

BRIEF

A Window into Utilization and Cost of Ground Ambulance Services

A National Study of
Private Healthcare Claims

A FAIR Health Brief, September 14, 2023



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Summary

When patients call for ground ambulance transport, they are often unable to select an in-network ambulance provider, potentially exposing them to “surprise” bills for out-of-network services. No federal law currently protects consumers from out-of-network rides,¹ and although some state and local governments regulate ground ambulance surprise billing practices, such laws may not apply to all ambulance providers in an area.² Given the prevalence of out-of-network charges for ground ambulance rides—and the substantial policy interest associated with these services—FAIR Health drew on its repository of billions of private healthcare claims to shed light on both emergency and nonemergency ground ambulance transports (as well as no transport ground ambulance services) across the nation in the period 2018 to 2022. Factors analyzed in this report include utilization, cost, age and gender, diagnosis, differences across states and outcomes associated with ground ambulance services (e.g., inpatient admission). Among the findings:

- Throughout the period 2018-2022, advanced life support (ALS) services, which can provide a higher level of care than basic life support (BLS) services, accounted for a slightly larger percentage of ground ambulance claim lines³ than BLS services. For example, in 2022, 51.1 percent of ground ambulance claim lines were associated with ALS compared to 48.9 percent associated with BLS.
- Emergency transport was more common than nonemergency transport for both ALS and BLS ground ambulance services from 2018 to 2022.
- In 2022, average allowed amounts⁴ were consistently higher for ALS ground ambulance services than for BLS services, though costs varied by state.
- Individuals 65 years and older were the largest age group associated with both ALS and BLS ground ambulance services among the commercially insured and Medicare Advantage population, though their share of ALS ground ambulance claim lines decreased from 37.4 percent in 2018 to 30.6 percent in 2022 and their share of BLS ground ambulance claim lines decreased from 47.5 percent to 40.9 percent in 2022.
- In addition to being used for transport, ground ambulances can provide on-site treatment, without transporting the patient from the original location to a hospital.⁵ Such treatment increased from 2018 to 2020, rising from 1.4 percent to 2.0 percent of all ground ambulance claim lines, but decreased slightly in the following years, dropping to 1.9 percent by 2022.
- From 2018 to 2022, response and treatment without transport accounted for a higher percentage of ground ambulance claim lines among individuals aged 19 to 35 than any other age group: between 2.2 and 3.1 percent. By comparison, the age cohort 65 years and older had the lowest percentage.

¹ The federal No Surprises Act, enacted as part of the Consolidated Appropriations Act of 2021, required the establishment of the Advisory Committee on Ground Ambulance and Patient Billing, which is currently reviewing options to improve the disclosure of charges and fees for ground ambulance services, better inform consumers of insurance options for such services and protect consumers from balance billing. This fall, the Advisory Committee will submit a report to Congress on its findings and provide recommendations to improve cost transparency for ground ambulance services.

² For example, states cannot regulate “self-funded” employer health plans, which cover about two-thirds of all employees; and at least one state, Colorado, regulates some ground ambulance services but not those provided by publicly funded fire agencies (3 Colo. Code Regs. § 702-4:4-2-66).

³ “Claim lines” are the individual procedures or services listed on an insurance claim.

⁴ An allowed amount is the total fee negotiated between an insurance plan and a provider for an in-network service; the allowed amount includes both the insurer’s and the member’s share of the total fee.

⁵ For example, on-site treatment may be provided when the patient refuses to be transported to a hospital.

- General signs and symptoms were the most common diagnosis associated with the various ground ambulance types (ALS, BLS and response and treatment—no transport) evaluated from 2018 to 2022.
 - General signs and symptoms involving circulatory and respiratory systems were the second most common reason for ground ambulance services among the top diagnoses for ALS services, non-transport services and all services involving transport (i.e., excluding no transport).
 - Mental health conditions accounted for the third largest share of BLS ground ambulance claim lines; this diagnosis was eighth on the lists for ALS services and all services involving transport, and sixth on the list for response and treatment—no transport services.
- From 2018 through 2022, the five states with the highest average mileage for ground ambulance transport were Vermont (33.8 miles), Maine (30.6 miles), Wyoming (25.0 miles), North Dakota (24.6 miles) and Mississippi (23.8 miles). The jurisdictions with the lowest average ground ambulance mileage were Washington, DC (7.9 miles); Alaska (8.8 miles); New York (9.1 miles); Nevada (9.4 miles); and Massachusetts (9.9 miles).
- The five states with the highest average allowed (in-network) amounts for ground ambulance mileage per statute mile in 2022 were Utah (\$28.35), Wyoming (\$24.29), California (\$20.63), North Dakota (\$19.36) and Nevada (\$18.76). The lowest average allowed amounts for ground ambulance mileage per statute mile in 2022 occurred in Florida (\$5.79), Maine (\$7.55), North Carolina (\$7.66), Vermont (\$7.71) and Maryland (\$8.21).
- From 2018 to 2022, out-of-network ground ambulance rides accounted for a larger percentage of total ground ambulance claim lines than in-network rides, though there was a slight decrease in out-of-network services during this period. Out-of-network rides made up 63.7 percent of all ground ambulance claim lines in 2018 and 59.4 percent in 2022.
 - For nonemergency ground ambulance services, the percentage of in-network versus out-of-network services was fairly even from 2018 to 2022. In-network rides accounted for 48.6 percent to 51.3 percent of nonemergency ground ambulance claim lines during this period and out-of-network rides made up 48.7 percent to 51.4 percent.
 - Emergency ground ambulance services were more frequently rendered out of network than in network, though the percentage of out-of-network rides declined from 2018 to 2022. In 2018, out-of-network services accounted for 68.3 percent of emergency ground ambulance claim lines, but by 2022, their share of the distribution decreased to 62.0 percent.
- Both males and females aged 65 and older experienced higher rates of ground ambulance rides resulting in inpatient admission than any other age group in the period 2018-2022; 52.0 percent of male patients and 47.9 percent of female patients in that age group were admitted to a hospital after ground ambulance transport.

Background

Ground ambulances are used to transport critically ill or injured patients, or patients for whom the need for specialty care, emergency or nonemergency medical care is anticipated either at the patient location or during transport. Ground ambulance rides are frequently provided by local government agencies, such as municipal fire departments or rescue squads, or by hospitals and private nonhospital ambulance companies. Patients generally have no control over whether to use a ground ambulance or which ground ambulance provider to use. Therefore, surprise or balance bills—in which a patient is billed for out-of-network emergency services or for nonemergency services unexpectedly rendered by an out-of-network provider—occur frequently with ground ambulance services, as the patient is typically not in a

condition to select an ambulance provider or to provide consent. As a result, ground ambulance services have been the subject of substantial policy focus.

Currently, no federal law protects consumers against “surprise” bills from out-of-network ground ambulance providers. The federal No Surprises Act, which took effect in 2022, includes provisions to protect consumers from surprise bills, including air ambulance bills. These protections, however, do not apply to ground ambulance services.

In the absence of a federal ground ambulance surprise billing law, some state and local governments have stepped in to regulate ground ambulance surprise billing practices; however, such laws may not apply to all health plans or ambulance providers in an area. For example, states cannot regulate “self-funded” employer health plans, which cover about two-thirds of all employees. Colorado, for example, regulates rates paid and patient cost sharing for some ground ambulance services, but the law does not apply to ambulance services provided by publicly funded fire agencies, and does not protect those with self-funded employer plans.⁶ The ownership and operation of ground ambulances varies greatly—they may be run by a state or local government, the local fire department, individual hospitals, or for-profit or nonprofit companies. State and local governments may limit publicly funded ambulance providers (such as local fire departments) from setting their own rates or contracting as in-network providers with commercial health insurers.⁷ The complexity of existing state and local regulation is reportedly one reason that federal lawmakers were reluctant to regulate surprise billing by ground ambulances.⁸

Instead, Congress required further study of ground ambulance services, and a committee—the Advisory Committee on Ground Ambulance and Patient Billing—is in the process of reviewing options for improving cost transparency for ground ambulance services, in order to increase consumer awareness about insurance coverage for such services and protect patients from surprise bills. The Advisory Committee on Ground Ambulance and Patient Billing will report on its findings to Congress this fall.

In this study, FAIR Health uses its rich data to shed light on many aspects of ground ambulance services across the nation, including utilization, cost, age and gender, diagnosis, differences across states and outcomes associated with ground ambulance transport (e.g., inpatient admission). A national, independent nonprofit organization dedicated to bringing transparency to healthcare costs and health insurance information, FAIR Health possesses a repository of over 42 billion private healthcare claim records—the largest in the nation. Among those reflected in the database are Medicare Advantage enrollees.

⁶ 3 Colo. Code Regs. § 702-4:4-2-66.

⁷ Krutika Amin et al., “Ground Ambulance Rides and Potential for Surprise Billing,” Peterson-KFF Health System Tracker, June 24, 2021, <https://www.healthsystemtracker.org/brief/ground-ambulance-rides-and-potential-for-surprise-billing/>.

⁸ Sarah Kliff and Margot Sanger-Katz, “Why Ambulances Are Exempt from the Surprise-Billing Ban,” *New York Times*, December 22, 2020, <https://www.nytimes.com/2020/12/22/upshot/ground-ambulances-left-off-surprise-medical-bill-law.html>.

Methodology

FAIR Health conducted both longitudinal and non-longitudinal analyses of its data. In its non-longitudinal data analysis, FAIR Health used both longitudinal and non-longitudinal claim lines from its private insurance dataset that had a procedure code indicating ground ambulance services (as defined below). De-identified commercial claims data with dates of service from January 1, 2018, through December 31, 2022, were evaluated.

Ground ambulance services include the following procedure codes:

Table. Ground ambulance procedure codes

Procedure Code	Description
A0425	Ground mileage, per statute mile
A0426	Ambulance service, advanced life support, nonemergency transport, level 1 (ALS 1)
A0427	Ambulance service, advanced life support, emergency transport, level 1 (ALS 1-emergency)
A0428	Ambulance service, basic life support, nonemergency transport (BLS)
A0429	Ambulance service, basic life support, emergency transport (BLS-emergency)
A0433	Advanced life support, level 2 (ALS 2)
A0998	Ambulance response and treatment, no transport

The difference between basic life support and advanced life support is as follows:

- Basic life support (BLS): Also called “first step treatment,” these services can be provided by either a paramedic and/or an emergency medical technician (EMT), and typically include fractures or injuries, psychiatric patients or medical and surgical patients who do not need cardiac monitoring or respiratory interventions.
- Advanced life support (ALS): These services include a higher level of care and ALS ambulances must have a paramedic on board. The technicians in an ALS ambulance have a higher level of training. Typically, treatment during an ALS ambulance service includes an invasive procedure, for example, with needles or other devices that make cuts in the skin. An ALS provider can give injections, do very limited surgical procedures (e.g., a tracheotomy) and administer medicine. ALS ambulances are typically outfitted with airway equipment, cardiac life support, cardiac monitors and glucose testing devices.⁹ ALS ambulances can also provide basic life support services.

FAIR Health analyzed its complete data collection of ground ambulance claim lines by such factors as cost, age, gender, diagnosis, utilization by state and mileage by state. Using the same criteria as in the non-longitudinal data analysis, FAIR Health tracked patients in the longitudinal cohort to acquire outcome analyses, such as hospitalizations.

⁹ US Government Accountability Office, *Ambulance Providers: Costs and Medicare Margins Varied Widely; Transports of Beneficiaries Have Increased*, Report to Congressional Committees, October 2012, <https://www.gao.gov/assets/gao-13-6.pdf>.

Limitations

The data used in this report comprise claims data for privately insured patients who are covered by insurers and third-party administrators who voluntarily participate in FAIR Health's data contribution program. Medicare Advantage (Medicare Part C) enrollees from contributing insurers are included, but not participants in Medicare Parts A, B and D.¹⁰ In addition, data from Medicaid, CHIP and other state and local government insurance programs are not included, nor are data collected regarding uninsured patients.

