	Coffee(9) 31.56	Cook(8) 27	Fayette(4) 86.3	Johnson(5) 36.58
109	Cook(8) 31.34	Wilcox(5) 26	Troup(4) 85.9	Wilkinson(5) 36.28
110	Henry(4) 31.32	Oglethorpe(10) 26	Fannin(1) 85.7	Wilkes(6) 35.91
111	Liberty(9) 31.26	Johnson(5) 25	Upson(4) 84.6	Turner(8) 35.47
112	Oconee(10) 30.62	Telfair(5) 25	Stephens(2) 84.2	Mitchell(8) 34.91
113	Columbia(6) 30.13	Towns(2) 25	Catoosa(1) 83.3	Jones(5) 34.63
114	Paulding(1) 30.12	Lincoln(6) 24	Franklin(2) 82.2	Terrell(8) 34.17
115	Long(9) 29.69	Evans(9) 24	Muscogee(7) 81.8	Cook(8) 33.37
116	Tift(8) 29.51	Bacon(9) 24	Irwin(8) 81.8	Emanuel(6) 32.99

Table C1 (continued): County rankings by annual average at-risk patients per 100,000 population, number of at-risk patients, percent of at-risk patients treated at a center, and population per square mile

Rank	Annual average at risk patients per 100000 population	Number of at risk patients	Percent at risk treated at a center	Population per square mile
117	Clarke(10) 29.22	Long(9) 24	Gordon(1) 80.9	Bleckley(5) 31.82
118	Harris(7) 28.85	Warren(6) 23	Chattahoochee(7) 80	Macon(7) 31.82
119	Calhoun(8) 28.71	Taylor(7) 23	Dawson(2) 78.8	Brantley(9) 30.79
120	Bleckley(5) 28.61	Montgomery(5) 23	Ware(9) 77.1	Randolph(7) 29.58
121	Muscogee(7) 28.22	Irwin(8) 22	Stewart(7) 76.9	Pierce(9) 28.63
122	Colquitt(8) 27.45	Pulaski(5) 22	Hart(2) 76.9	Telfair(5) 27.61
123	Cobb(3) 27.23	Hancock(5) 21	Coffee(9) 75	Seminole(8) 27.33
124	Glynn(9) 26.51	Berrien(8) 21	Decatur(8) 75	Wilcox(5) 26.85
125	Ware(9) 26.48	Decatur(8) 20	Meriwether(4) 74.5	Long(9) 24.92
126	Bryan(9) 26.38	Turner(8) 19	Harris(7) 74	Chattahoochee(7) 24.23
127	Taliaferro(6) 25.66	Brantley(9) 19	McIntosh(9) 72.4	McIntosh(9) 22.73
128	Gwinnett(3) 25.49	Bleckley(5) 18	Sumter(8) 70.6	Heard(4) 22.58
129	Grady(8) 23.63	Treutlen(5) 17	Marion(7) 70.6	Early(8) 22.03
130	Berrien(8) 23.13	Marion(7) 17	Pierce(9) 70.6	Hancock(5) 21.96
131	Cherokee(1) 23.1	Atkinson(9) 17	Forsyth(2) 68.4	Twiggs(5) 21.48
132	Fannin(1) 22.12	Pierce(9) 17	Turner(8) 68.4	Miller(8) 21.36
133	Echols(8) 21.64	Brooks(8) 16	Walker(1) 66.7	Treutlen(5) 21.33
134	Brantley(9) 21.09	Terrell(8) 15	Webster(7) 66.7	Charlton(9) 20.78
135	Lee(8) 20.5	Camden(9) 14	Lanier(8) 66.7	Wheeler(5) 20.71
136	Forsyth(2) 19.66	Stewart(7) 13	Tift(8) 65.6	Pulaski(5) 19.59
137	Brooks(8) 19.63	Wheeler(5) 13	Mitchell(8) 62.3	Irwin(8) 18.93
138	Schley(7) 17.59	Hart(2) 13	Atkinson(9) 58.8	Jefferson(6) 18.81
139	Pierce(9) 17.24	Walker(1) 12	Colquitt(8) 58.7	Jenkins(6) 18.3
140	Early(8) 16.58	Talbot(7) 10	Berrien(8) 57.1	Lanier(8) 17.89
141	Gordon(1) 16.34	Early(8) 9	Cook(8) 51.9	Evans(9) 17.88
142	Whitfield(1) 16.14	Calhoun(8) 8	Worth(8) 50	Marion(7) 17.4
143	Randolph(7) 15.56	Glascok(6) 7	Brooks(8) 50	Clay(7) 16.97
144	Murray(1) 14.01	Webster(7) 6	Brantley(9) 47.4	Taylor(7) 16.53
145	Decatur(8) 13.62	Catoosa(1) 6	Early(8) 44.4	Atkinson(9) 16.18
146	Lowndes(8) 12.52	Baker(8) 5	Baker(8) 40	Warren(6) 14.8
147	Clinch(9) 11.85	Randolph(7) 5	Randolph(7) 40	Baker(8) 14.4
148	Chattahoochee(7) 10.45	Chattahoochee(7) 5	Glynn(9) 35.7	Bacon(9) 14.25
149	Hart(2) 10.07	Echols(8) 4	Lee(8) 35.3	Talbot(7) 14.12
150	Quitman(7) 8.95	Schley(7) 4	Dougherty(8) 28.3	Montgomery(5) 12.58
151	Lanier(8) 6.07	Clinch(9) 4	Terrell(8) 26.7	Schley(7) 12.37
152	Camden(9) 5.11	Lanier(8) 3	Calhoun(8) 25	Calhoun(8) 12.17
153	Charlton(9) 4.79	Charlton(9) 3	Clinch(9) 25	Stewart(7) 11.46
154	Walker(1) 3.55	Taliaferro(6) 2	Lowndes(8) 21.6	Quitman(7) 10.11
155	Miller(8) 3.33	Dade(1) 2	Camden(9) 14.3	Glascok(6) 10.06

Table C1 (continued): County rankings by annual average at-risk patients per 100,000 population, number of at-risk patients, percent of at-risk patients treated at a center, and population per square mile

Rank	Annual average at risk patients per 100000 population	Number of at risk patients	Percent at risk treated at a center	Population per square mile
156	Dade(1) 2.46	Quitman(7) 1	Echols(8) 0	Webster(7) 9.35
157	Seminole(8) 2.19	Miller(8) 1	Charlton(9) 0	Clinch(9) 8.19
158	Catoosa(1) 1.77	Seminole(8) 1	Seminole(8) 0	Taliaferro(6) 7.98
159	Clay(7) 0	Clay(7) 0	Clay(7) 0	Echols(8) 7.43