

Ambulance Services

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[➔ Instructions for Use](#)

Table of Contents	Page
Coverage Rationale	1
Medical Records Documentation Used for Reviews	2
Definitions	2
Applicable Codes	3
Description of Services	5
Benefit Considerations	5
Clinical Evidence	6
U.S. Food and Drug Administration	10
References	10
Instructions for Use	11

Related Policies
None

Coverage Rationale

Emergency Air Ambulance services are considered Medically Necessary when all of the following criteria are present:

- The member’s medical condition requires immediate transportation that cannot be provided by ground ambulance and a delay in transportation time may endanger the member’s life or seriously endanger the member’s health including:
 - When ground transport times are excessive (i.e., 30-60 minutes or longer); or
 - When weather or traffic conditions make ground ambulance transportation impractical, impossible, or overly time consuming; or
 - When the pickup point is inaccessible by ground ambulance
 and
- The member’s destination is the nearest acute care hospital that can meet the member’s needs; and
- One of the following conditions exist:
 - Services requested by police or medical authorities at the site of an Emergency; or
 - Advanced or basic life support is required during transportation

Emergency Air Ambulance services are not considered Medically Necessary for all other indications.

Emergency ground ambulance services are considered Medically Necessary when all of the following criteria are present:

- The member’s medical condition requires immediate transportation:
 - To the nearest acute hospital that can provide services appropriate to the covered person's illness or injury; or
 - To the nearest neonatal special care unit for newborn infants' treatment of illness, injuries, congenital birth defects, or complications of premature birth that require that level of care; or
 - To a hospital that provides a required higher level of care that was not available at the original hospital
 and
- A delay in transportation time may endanger the member’s life or seriously endanger the member’s health; and
- Advanced or basic life support is required during transportation

Emergency ground ambulance services without ground transportation are considered Medically Necessary when treatment is rendered by the Emergency ground ambulance personnel at the scene.

Emergency ground ambulance transportation is not considered Medically Necessary for all other indications.

Medical Records Documentation Used for Reviews

Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. Medical records documentation may be required to assess whether the member meets the clinical criteria for coverage but does not guarantee coverage of the service requested; refer to the protocol titled [Medical Records Documentation Used for Reviews](#).

Definitions

The following definitions may not apply to all plans. Refer to the member specific benefit plan document for applicable definitions.

Air Ambulance: Medical transport by rotary wing Air Ambulance or fixed wing Air Ambulance as defined in Code of Federal Regulations (CFR) 42 CFR 414.605:

- Rotary wing air ambulance (RW) means transportation by a helicopter that is certified as an ambulance and such services and supplies as may be Medically Necessary.
- Fixed wing Air Ambulance (FW) means transportation by a fixed wing aircraft that is certified as a fixed wing Air Ambulance and such services and supplies as may be Medically Necessary.

Covered Health Care Service(s): Health care services, including supplies or Pharmaceutical Products, which UnitedHealthcare determines to be all of the following:

- Provided for the purpose of preventing, evaluating, diagnosing, or treating a Sickness, Injury, Mental Illness, substance-related and addictive disorders, condition, disease, or its symptoms.
- Medically Necessary.
- Described as a Covered Health Care Service in the *Certificate of Coverage* under *Section 1: Covered Health Care Services* and in the *Schedule of Benefits*.
- Not excluded in the *Certificate of Coverage* under *Section 2: Exclusions and Limitations (COC)*.

Emergency: A medical condition manifesting itself by acute symptoms of sufficient severity (including severe pain) so that a prudent layperson, who possesses an average knowledge of health and medicine, could reasonably expect the absence of immediate medical attention to result in:

- Placing the health of the Covered Person (or, with respect to a pregnant woman, the health of the woman or her unborn child) in serious jeopardy;
- Serious impairment to bodily functions; or
- Serious dysfunction of any bodily organ or part (COC).