This is an observational report based on the data FAIR Health receives from private payors regarding care rendered to covered patients.

The report was not subject to peer review.

¹⁰ FAIR Health receives the entire national collection of claims for traditional Medicare Parts A, B and D under the Centers for Medicare & Medicaid Services (CMS) Qualified Entity Program, but those data are not a source for this report.

Results

ALS and BLS Services

When an individual calls for a ground ambulance, the dispatcher may send an ALS or BLS ambulance. The determination may be based on the information available on the patient's condition at dispatch. For example, a higher level of medical training among the paramedics and EMTs, who can perform invasive procedures (e.g., administering continuous intravenous drips and medications, using defibrillators, placing advanced airway tubes), is available only on ALS ambulance rides. Accordingly, if the patient is experiencing an allergic reaction with rapid progression of symptoms (e.g., wheezing, difficulty swallowing) and has a prior history of anaphylaxis, the dispatcher would likely send an ALS ambulance for immediate medical care). A BLS ambulance, on the other hand, may be dispatched if, for example, a psychiatric patient is deemed a danger to self or others and needs safety interventions (e.g., seclusion).¹¹ Other factors may influence the relative use of ALS as compared to BLS ambulance, such as the availability of vehicles and trained individuals in a geographic region.

From 2018 through 2022, ALS services made up a larger percentage of ground ambulance claim lines than BLS services (figure 1). This trend was relatively stable throughout the period studied; 50.9 percent to 51.6 percent of ground ambulance claim lines were associated with ALS compared to 48.7 percent to 49.1 percent associated with BLS.



Figure 1. ALS versus BLS claim lines as a percentage of all ground ambulance claim lines, 2018-2022

¹¹ "Ambulance Fee Schedule – Medical Conditions List: Emergency Conditions – Non-Traumatic," Centers for Medicare & Medicaid Services, last updated August 16, 2023, <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AmbulanceFeeSchedule/Downloads/2015-AFS-Medical-Conditions.pdf>.

From 2018 to 2022, the use of ALS versus BLS ground ambulance services varied by US census region (figure 2). The Northeast saw the greatest disparity between the two services, with BLS capturing a larger share of ground ambulance claim lines than ALS. While ALS services made up 37.5 percent of all ground ambulance claim lines in that region, BLS services accounted for 62.5 percent—a difference of 25.0 percentage points.

The Midwest, South and West, on the other hand, had higher percentages of ground ambulance claim lines associated with ALS services. The distribution of ALS and BLS services was similar in the Midwest and South, respectively constituting 56.3 percent and 43.7 percent of ground ambulance claim lines in the Midwest, and 56.7 percent and 43.3 percent of ground ambulance claim lines in the South. The West saw a greater difference in the use of ALS and BLS services, with the former accounting for 61.9 percent of ground ambulance claim lines and the latter capturing 38.2 percent.

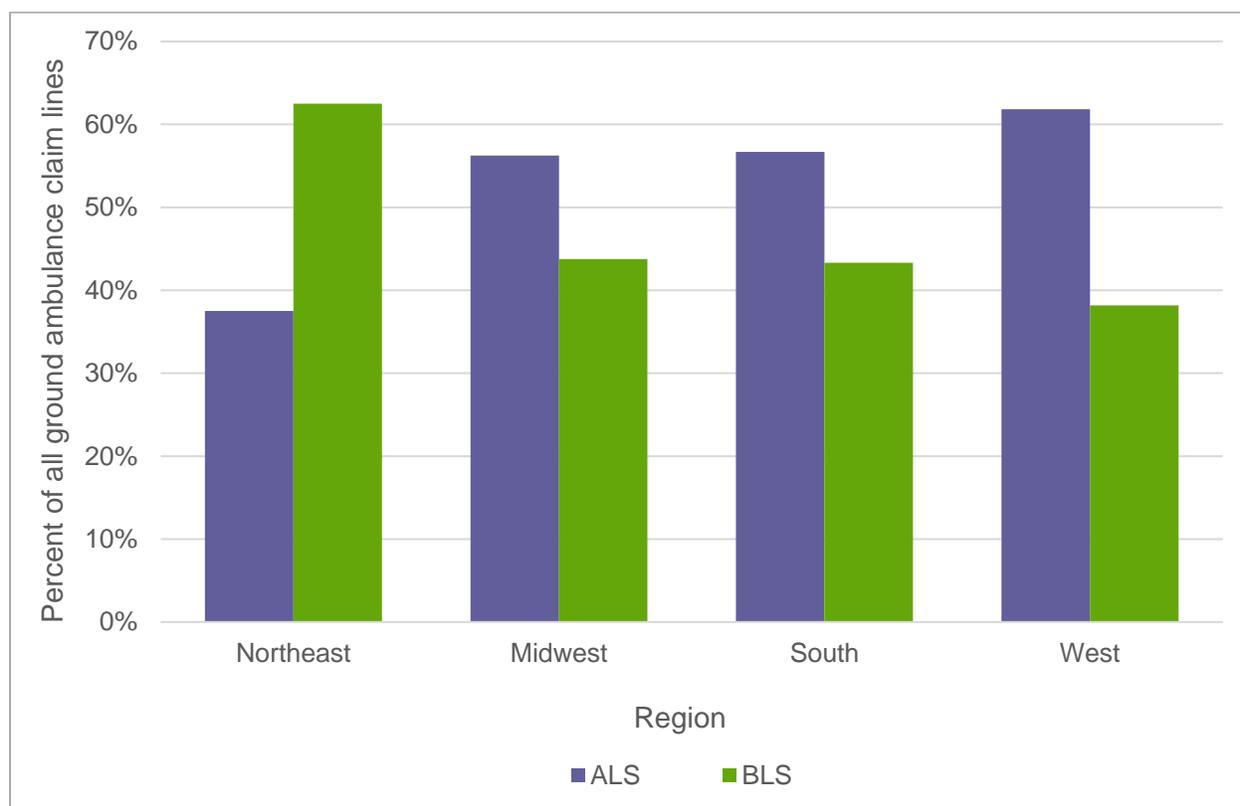


Figure 2. ALS versus BLS claim lines as a percentage of all ground ambulance claim lines by region, 2018-2022

It is not until an ambulance arrives at the scene and medical professionals conduct a thorough evaluation of the patient that the type of transport needed—emergency or nonemergency—is determined. For example, an ALS ambulance and qualified ALS professionals may be dispatched because it was deemed necessary based on the patient’s reported condition. After the ALS professionals arrive and assess the patient’s condition, they might determine the situation is nonemergent and does not require ALS services but still calls for transportation to the hospital for necessary medical care. In this case, A0426 (ALS 1 – Nonemergency) would be submitted on the claim for the service. If an ALS assessment determines that the patient’s condition requires emergency transport, A0427 (ALS – Emergency) would be submitted.

Figure 3 depicts the percentage of ALS ground ambulance claim lines associated with nonemergency versus emergency transports. In each year from 2018 to 2022, emergency transports constituted between 92.1 and 93.2 percent of transports when ALS ambulances were dispatched, while nonemergency transport accounted for 8.0 percent or less of such claim lines.

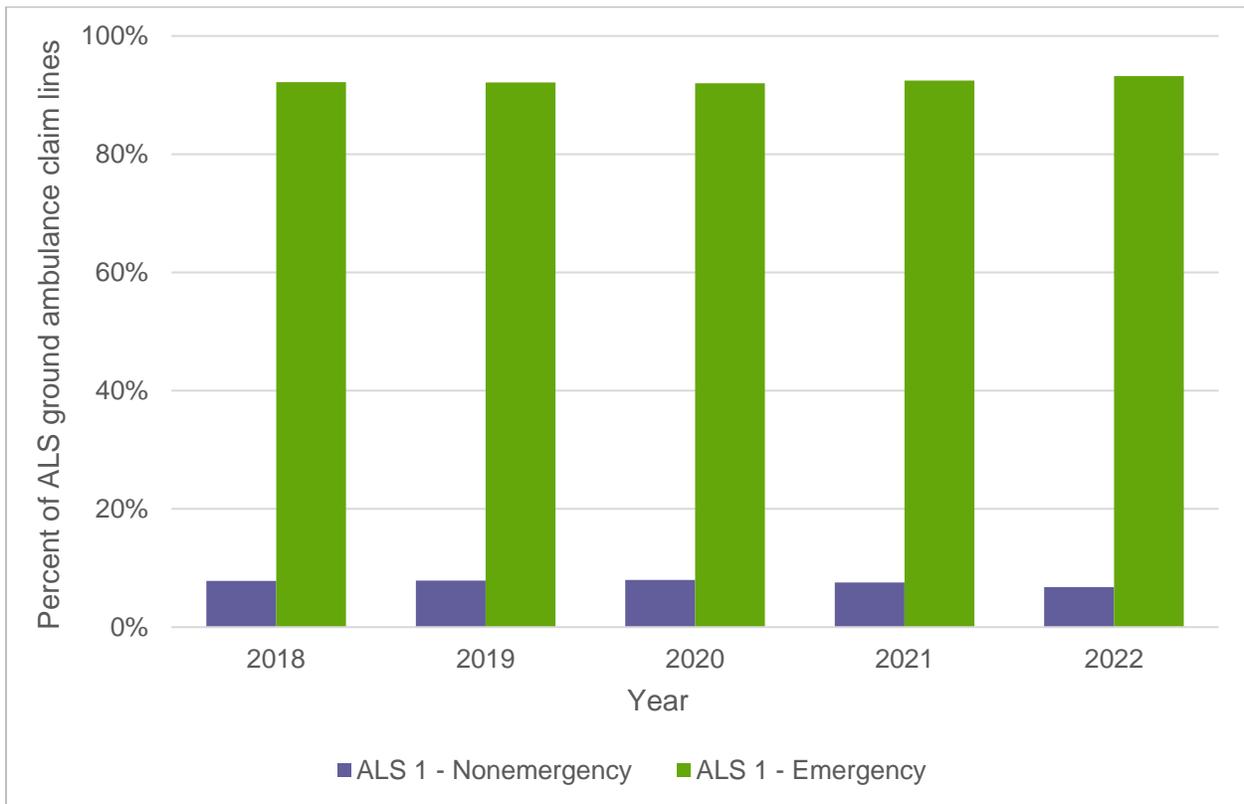


Figure 3. Nonemergency versus emergency transports as a percentage of ALS ground ambulance claim lines, 2018-2022

Emergency transport was also more frequent than nonemergency transport among BLS ground ambulance services (figure 4), though the difference in frequency was less than the difference observed for ALS emergency and nonemergency services (figure 3). From 2018 to 2022, the percentage of nonemergency BLS services decreased, while emergency BLS services increased (figure 4). In 2018, nonemergency transports accounted for 43.7 percent of BLS ground ambulance claim lines, while emergency transports made up 56.3 percent. By 2022, the percentage of nonemergency BLS transports fell to 37.1 percent, while emergency transports rose to 62.9 percent.

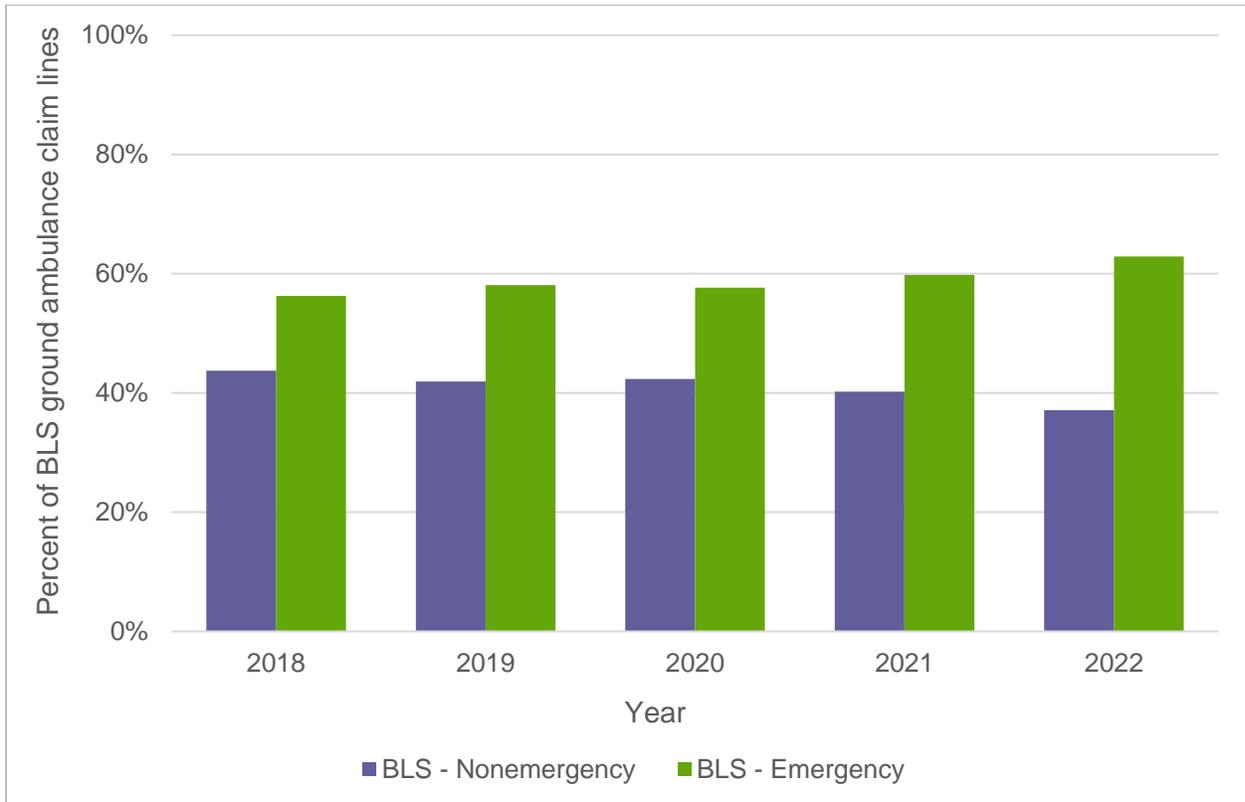


Figure 4. Nonemergency versus emergency transports as a percentage of BLS ground ambulance claim lines, 2018-2022

In 2022, the average allowed (in-network) amounts for ALS and BLS emergency ground ambulance services varied by state (figure 5).¹² Among the states evaluated, which include one in each US census region (California in the West, Illinois in the Midwest, New York in the Northeast and Texas in the South), California saw the highest average allowed amounts for both ALS and BLS emergency services, \$1,461 for the former and \$1,031 for the latter. Illinois had the lowest average allowed amounts associated with both ALS and BLS emergency ground ambulance services, \$836 and \$673, respectively.

In addition, ALS services were consistently higher in cost than BLS services. In Texas, for example, ALS emergency services were approximately \$57 more expensive than BLS emergency services—the lowest price disparity among the states evaluated. California and New York had the highest differences in costs between such services, with California seeing a \$430 cost differential and New York having a \$292 disparity. Illinois’s difference in average allowed amounts for BLS and ALS emergency ground ambulance was smaller, at \$163.

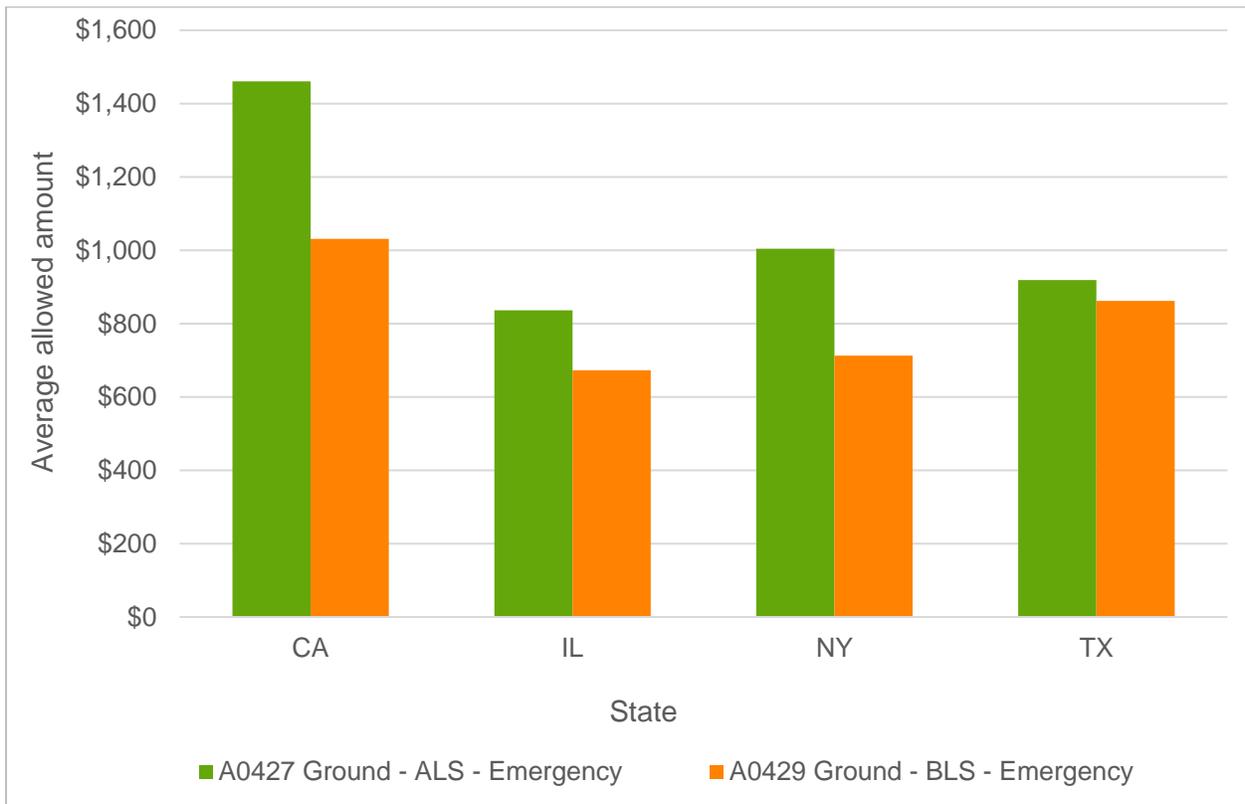


Figure 5. Average allowed amounts for ALS versus BLS emergency ground ambulance services by state, 2022

¹² Costs shown here are for base fees only and do not include mileage fees.

Individuals 65 years and older were consistently the largest age group associated with ALS ground ambulance services, though their share of the distribution decreased from 37.4 percent to 30.6 percent from 2018 to 2022 (figure 6).

In the period 2018-2022, those aged 51 to 64 were the second most common age cohort to incur ALS ground ambulance services, with approximately 25 to 28 percent of ALS ground ambulance claim lines; 36-to-50-year-olds were the third most common. The age group 19 to 35 was in fourth place in the list, and the youngest age cohort, those 0 to 18 years old, made up the smallest share of the distribution, with 8 to 10 percent of ALS ground ambulance claim lines.

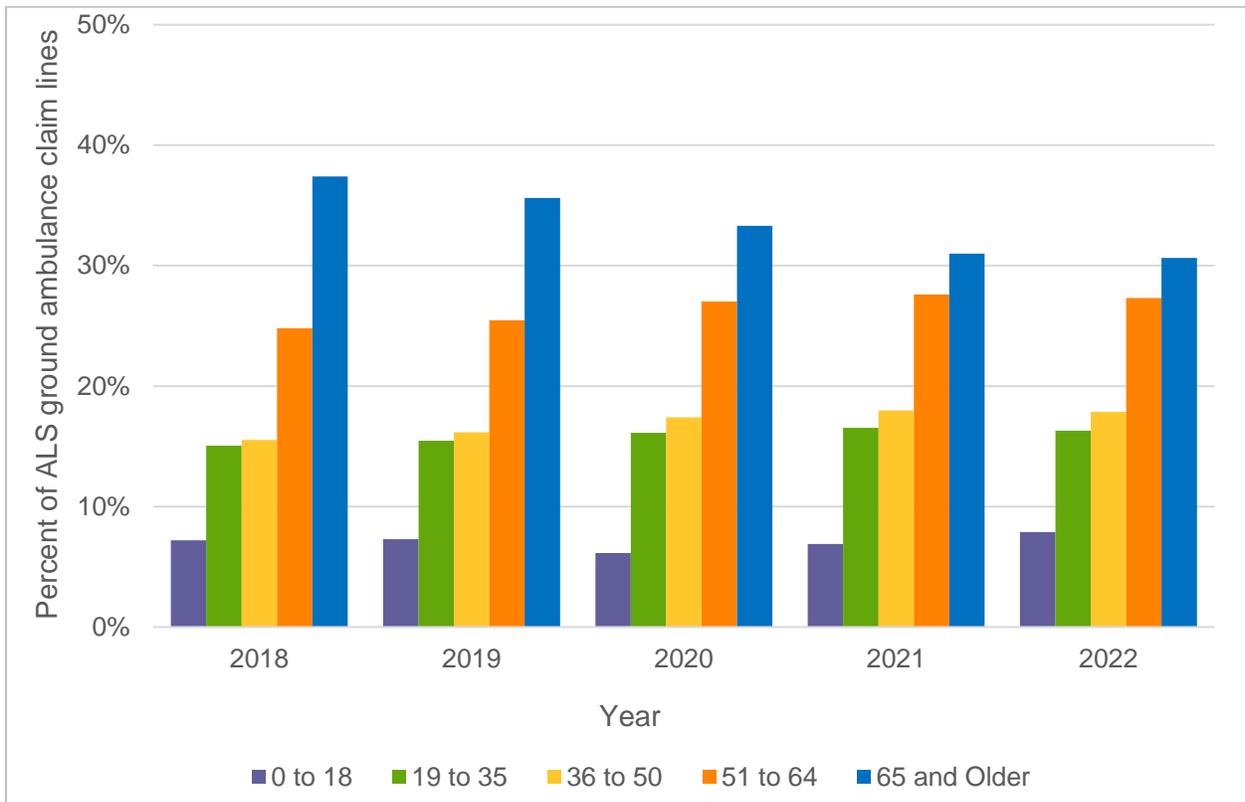


Figure 6. Distribution of age groups associated with ALS ground ambulance claim lines by year, 2018-2022

A similar trend was seen among individuals receiving BLS ground ambulance services, with those aged 65 and older accounting for the highest percentage of claim lines, and the age group 51 to 64 making up the second biggest share (figure 7).

The oldest age cohort's share in the distribution decreased year over year from 47.6 percent in 2018 to 40.9 percent in 2022. At the same time, 19-to-35-year-olds' share increased from 14.4 percent to 16.0 percent. This age group was associated with the third largest percentage of BLS ground ambulance claim lines—whereas 36-to-50-year-olds took this place in the distribution of ALS ground ambulance claim lines (figure 6).