Emergency Health Care Services: With respect to an Emergency:

- An appropriate medical screening exam (as required under section 1867 of the *Social Security Act* or as would be required under such section if such section applied to an Independent Freestanding Emergency Department) that is within the capability of the Emergency department of a Hospital, or an Independent Freestanding Emergency Department, as applicable, including ancillary services routinely available to the Emergency department to evaluate such Emergency; and
- Such further medical exam and treatment, to the extent they are within the capabilities of the staff and facilities available at the Hospital or an Independent Freestanding Emergency Department, as applicable, as are required under section 1867 of the *Social Security Act*, or as would be required under such section if such section applied to an Independent Freestanding Emergency Department, to stabilize the patient (regardless of the department of the Hospital in which such further exam or treatment is provided). For the purpose of this definition, "to stabilize" has the meaning as given such term in section 1867(e)(3) of the *Social Security Act (42 U.S.C. 1395dd(e)(3))*.
- Emergency Health Care Services include items and services otherwise covered under the Policy when provided by an out-of-network provider or facility (regardless of the department of the Hospital in which the items and services are provided) after the patient is stabilized and as part of outpatient observation, or an Inpatient Stay or outpatient stay that is connected to the original Emergency, unless each of the following conditions are met:
 - The attending Emergency Physician or treating provider determines the patient is able to travel using nonmedical transportation or non-Emergency medical transportation to an available network provider or facility located within a reasonable distance taking into consideration the patient's medical condition.
 - The provider furnishing the additional items and services satisfies notice and consent criteria in accordance with applicable law.
 - The patient is in such a condition to receive information as stated in b) above and to provide informed consent in accordance with applicable law.

- The provider or facility satisfies any additional requirements or prohibitions as may be imposed by state law.
- Any other conditions as specified by the Secretary.
- The above conditions do not apply to unforeseen or urgent medical needs that arise at the time the service is provided regardless of whether notice and consent criteria has been satisfied. (COC)

Long-Term Acute Care Facility (LTAC): A facility or Hospital that provides care to people with complex medical needs requiring long-term Hospital stay in an acute or critical setting. (COC)

Medically Necessary: Health care services that are all of the following as determined by UnitedHealthcare or our designee:

- In accordance with Generally Accepted Standards of Medical Practice.
- Clinically appropriate, in terms of type, frequency, extent, service site and duration, and considered effective for your Sickness, Injury, Mental Illness, substance-related and addictive disorders, disease or its symptoms.
- Not mainly for the member's convenience or that of the member's doctor or other health care provider.
- Not more costly than an alternative drug, service(s), service site or supply that is at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of the member's Sickness, Injury, disease, or symptoms.

Generally Accepted Standards of Medical Practice are standards that are based on credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community, relying primarily on controlled clinical trials, or, if not available, observational studies from more than one institution that suggest a causal relationship between the service or treatment and health outcomes.

If no credible scientific evidence is available, then standards that are based on Physician specialty society recommendations or professional standards of care may be considered. UnitedHealthcare has the right to consult expert opinion in determining whether health care services are Medically Necessary. The decision to apply Physician specialty society recommendations, the choice of expert and the determination of when to use any such expert opinion, shall be determined by UnitedHealthcare.

UnitedHealthcare develops and maintains clinical policies that describe the Generally Accepted Standards of Medical Practice scientific evidence, prevailing medical standards and clinical guidelines supporting UnitedHealthcare's determinations regarding specific services. These clinical policies (as developed by UnitedHealthcare and revised from time to time), are available to Covered Persons through www.myuhc.com or the telephone number on the member's ID card. They are also available to Physicians and other health care professionals on UHCprovider.com. (COC)

Short-Term Acute Care Facility: A facility or Hospital that provides care to people with medical needs requiring short-term Hospital stay in an acute or critical setting such as for recovery following a surgery, care following sudden Sickness, Injury, or flare-up of a chronic Sickness. (COC)

Sub-Acute Facility: A facility that provides intermediate care on short-term or long-term basis. (COC)

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this guideline does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

Modifier	Location
Ambulance Modifiers	
Ambulance claims are billed with two of the following modifiers. The first modifier indicates the place of origin, and the second modifier indicates the destination.	
D	Diagnostic or therapeutic site other than P or H when these are used as origin codes
E	Residential, domiciliary, custodial facility (other than 1819 facility)
G	Hospital-based ESRD facility
H	Hospital
I	Site of transfer (e.g. airport or helicopter pad) between modes of ambulance transport

Modifier	Location
Ambulance Modifiers	
Ambulance claims are billed with two of the following modifiers. The first modifier indicates the place of origin, and the second modifier indicates the destination.	
J	Freestanding ESRD facility
N	Skilled nursing facility
P	Physician's office
R	Residence
S	Scene of accident or acute event
X	Intermediate stop at physician's office on way to hospital (destination code only) Note: Modifier X can only be used as a destination code in the second position of a modifier.