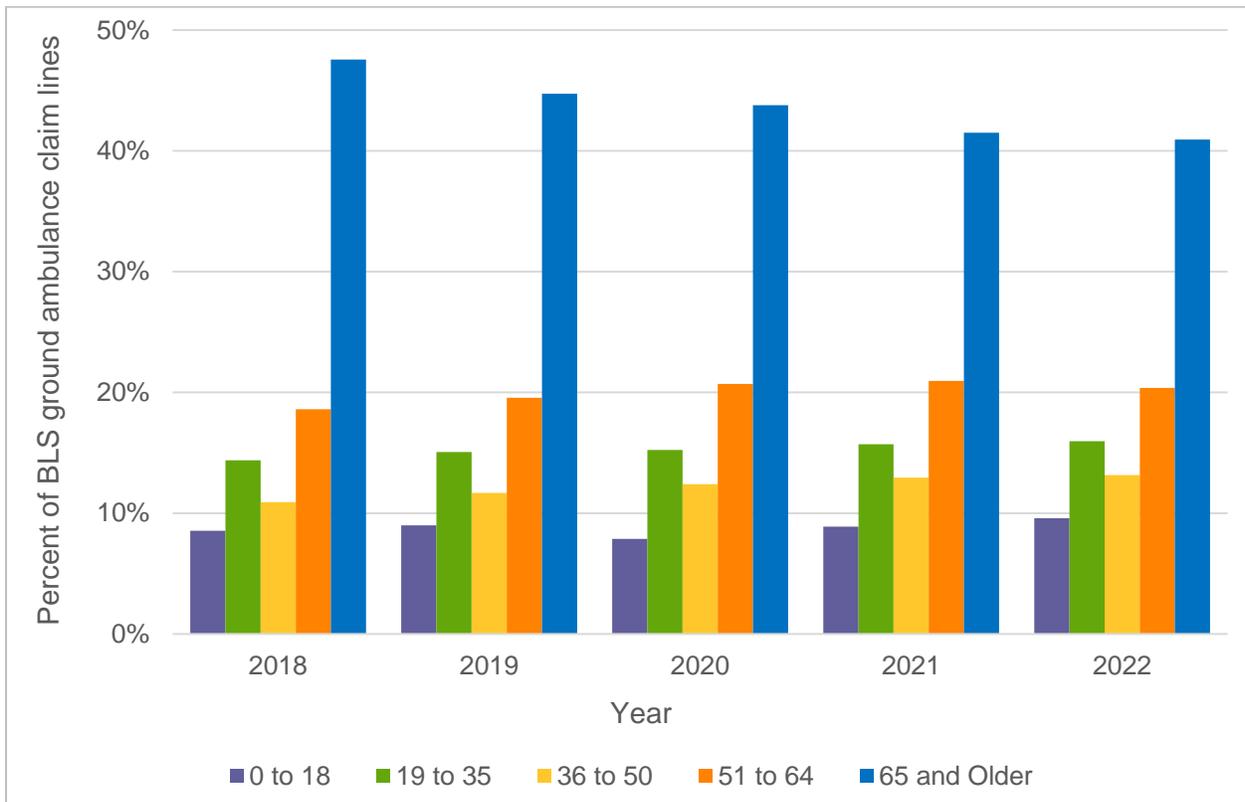


Figure 7. Distribution of age groups associated with BLS ground ambulance claim lines by year, 2018-2022

Response and Treatment—No Transport

In addition to being used for transport, ground ambulances can also render treatment on-site, without ultimately transporting the patient from the original location to a hospital. (The response and treatment—no transport procedure code is A0998.) As seen in figure 8, this type of service—response and treatment with no transport—increased from 2018 to 2020, rising from 1.4 percent to 2.0 percent of all ground ambulance claim lines. In the following years, however, it decreased slightly, dropping to 1.9 percent by 2022.

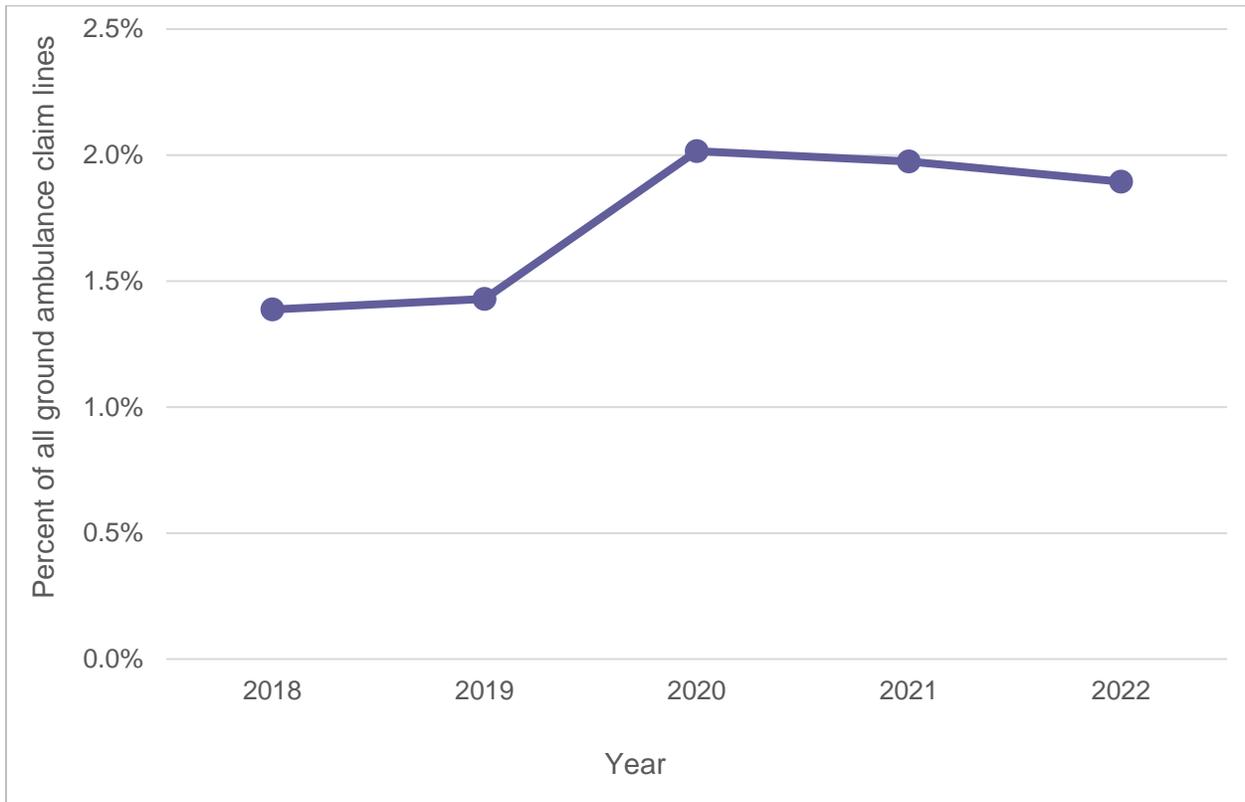


Figure 8. Response and treatment—no transport as a percentage of all ground ambulance claim lines, 2018-2022

From 2018 to 2022, response and treatment without transport accounted for a higher percentage of ground ambulance claim lines among individuals aged 19 to 35 than any other age group: between 2.2 and 3.1 percent (figure 9). By comparison, for the age cohort 65 years and older, no transport services made up 0.8 to 1.2 percent of ground ambulance claim lines—the lowest percentage in the distribution.

Given the uptick of response and treatment—no transport ground ambulance claim lines in 2020 (figure 8), all age groups saw an increase in no transport ground ambulance services that year (figure 9). In 2021 and 2022, however, no transport services decreased across most age groups, with the exception of those aged 65 and older. This age cohort's percentage of claim lines rose slightly, from 1.18 percent in 2020, to 1.19 percent in 2021 and to 1.24 percent in 2022.

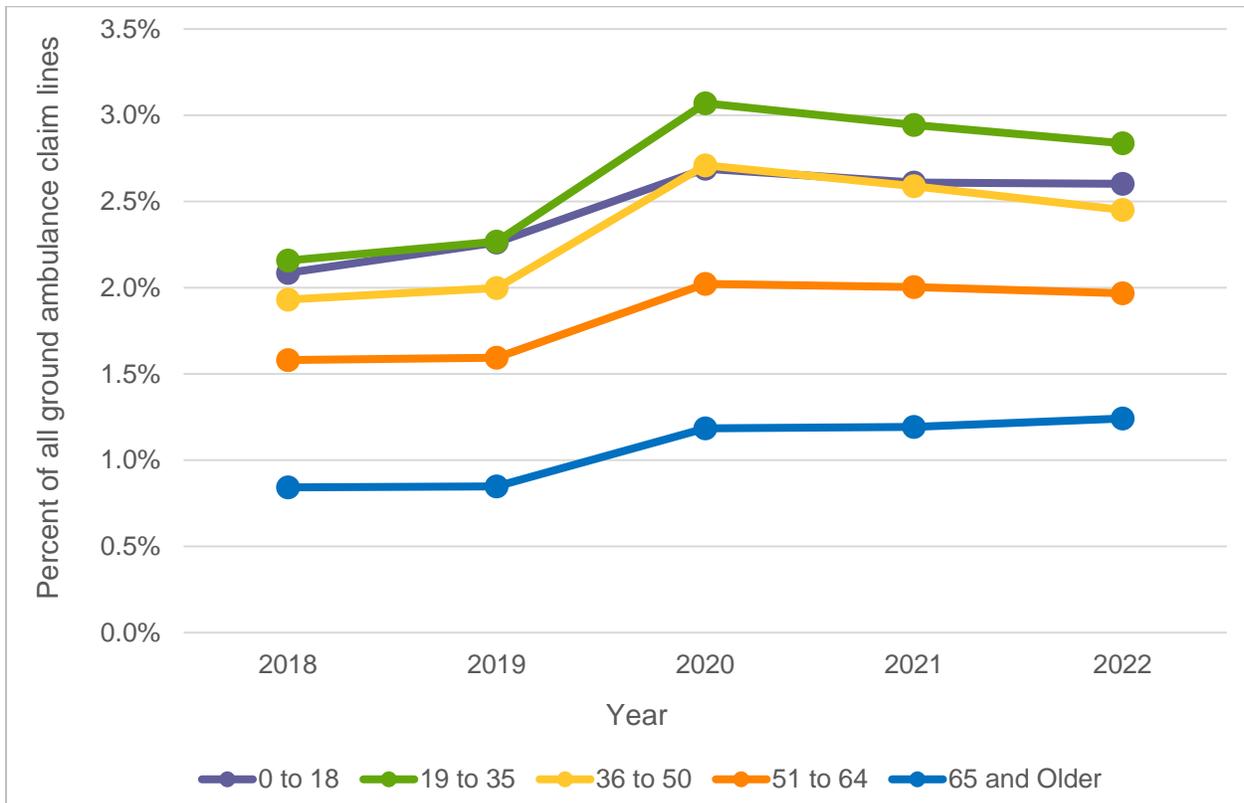


Figure 9. Response and treatment—no transport as a percentage of all ground ambulance claim lines by age group, 2018-2022

Top Diagnoses by Ambulance Type

In the period from 2018 to 2022, the most common diagnostic category for which ALS ground ambulances were dispatched was general signs and symptoms, which include diagnoses such as syncope and collapse, ataxic and/or paralytic gait, tremors, lack of coordination and fever (figure 10). This diagnostic category accounted for 18.2 percent of the distribution of ALS ground ambulance claim lines.

The second most common reason for ALS ground ambulance services was general signs and symptoms involving circulatory and respiratory system (7.7 percent). Included in this category are tachycardia, bradycardia and heart palpitations. Injury to body was the third most common reason (6.8 percent), and fourth on the list were signs and symptoms involving cognition (6.1 percent), which refers to a number of symptoms, such as disorientation, stupor, coma and amnesia.

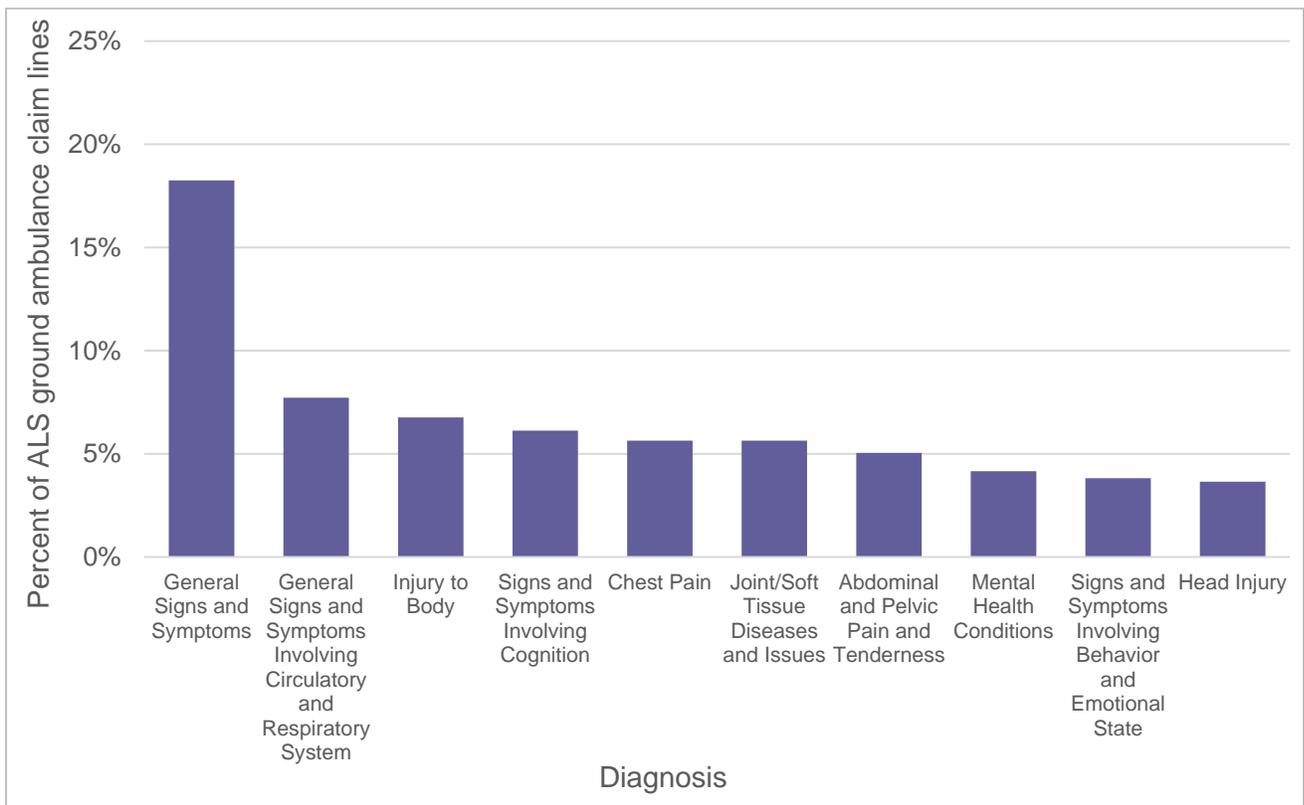


Figure 10. Top 10 diagnoses associated with ALS ground ambulance claim lines, 2018-2022

As with ALS ground ambulance services (figure 10), the main reason for BLS services in the period 2018-2022 was general signs and symptoms, with 20.6 percent of all BLS ground ambulance claim lines (figure 11). Whereas general signs and symptoms involving circulatory and respiratory systems were second on the list for ALS services, joint/soft tissue diseases and issues were in this position for BLS ground ambulance rides.

Notably, mental health conditions were the third top diagnosis associated with BLS services (7.1 percent). This diagnostic category was much higher in the distribution of BLS diagnoses than it was for ALS diagnoses, where it was in eighth place, constituting 4.2 percent of all ALS ground ambulance claim lines (figure 10).

Absent from the list of diagnoses associated with ALS services but included on the BLS list was kidney disease (3.2 percent) (figure 11).

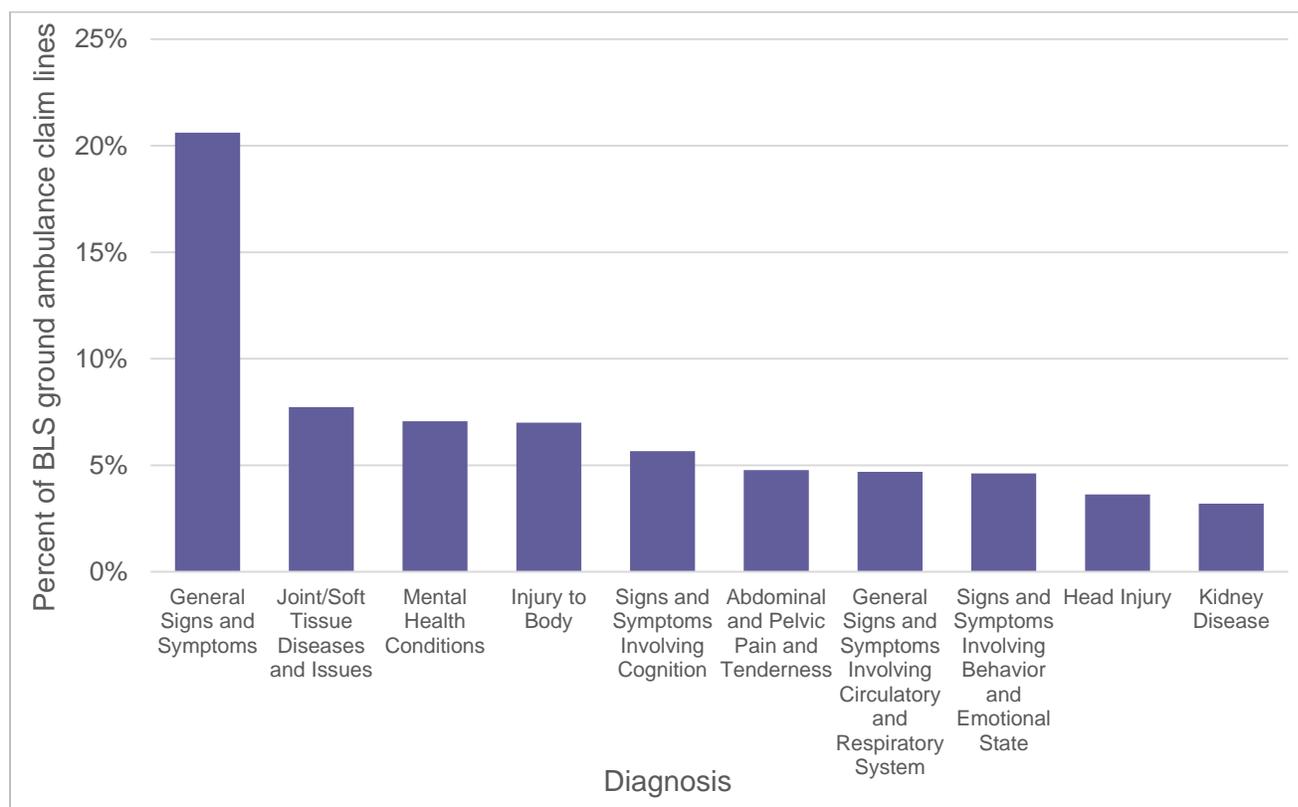


Figure 11. Top 10 diagnoses associated with BLS ground ambulance claim lines, 2018-2022

Among non-transport ground ambulance services from 2018 to 2022, the number one diagnosis was general signs and symptoms, with 24.9 percent of response and treatment—no transport ground ambulance claim lines (figure 12). General signs and symptoms involving circulatory and respiratory system issues were second on the list, followed by injury to body, which accounted for 8.1 percent and 7.3 percent of the distribution, respectively.

After chest pain, signs and symptoms involving behavior and emotional state and mental health conditions were the fifth and sixth top diagnoses associated with this service, together making up just over nine percent of non-transport response and treatment claim lines.

Endocrine and metabolic disorders, head injury, signs and symptoms involving cognition, and epilepsy rounded out the top 10, with each individually making up less than five percent of the distribution.

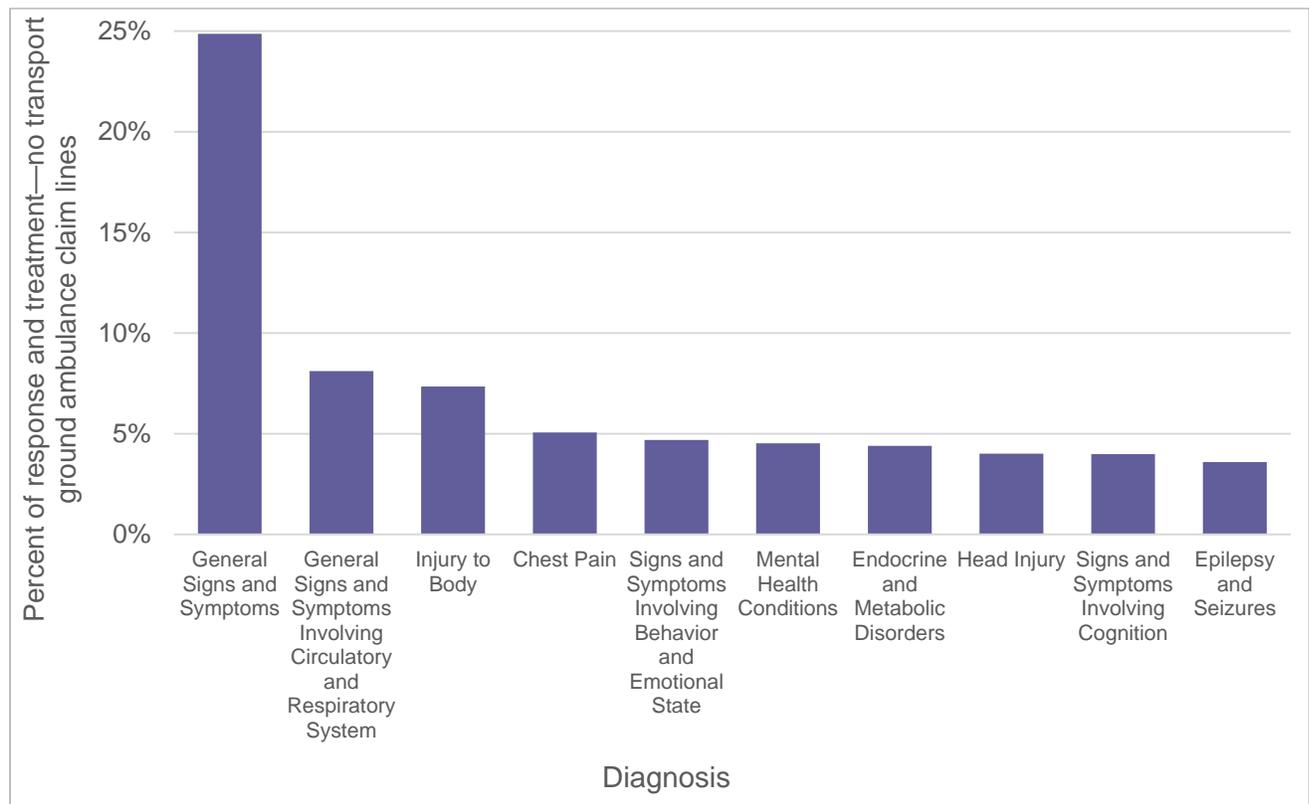


Figure 12. Top 10 diagnoses associated with response and treatment—no transport ground ambulance claim lines, 2018-2022

Figure 13 depicts the top diagnoses associated with ground ambulance claim lines involving transport (i.e., excluding non-transport ground ambulance services). In the period from 2018 to 2022, the most common diagnosis for which patients were transported via ground ambulance was general signs and symptoms, which accounted for 18.3 percent of ground ambulance claim lines involving transport.

As with non-transport services, the second and third most common reasons for transportation via ground ambulance were general signs and symptoms involving circulatory and respiratory systems (8.0 percent) and injury to body (6.5 percent). Whereas chest pain was fourth on the list of top non-transport diagnoses (figure 12), it was fifth in the ranking among ambulance services involving transport (figure 13); the fourth most common reason for ground ambulance rides involving transport was signs and symptoms involving cognition, making up 6.4 percent of ground ambulance claim lines.

Following chest pain on the list were joint/soft tissue diseases and issues (5.8 percent) and abdominal and pelvic pain and tenderness (5.1 percent). Mental health conditions were the eighth top diagnosis associated with ground ambulance claim lines involving transport, making up 4.1 percent of the distribution, and signs and symptoms involving behavior and emotional state were in ninth place, accounting for 3.9 percent of ground ambulance claim lines. Head injury was the 10th most common reason for transport-specific ground ambulance services (3.6 percent).