HCPCS Code	Description
Air Ambulance (Also see Air Ambulance Revenue Code 0545 below)	
A0430	Ambulance service, conventional air services, transport, one way (fixed wing)
A0431	Ambulance service, conventional air services, transport, one way (rotary wing)
A0435	Fixed wing air mileage, per statute mile
A0436	Rotary wing air mileage, per statute mile
S9960	Ambulance service, conventional air services, nonemergency transport, one way (fixed wing)
S9961	Ambulance service, conventional air service, nonemergency transport, one way (rotary wing)
T2007	Transportation waiting time, air ambulance and nonemergency vehicle, one-half (1/2) hour increments
Ground/Other Ambulance	
A0225	Ambulance service, neonatal transport, base rate, emergency transport, one way
A0380	BLS mileage (per mile)
A0382	BLS routine disposable supplies
A0384	BLS specialized service disposable supplies; defibrillation (used by ALS ambulances and BLS ambulances in jurisdictions where defibrillation is permitted in BLS ambulances)
A0390	ALS mileage (per mile)
A0392	ALS specialized service disposable supplies; defibrillation (to be used only in jurisdictions where defibrillation cannot be performed in BLS ambulances)
A0394	ALS specialized service disposable supplies; IV drug therapy
A0396	ALS specialized service disposable supplies; esophageal intubation
A0398	ALS routine disposable supplies
A0420	Ambulance waiting time (ALS or BLS), one-half (1/2) hour increments
A0422	Ambulance (ALS or BLS) oxygen and oxygen supplies, life sustaining situation
A0424	Extra ambulance attendant, ground (ALS or BLS) or air (fixed or rotary winged); (requires medical review)
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)
A0432	Paramedic intercept (PI), rural area, transport furnished by a volunteer ambulance company which is prohibited by state law from billing third-party payers
A0433	Advanced life support, level 2 (ALS 2)
A0434	Specialty care transport (SCT)
A0998	Ambulance response and treatment, no transport

HCPSC Code	Description
Ground/Other Ambulance	
A0999	Unlisted ambulance service
S0207	Paramedic intercept, nonhospital-based ALS service (nonvoluntary), nontransport
S0208	Paramedic intercept, hospital-based ALS service (nonvoluntary), nontransport

Revenue Code	Description
0540	Ambulance-General Classification
0541	Ambulance-Supplies
0542	Ambulance-Medical Transport
0543	Ambulance-Heart Mobile
0544	Ambulance-Oxygen
0545	Ambulance-Air Ambulance
0546	Ambulance-Neonatal Ambulance Services
0547	Ambulance-Pharmacy
0548	Ambulance-EKG Transmission
0549	Ambulance-Other Ambulance

Description of Services

Ambulance services are required when it is the only safe way to transport a member to the nearest hospital or other care facility due to the nature or severity of the injury or illness. Services may be provided via ground, air, or water. The mode of transportation is determined by the appropriate authorities (e.g., first responders, emergency room physician).

Benefit Considerations

Non-Emergency Ambulance (Ground and Air)

Coverage includes non-Emergency ambulance transportation by a licensed ambulance service (either ground or Air Ambulance, as UnitedHealthcare determines appropriate) between facilities only when the transport meets one of the following:

- From an out-of-network hospital to the closest network hospital when Covered Health Care Services are required
- To the closest network hospital that provides the required Covered Health Care Services that were not available at the original Hospital
- From a Short-Term Acute Care Facility to the closest network Long-Term Acute Care Facility (LTAC), network inpatient rehabilitation facility, or other network Sub-Acute Facility where the required Covered Health Care Services can be delivered

The applicable benefit level for eligible non-Emergency ambulance transportation depends on the member pick-up location (origin) as follows:

- If the member is inpatient and is transported from a hospital to another hospital or inpatient facility, coverage levels for these ambulance services may vary.
- If the member is in a sub-acute setting and is transported to an outpatient facility and back (outpatient hospital, outpatient facility, or physician's office), these ambulance services are covered under the benefits that apply to that sub-acute setting. For example, if the member is at a skilled nursing facility, the ambulance transport to an outpatient facility (dialysis facility or radiation whether or not it is attached to a hospital) and back is covered under the skilled nursing facility/inpatient rehabilitation facility services section of the Certificate of Coverage (COC).

Prior Authorization Requirements for Non-Emergency Ambulance (Ground and Air)

Ground Ambulance: Certain plans may require prior authorization for non-Emergency ground ambulance transport; refer to the member specific benefit plan document.

Air Ambulance: Prior authorization is required for non-Emergency Air Ambulance transport.

Out-of-Network Ambulance (Emergency)

If the ambulance transportation is covered, the benefit level for out-of-network Emergency ambulance (ground, water, or air) is covered at the network level of deductible and coinsurance.

Coverage Limitations and Exclusions

The following services are not eligible for coverage:

- Ambulance services from providers that are not properly licensed to be performing the ambulance services rendered.
- Air Ambulance transportation that does not meet the covered indications in the Air Ambulance criteria listed above
- Non-ambulance transportation. Non-ambulance transportation is not covered even if rendered in an Emergency situation. Examples include but are not limited to:
 - Commercial or private airline or helicopter
 - A police car ride to a hospital
 - Medi-van or wheel-chair van transportation
 - Taxi ride, bus ride, rideshare services such as Lyft and Uber, etc.
- Ambulance transportation when other mode of transportation is appropriate. Except as indicated under the [Coverage Rationale](#) section above, ambulance services when transportation by other means would not endanger the member's health are not covered.
- Ambulance transportation to a home, residential, domiciliary, or custodial facility is not covered.
- Ambulance transportation that violates the notification criteria listed in the [Benefit Considerations](#) section.
- Ambulance transportation for member convenience or other miscellaneous reasons for member and/or family. Examples include but are not limited to:
 - Member wants to be at a certain hospital or facility for personal/preference reason
 - Member is in a foreign country, or out of state, and wants to come home for a surgical procedure or treatment (this includes those recently discharged from inpatient care)
 - Member is going for a routine service and is medically able to use another mode of transportation
 - Member is deceased and family wants transportation to the coroner's office or mortuary
- Ambulance transportation deemed not appropriate. Examples include but are not limited to:
 - Hospital to home
 - Home to physician's office
 - Home (e.g., residence, nursing home, domiciliary or custodial facility) to a hospital for a scheduled service
- If the member is at a skilled nursing facility/inpatient rehabilitation facility and has met the annual day/visit limit on skilled nursing facility/inpatient rehabilitation facility services, ambulance transports (during the non-covered days) are not eligible.

Clinical Evidence

Rhodes et al. (2023) conducted a retrospective study of the data of a single center trauma registry on the clinical impact of prolonged helicopter emergency travel times (HEMS) in a rural trauma system. Two hundred and forty two patients were included with 87 transported by HEMS and 155 by rendezvous an (enhanced dispatch where ground EMS meets HEMS for transport to the Level I trauma center). The results showed a decline in the Glasgow Coma Score (GCS) and shock index ratio (SIR) in the patients that arrived to the ED with prolonged transportation times despite similar injury patterns and severity. Full trauma activation time was doubled for patients arriving via rendezvous, and a more than one third increase in patient deaths. These results show the importance of helicopter auto launch programs to take patients directly to the nearest Level 1 trauma center, avoiding rendezvous transportation in rural areas, and this research can also be expanded to include all time-critical scenarios. This study is limited by potential data extraction errors and the fact that it represents a single trauma center experience which may not be generalizable to other areas with potentially more trauma resources.