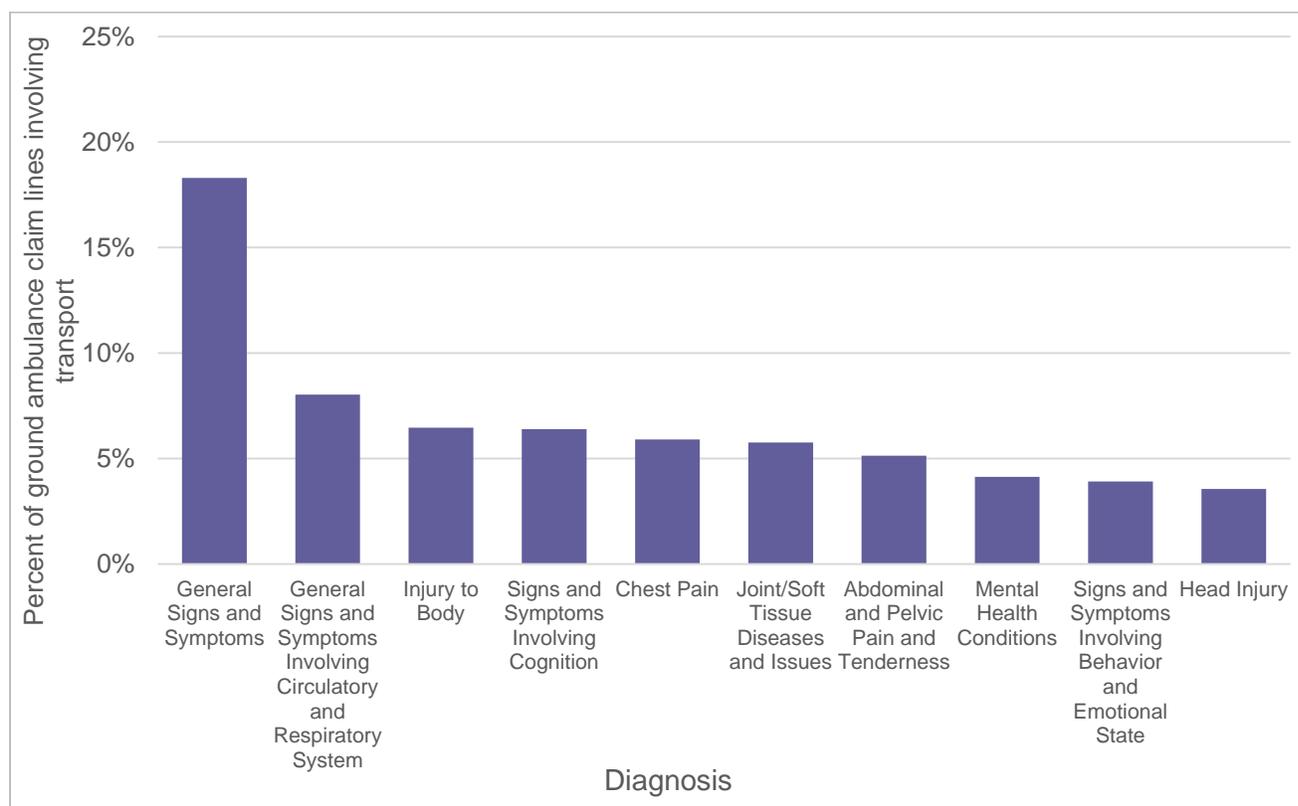


Figure 13. Top 10 diagnoses associated with ground ambulance claim lines involving transport, 2018-2022

Geography: Mileage, Distance and Cost

In the map below, states where ground ambulances traveled a greater average mileage are on the dark purple end of the spectrum, while states with a lower average mileage are on the light purple end. In the period 2018-2022, the average mileage that ground ambulances traveled by state varied from 33.8 miles in Vermont to 7.9 miles in Washington, DC (figure 14). The five states with the highest average mileage from 2018 to 2022 were:

- Vermont—33.8 miles;
- Maine—30.6 miles;
- Wyoming—25.0 miles;
- North Dakota—24.6 miles; and
- Mississippi—23.8 miles.

Several of the states included on the list of lowest average mileage have large metropolitan centers, which likely accounts for fewer miles traveled. Alaska, however, does not have a sizable metropolitan center but was second on the list—perhaps due to its reliance on air ambulances for longer trips. The five jurisdictions with the lowest average ground mileage from 2018 to 2022 were:

- Washington, DC—7.9 miles;
- Alaska—8.8 miles;
- New York—9.1 miles;
- Nevada—9.4 miles; and
- Massachusetts—9.9 miles.

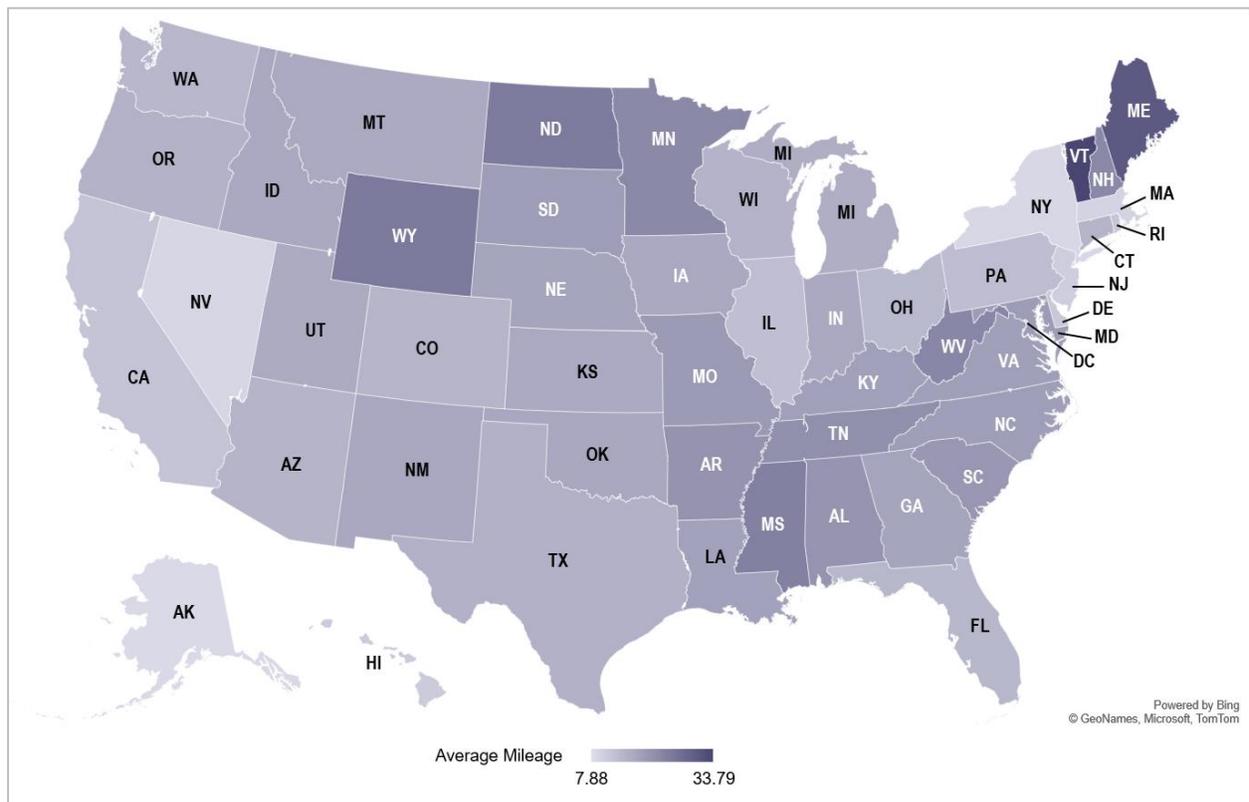


Figure 14. Average mileage for ground ambulance transport by state, 2018-2022

A0425—which can be billed for the mileage of both ALS and BLS ground ambulance services—was analyzed (figure 15) to identify average allowed (in-network) amounts associated with ground ambulance mileage per statute mile. This code can be used in tandem with A0426 (ALS 1 – nonemergency), for example, to identify an ALS service along with the mileage code.

The states with the highest average allowed amounts per statute mile were:

- Utah—\$28.35;
- Wyoming—\$24.29;
- California—\$20.63;
- North Dakota—\$19.36; and
- Nevada—\$18.76.

The states with the lowest average allowed amounts per statute mile were:

- Florida—\$5.79;
- Maine—\$7.55;
- North Carolina—\$7.66;
- Vermont—\$7.71; and
- Maryland—\$8.21.

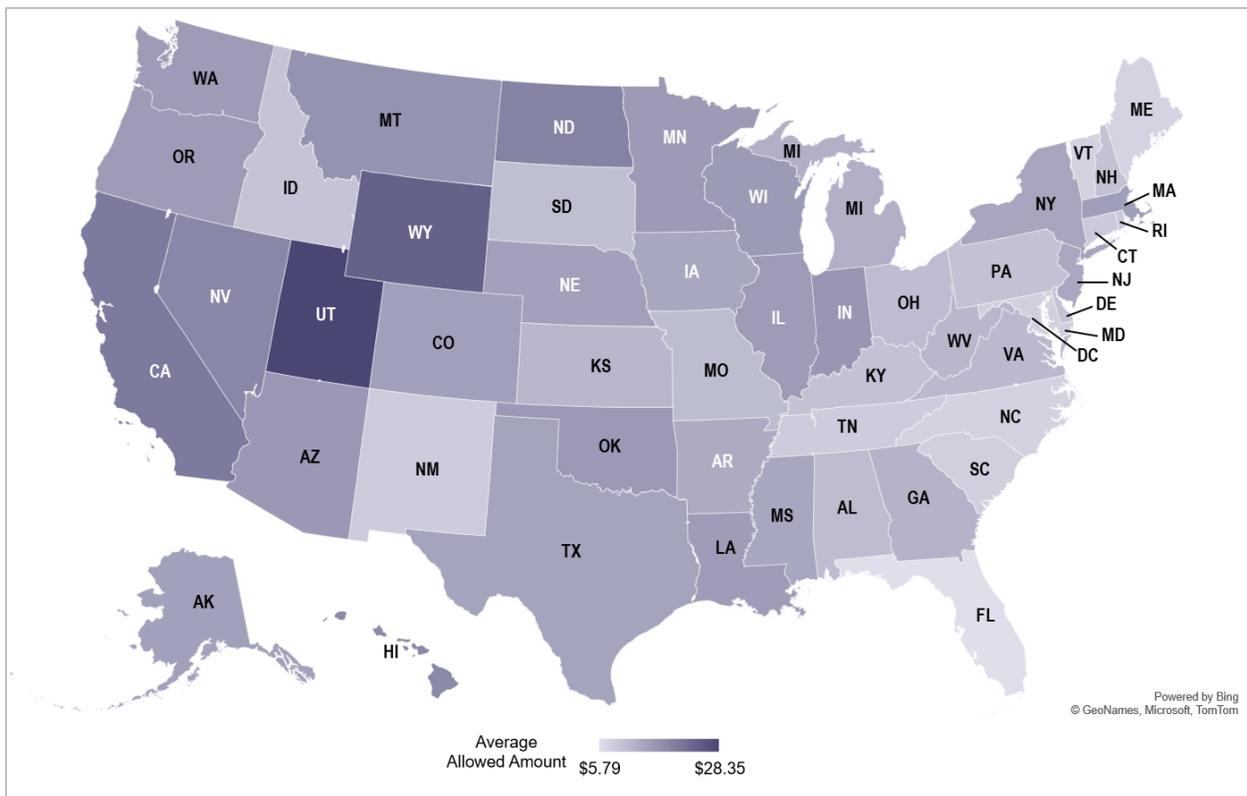


Figure 15. Average allowed amounts for ground ambulance mileage per statute mile by state, 2022

In-Network versus Out-of-Network Transports

Out-of-network ground ambulance rides accounted for a larger percentage of ground ambulance claim lines than in-network ones from 2018 to 2022 (figure 16). In 2018, out-of-network rides made up 63.7 percent of the distribution, while in-network rides made up 36.3 percent.