In a retrospective study of patients transferred to a single comprehensive stroke center for stroke treatment, Kunte et al (2021) reviewed the EMS and medical records of 205 patient transfers who received tPA, thrombectomy, or both to determine whether helicopter air emergency services (HEMS) or ground emergency services (GEMS) was faster in both transfer circumstances. The study included 47 patients who were interhospital transfers by HEMS, 68 patients who were interhospital transfers by ground, 40 patients who were scene transfers by HEMS and 50 patients who were scene transfers by ground. The authors reported that ground transfers had shorter alarm to EMS departure times (30 minutes vs. 40 minutes) and that air transfers had shorter EMS departure to arrival times when normalized by transfer distance. They also found that, in multivariate analyses when controlling for tPA and mechanical thrombectomy, Transfer GEMS had lower 90-day mRS scores than Transfer HEMS (indicating better functional outcomes) while Scene HEMS had lower 90-day mRS scores than Scene GEMS. The authors suspected that this may be due to the higher level of care available in a

medical helicopter and the earlier recognition by EMS personnel of severe and treatable stroke syndromes. The authors concluded that transfer mode had no significant effect on functional outcome when controlling for tPA, thrombectomy, and NIH Stroke Scale and that transfer efficiency depends on logistics prior to EMS arrival as well as the speed of travel as total interhospital transfer times are faster for air transportation only when traveling more than 40 miles. The authors noted that the study was limited by the retrospective study design, small participant size, and inclusion of only those patients who received tPA and/or mechanical thrombectomy as the study excluded futile transfers and untreated patients. They recommend larger, prospective studies to better assess the effects of transfer modality on treatment times and functional outcomes.

Stewart et al (2021) conducted a retrospective cohort study of inter-facility transfers of trauma patients from non-tertiary trauma centers (NTC; n = 106) to a tertiary trauma center (TTC; n = 3) by helicopter transport (HT) and ground transport (GT). The authors reviewed data from an inclusive statewide trauma registry on 9880 patients to assess the association of HT on mortality at 72 hours and within the first 2 weeks of arrival at a TTC and then they stratified the population by the distance between the NTC and the TTC into two groups, 21-90 miles and > 90 miles. The authors found that 34.7% (n = 3424) of the study eligible patients were transported to the TTC by HT and that these patients were slightly younger, more often male, and more frequently injured in a motor-vehicle accident. They also found that HT patients were on average transferred from NTCs farther from the TTC and were more frequently injured in areas served by basic or intermediate GT services. The median times for arrival at the TTC from the NTC were 3.4 hours for HT and 4.5 hours for GT. The data also showed that the HT patients had a higher incidence of intubation or arrived with a systolic blood pressure < 90 mmHg or had a Glasgow Coma Scale (GCS) of < 10. The HT group also had 24.6% with injury severity scores (ISS) of 16 or higher versus 10.9% among the GT group, higher percentages of patients with severe head injury (26.6% vs 17.9%) and chest injury (18.2% vs. 9.6%) than the GT group. The authors concluded that only in patients transferred from an NTC < 90 miles from the receiving TTC was HT associated with a significantly decreased hazard of mortality in the first 72 hours and that there was no independent association observed between transport mode and 72-hour mortality for patients transferred from > 90 miles from a TTC. They found that many HT patients, particularly from the most distant NTCs, had minor injuries and normal vital signs at both the NTC and the TTC suggesting the decision to use HT was resource-driven rather than clinical. The authors noted a few limitations with their study including bias and unmeasured factors associated with the retrospective design, lack of information on the level/experience of the care provider or treatments provided at the NTC were available which may have affected survival, the location of HT and GT bases were not considered and might have influenced time to definitive care and that data were limited regarding patient stability and care rendered in transit between the NTC and the TCC.

In a retrospective chart review of all adult nonburn trauma patients who arrived directly from the scene of an accident via air medical transport to one of two level 1 trauma centers in a single city, Gilliam et al. (2020) determined that 21.7% of 1042 patients (n = 226) were discharged within 24 hours of helicopter transport. The purpose of the study was to determine important characteristics of trauma patients who arrive via helicopter emergency medical services (HEMS) and were discharged within 24 hours so that over triage of trauma patients can be reduced and that HEMS can be used more efficiently. The authors reported that the majority (93.8%) were Caucasian, 71.7% were male and 96.9% were victims of blunt trauma while the most common mechanisms of injury were motor vehicle accidents (44.7%) and falls (20.4%). The study showed that the early discharged patients rarely had prehospital hypotension with a systolic blood pressure less than 90 mmHg, rarely received more than one liter of crystalloids and were typically under 70 years of age with only 1.8% (n = 4) aged 70 or older. The authors noted that limitations of their study include the retrospective cohort study design, the possibility of documentation errors by EMS providers and that the impact of under triage in the cohort could not be considered due to the lack of access to a regional trauma database for the study. The authors recommend future research to validate prehospital triage factors in a prospective manner to reduce over triage to an acceptable level while not increasing under triage.

Lau et al (2018) conducted a prospective cohort study of 102 consecutive patients in a tertiary hospital to compare the time delays experienced by stroke patients arriving in the emergency department (ED) by ambulance versus non-ambulance users. The authors compared three phases of the episode of illness: phase I was the time between stroke onset and calling for help, phase II was the time between calling for help and arriving in the ED, and phase III was the time between arriving in the ED and receiving medical assistance. The authors noted that 47.1% (n = 48) of the patients arrived by ambulance. After comparing patient demographic data, including age, sex, and co-morbidities between the ambulance users group and the nonusers group, the authors found no statistical difference between the groups other than hypertension. They also determined that the percentage of stroke patients arriving in the ED within the therapeutic window was significantly higher for ambulance users than for nonusers (64.6% vs 29.6%) and that for all three phases, the median times were significantly shorter for ambulance users (77.5 minutes in phase I, 32 minutes in phase II and 8 minutes in phase III) than for nonusers (720 minutes, 44.5 minutes and 15 minutes, respectively). They noted that 12 of the non-ambulance users visited a general practitioner before going to the ED and only one of them arrived within the therapeutic window to receive intravenous tissue plasminogen activator (TPA) compared with 15 of the 42 patients from

the nonusers group. Limitations noted by the authors include the small sample size, the use of a single center and the dependence on patient memory to recall the time of stroke onset, time of calling for help and time of arrival at the ED. The authors concluded that the means of transport to the ED is important for effective stroke treatment and that stroke patients who arrive via an ambulance are more likely to be treated effectively with TPA within the therapeutic window.

Funder et al (2017) investigated the effect of transport mode on mortality, disability and labor market affiliation in a prospective, single-center, observational study of 1608 patients admitted to a stroke unit in a community with a population of 820,000. The study included 5.5 years of follow-up at a facility that implemented a physician-staffed helicopter emergency medical services (HEMS) system and also had two levels of ground transportation available, ground emergency medical services (GEMS) that was staffed with two EMS providers or a mobile emergency care unit (MECU) staffed by a physician or a certified nurse anesthetist and a paramedic. Based on results of an initial study of HEMS, the dispatch protocol for the HEMS was changed in the third year of the enrollment period for the study, to allocate HEMS only to the most distant parts of the catchment area. The primary outcome for the study was the mortality rate after admission to the stroke unit and the secondary outcomes were 30-day mortality, modified Rankin Scale (mRS) at 3 months, time to involuntary early retirement, prevalence of reduced work ability after 2 years and percentage of time on public assistance during the first 2 years after admission to the stroke center. There were 702 patients (66%) diagnosed with stroke (64% (587/916) of GEMS patients and 76% (115/152) of HEMS patients). Thrombolysis was performed in 36% of GEMS (n = 330) and 38% of HEMS patients. The authors reported that mortality rates were 9.04 per 100 person-years at risk (PYR) in GEMS patients and 9.71 per 100 PYR in HEMS overall and that the incidence rate of involuntary early retirement was 6.97 per 100 PYR in GEMS patients and 7.58 per 100 PYR in HEMS patients. The work ability after two years and time on public assistance did not differ between groups and the authors did not find any significant difference in mean mRS score after 3 months (2.21 GEMS vs. 2.09 HEMS). The authors offered several limitations of the study including that the HEMS patients generally came from more distant parts of the catchment area and that time from contact with the triaging neurologist to arrival was longer in the HEMS patients. They also noted that HEMS is dispatched secondarily to a ground unit onsite and that their process showed improvements in time between contact with triaging neurologist and arrival for both groups as did the overall transport time for getting patients to their facility. The authors concluded that helicopter transport of stroke patients was not associated with reduced mortality or disability, nor improved labor market affiliation compared to patients transported by GEMS.