Since 2019, however, there has been a small but steady decrease in the percentage of out-of-network ground ambulance transports. Out-of-network rides made up 62.4 percent of ground ambulance claim lines in 2020 and dropped to 61.1 percent in 2021. By 2022, out-of-network ground ambulance rides dipped below 60 percent of all ground ambulance claim lines (59.4 percent) and in-network transports made its way past 40 percent (40.6 percent).

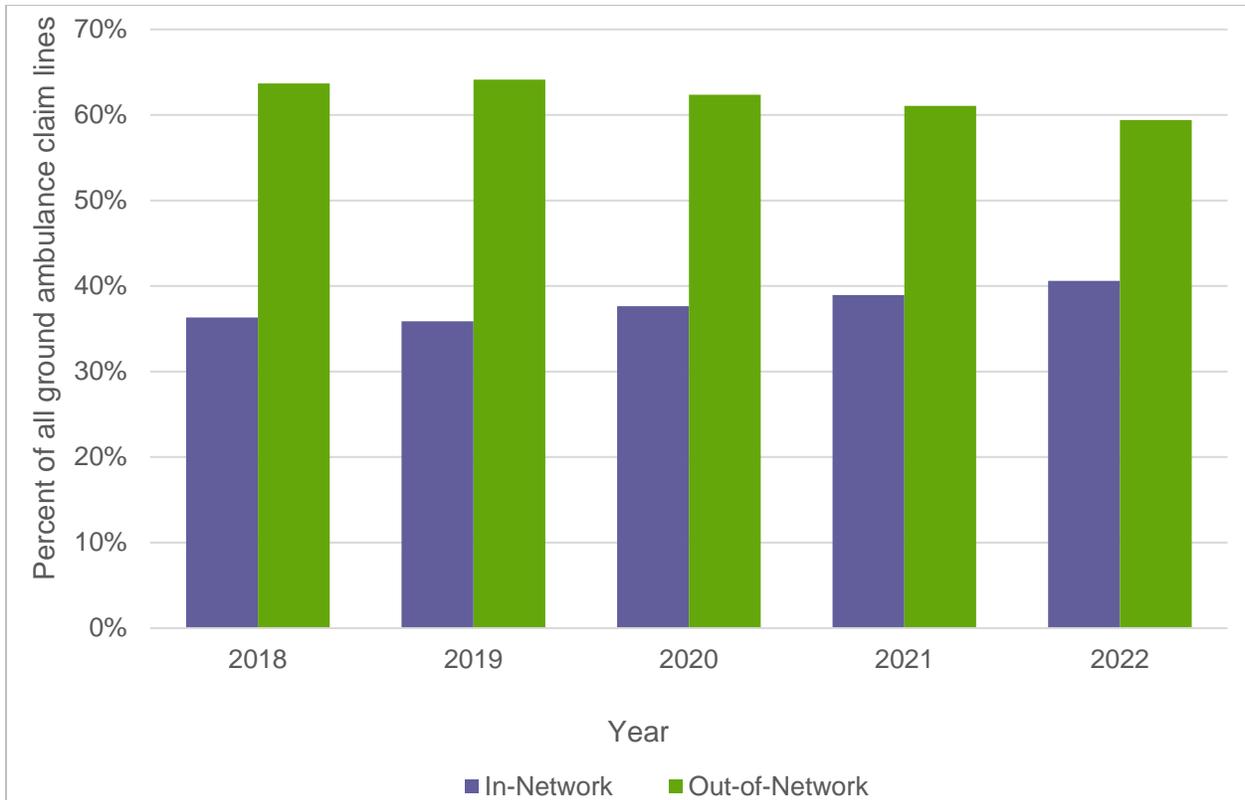


Figure 16. In-network versus out-of-network ground ambulance transports as a percentage of all ground ambulance claim lines, 2018-2022

From 2018 to 2022, the percentage of nonemergency ground ambulance services that were rendered in network versus out of network varied, though only slightly (figure 17). In 2018, in-network rides captured a larger percentage of nonemergency ground ambulance claim lines than out-of-network ones, respectively making up 51.1 percent and 48.9 percent of the distribution. The following year, there was an uptick in out-of-network transports, increasing to 51.4 percent of nonemergency ground ambulance claim lines.

During the remainder of the period studied, out-of-network nonemergency ground ambulance services declined. By 2022, out-of-network rides constituted a lower percentage of nonemergency ground ambulance claim lines than they had in 2018; in-network services accounted for 51.3 percent of the distribution, and out-of-network services accounted for 48.7 percent.

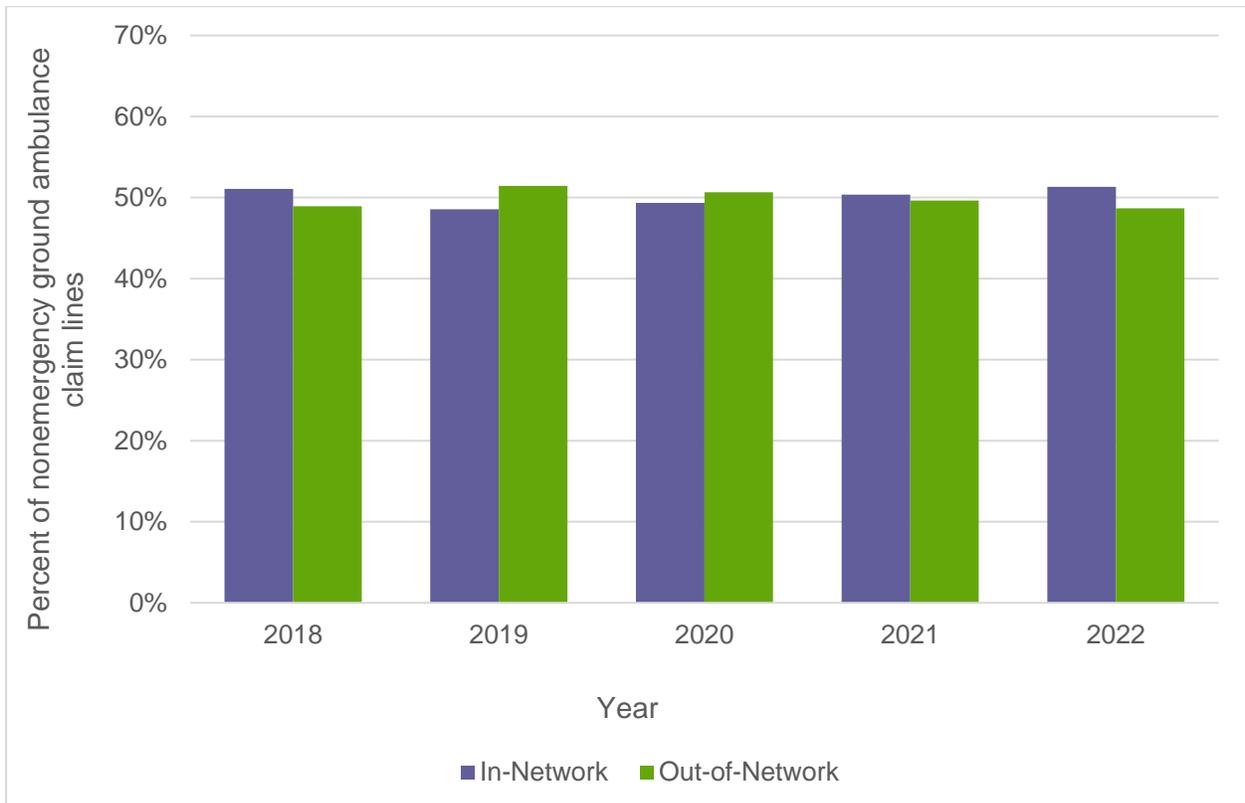


Figure 17. In-network versus out-of-network ground ambulance transports as a percentage of nonemergency ground ambulance claim lines, 2018-2022

Emergency ground ambulance transports, on the other hand, were more frequently rendered out of network than in network from 2018 to 2022 (figure 18). The largest difference between in-network and out-of-network emergency ground ambulance services occurred in 2018, with the former accounting for 31.7 percent of emergency ground ambulance claim lines and the latter capturing 68.3 percent.

Whereas in-network nonemergency ground ambulance rides declined in 2019 (figure 17), in-network emergency ground ambulance services increased—a trend that continued through 2022 (figure 18). In the final year analyzed, in-network rides made up 38.0 percent of emergency ground ambulance claim lines and out-of-network rides made up 62.0 percent.

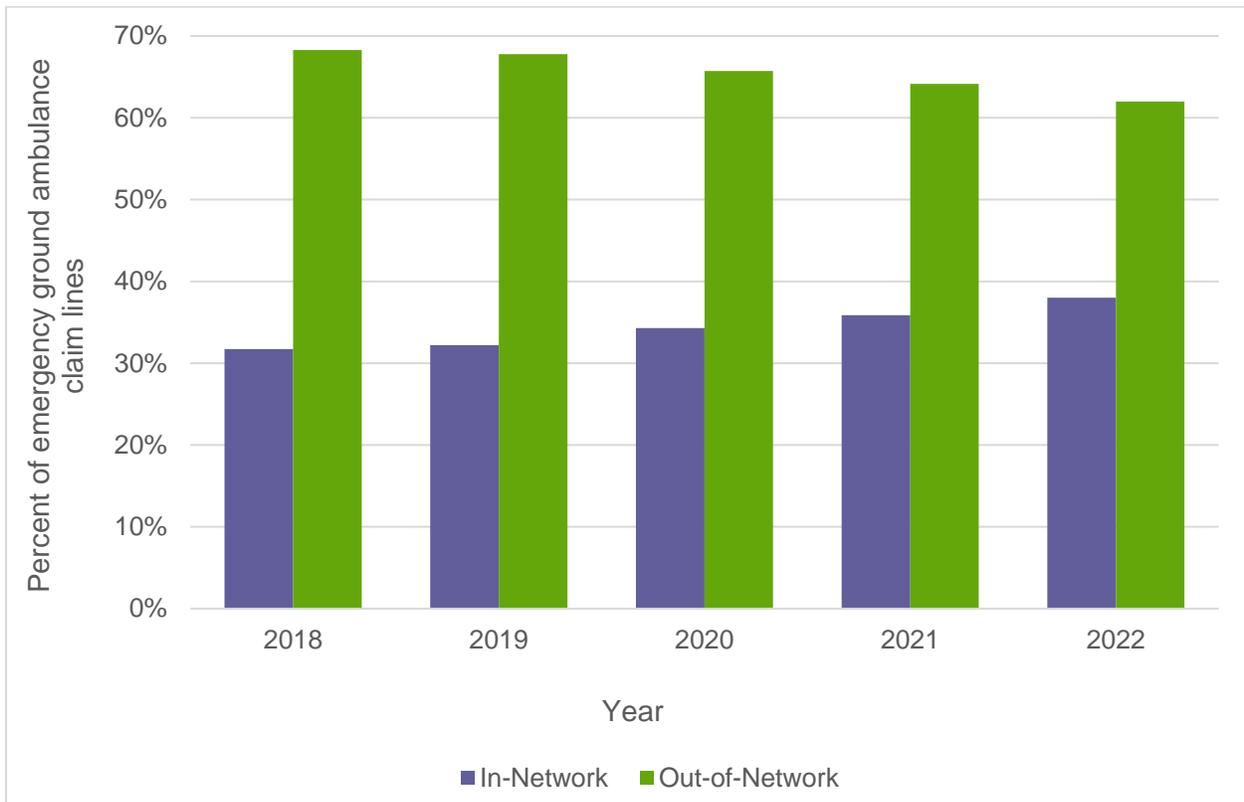


Figure 18. In-network versus out-of-network ground ambulance transports as a percentage of emergency ground ambulance claim lines, 2018-2022

Conversion to Inpatient Admission

Individuals aged 65 and older experienced higher rates of ground ambulance rides resulting in inpatient admission than any other age group in the period 2018-2022; 52.0 percent of male patients and 47.9 percent of female patients in that age group were admitted to a hospital after ground ambulance transport.

Figure 19 shows the percentage of male patients by age group who were transported by ground ambulance and subsequently admitted to a hospital from 2018 to 2022.

Among male patients aged 65 and older who received ground ambulance transport, 52.0 percent of that age cohort were admitted to a hospital—the largest percentage of inpatient admission among age groups. Second and third were the male age cohorts 51 to 64 and 36 to 50, making up 46.1 percent of the former age group and 34.8 percent of the latter age group.

Male individuals aged 0 to 18 had a higher percentage of inpatient admissions after ground ambulance transport—with 31.4 percent of that age group’s distribution—than those aged 19 to 35; 26.7 percent of males in that group were admitted as patients.

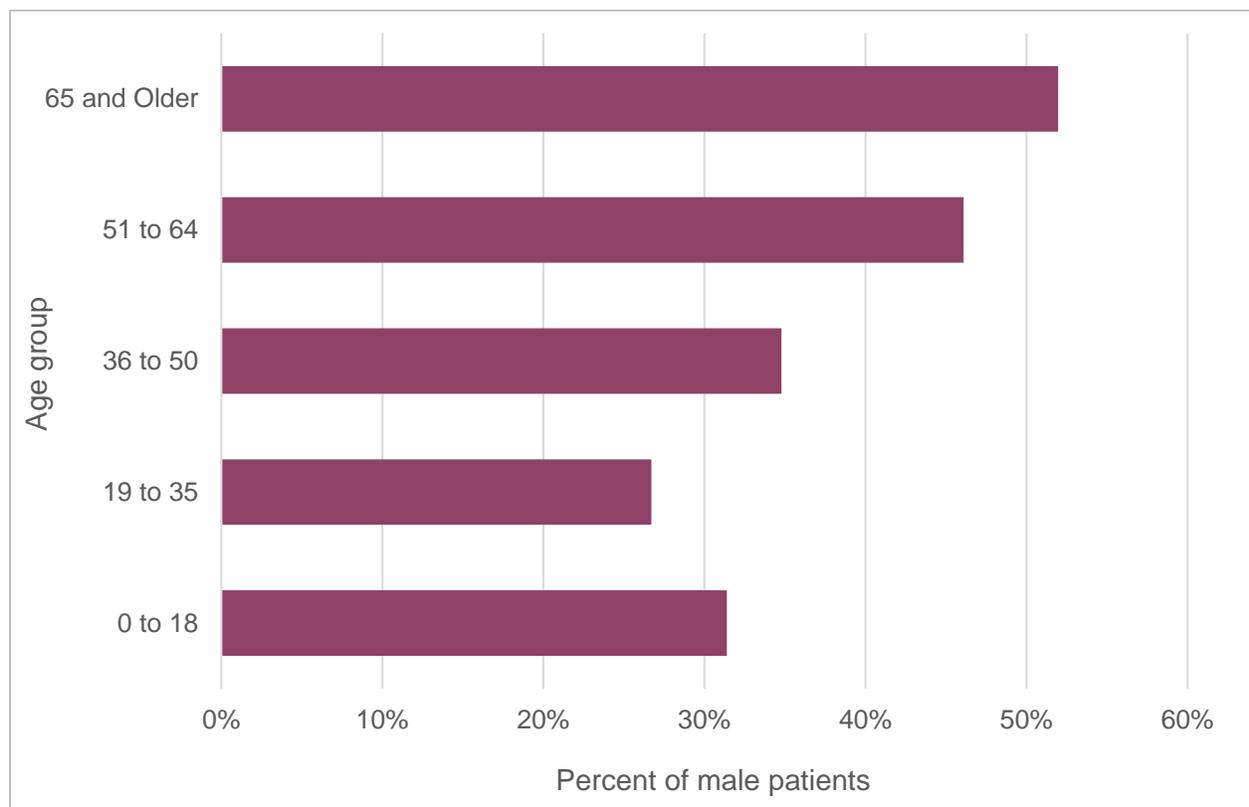


Figure 19. Percent of male patients with a ground ambulance transport resulting in an inpatient admission by age group, 2018-2022

Similar to males (figure 19), females in the age group 65 and older experienced higher rates of ground ambulance transport resulting in inpatient admissions than any other age group—though with a lower share of the age group distribution that was seen among males—making up 47.9 percent of female patients aged 65 and older (figure 20).

The percentage of females within each age group who were admitted to the hospital after ground ambulance transport declined by age, with the exception of individuals aged 0 to 18, as with males.

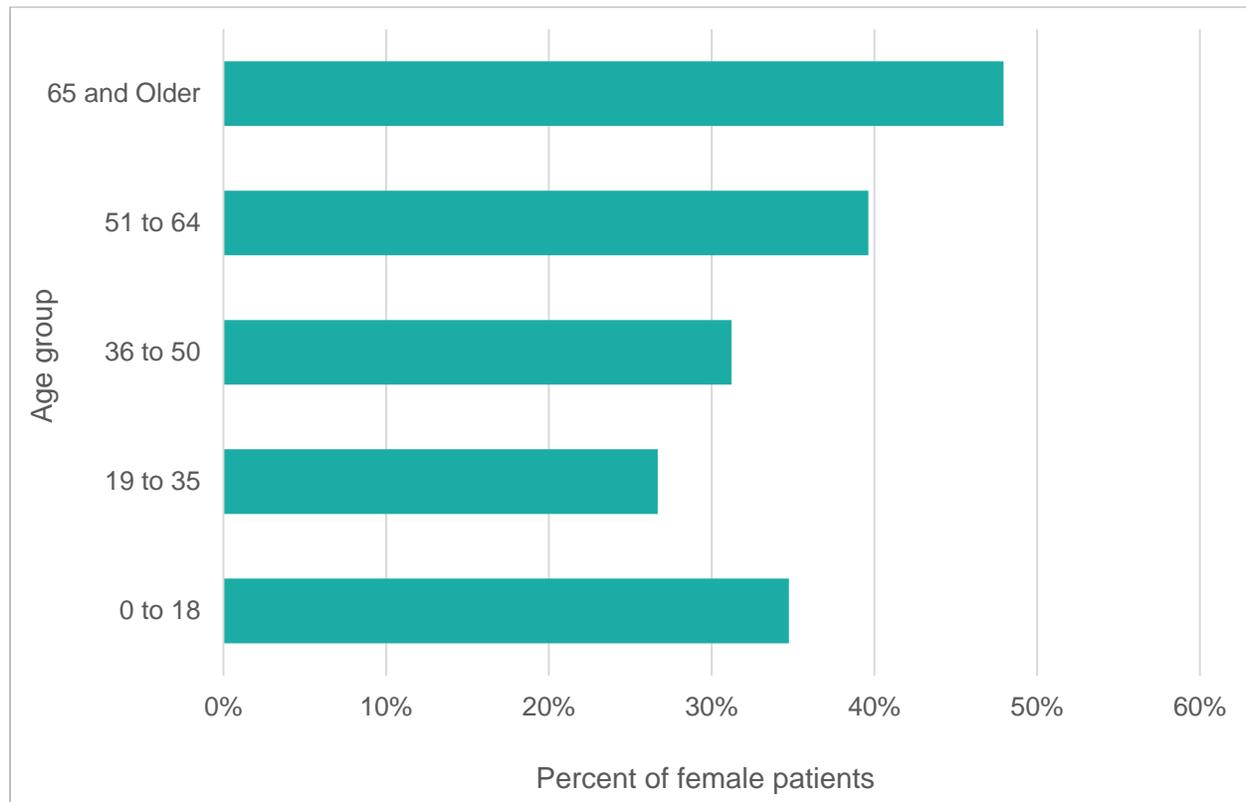


Figure 20. Percent of female patients with a ground ambulance transport resulting in an inpatient admission by age group, 2018-2022

Conclusion

The ground ambulance industry in the United States is complex in nature, and its many moving parts (e.g., diversity of providers, billing practices and costs, different local and state regulations) obscure a comprehensive understanding of its impact on the healthcare system. The findings in this report, however, are a first step in gaining clarity on this sector.

This study makes several notable findings. From 2018 to 2022, ALS ground ambulance services accounted for a greater share of all ground ambulance claim lines than BLS services. Not only were ALS services more common than BLS services, but they were also higher in cost. In 2022, average allowed amounts associated with ALS services were consistently higher than those associated with BLS services. Among both ground ambulance types, emergency transports—which increased in the years from 2018 to 2022—were rendered more frequently than nonemergency rides. Patients 65 years and older were the age group transported on both ALS and BLS ground ambulances most often, while patients under the age of 18 utilized these services the least often.

The top diagnoses associated with ALS and BLS ground ambulance rides were somewhat similar, though the share of each diagnosis in the distributions varied. The most common reason for both ALS and BLS services was general signs and symptoms. Second and third on the list of ALS-related diagnoses were general signs and symptoms involving circulatory and respiratory systems and injury to body, respectively. For BLS services, on the other hand, the number two and three diagnoses were joint/soft tissue diseases and issues and, notably, mental health conditions.

The other type of care that ground ambulances can deliver is on-site treatment that does not ultimately lead to ambulance transportation from the location to a hospital. Response and treatment—no transport ground ambulance services made up 1.4 percent to 2.0 percent of all ground ambulance claim lines in the period from 2018 to 2022, peaking in 2020. Individuals aged 19 to 35 consistently accounted for the highest share of response and treatment—no transport services; after the uptick of these services in 2020, their utilization decreased among most age groups, with the exception of those aged 65 and older. The three most common reasons patients incurred response and treatment—no transport services and ambulance services involving transport were the same (in descending order): general signs and symptoms, general signs and symptoms involving circulatory and respiratory systems and injury to body.

From 2018 to 2022, the average mileage of ground ambulance transports varied greatly by state, with no consistency by region, ranging from 33.8 miles in Vermont to 7.9 miles in Washington, DC. Per statute mile costs associated with such transports similarly varied across the United States, with Utah having the highest average allowed amount (\$28.35) and Florida having the lowest (\$5.79) in 2022.

Perhaps the most notable finding is the percentages of out-of-network versus in-network ground ambulance rides. Out-of-network transports accounted for over 60 percent of all ground ambulance claim lines from 2018 to 2021. Though their share of the distribution decreased over the period studied, out-of-network ground ambulance rides still dominated in comparison to in-network services.

The findings in this report reflect the role and impact of ground ambulance services in the nation's healthcare system. FAIR Health hopes that these findings serve as a resource for all healthcare stakeholders—policy makers, researchers, payors, providers and others—seeking to understand the intricacies of ground ambulance services and billing and to shape appropriate policies associated with such services. As federal and state legislation related to ground ambulance services moves forward, FAIR Health will continue to fulfill its healthcare transparency mission by using its reliable, unbiased data to provide a window into this component of the rapidly evolving healthcare system.

About FAIR Health

FAIR Health is a national, independent nonprofit organization dedicated to bringing transparency to healthcare costs and health insurance information through data products, consumer resources and health systems research support. FAIR Health qualifies as a public charity under section 501(c)(3) of the federal tax code. FAIR Health possesses the nation's largest collection of private healthcare claims data, which includes over 42 billion claim records and is growing at a rate of over 2 billion claim records a year. FAIR Health licenses its privately billed data and data products—including benchmark modules, data visualizations, custom analytics and market indices—to commercial insurers and self-insurers, employers, providers, hospitals and healthcare systems, government agencies, researchers and others. Certified by the Centers for Medicare & Medicaid Services (CMS) as a national Qualified Entity, FAIR Health also receives data representing the experience of all individuals enrolled in traditional Medicare Parts A, B and D; FAIR Health includes among the private claims data in its database, data on Medicare Advantage enrollees. FAIR Health can produce insightful analytic reports and data products based on combined Medicare and commercial claims data for government, providers, payors and other authorized users. FAIR Health's free, award-winning, national consumer websites are [fairhealthconsumer.org](https://www.fairhealthconsumer.org) and [fairhealthconsumidor.org](https://www.fairhealthconsumidor.org). For more information on FAIR Health, visit [fairhealth.org](https://www.fairhealth.org).

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