Galvagno et al. (2015) conducted a Cochrane Database systematic review of 38 published non-randomized controlled trials to determine if helicopter emergency medical services (HEMS) transport correlated with improved morbidity and mortality compared to ground emergency medical services (GEMS) for adults with an Injury Severity Score (ISS) of at least 15 (or an equivalent measure for injury severity). Four of the studies involved inter-facility transfer to a higher-level trauma center by HEMS compared with GEMS. The authors were not able to find any randomized controlled trials (RCTs) to include in the review. They reviewed data from 282,258 people with an Injury Severity Score (ISS) greater than or equal to 15 from 28 of the 35 studies to calculate unadjusted mortality; however, an accurate estimate of overall effect could not be determined due to considerable heterogeneity. When they reviewed data from six trials focusing on traumatic brain injury, they authors did not find a decreased risk of death with HEMS; however, the four studies that evaluated inter-facility transfer did allude to a small to moderate benefit when HEMS was used to transfer patients to a higher-level trauma center for care. The authors also reported on 21 studies that used multivariate regression to adjust for confounding and noted that the results were varied with some studies showing a benefit of HEMS while others did not. The authors noted that their search did not find any studies evaluating the secondary outcome, morbidity, as measured by quality-adjusted life years (QALYs) and disability-adjusted life years (DALYs). They noted that the overall quality of evidence was low due to the non-randomized design of the studies and that all of the studies had an unclear or high level of selection bias. The authors concluded that an accurate composite estimate of the benefit of HEMS could not be determined due to the methodological weaknesses of available literature and the heterogeneity of effects and study methodologies. They recommended large, multi-center studies to help determine estimates of treatment effects.

In a systematic evaluation of care and outcomes of ST elevation myocardial infarction (STEMI) in 1,956 patients treated at one of 82 acute care hospitals in Quebec, Boothroyd et al (2014) examined whether a previously documented association between ambulance use and outcomes remained present after adjusting for important confounding factors. The authors found that 62.5% (n = 122) of the patients arrived via ambulance and that these patients were typically older, female, more likely to have had a previous myocardial infarction and more likely to have comorbidities, low systolic pressure, abnormal heart rate and a higher Thrombolysis In Myocardial Infarction (TIMI) risk index at presentation than the patients who did not arrive by ambulance. They also found that ambulance users were less likely to receive fibrinolysis (12.6% vs. 19.2%) or to be sent for primary angioplasty (78.5% vs 83.2% for non-ambulance users), although treatment delays were shorter for those that arrived via ambulance. Mortality (in-hospital, at 30 days and at 1 year) was significantly greater for ambulance users (9.1%, 12.4% and 18.7%, respectively) than for nonusers (2.9%, 3.7% and 7.1% respectively). The authors concluded that ambulance users with STEMI were older and sicker than nonusers and that mortality of users was substantially greater after adjusting for clinical risk factors despite having received faster treatment perfusion overall.

Clinical Practice Guidelines

Centers for Disease Control and Prevention (CDC)

In 2011, the CDC (Sasser et al.) reconvened the National Expert Panel on Field Triage to review and update the Guidelines for Field Triage of Injured Patients in the context of recently published literature, to assess the implementation experiences of state and local communities, and to recommend changes to the guidelines. This guideline breaks the field triage process down into four steps or sets of criteria to apply when assessing an injured patient:

- Step One: Physiologic Criteria. These criteria provide guidance for consideration of the patient's Glasgow Coma Scale, systolic blood pressure and respiratory rate.
- Step Two: Anatomic Criteria. These criteria provide guidance based on the anatomical site of the injury such as penetrating injuries, flail chest, extremity injuries, open or depressed skull fractures, pelvic fractures and paralysis.
- Step Three: Mechanism of injuries. This criteria includes evaluating severity of falls, high-risk auto crashes, auto vs. pedestrian/bicyclist and motorcycle crashes.
- Step Four: Special Considerations. These criteria provide guidance on considerations for patients based on their age, history of anticoagulation and bleeding disorders, burns, time-sensitive extremity injuries, need for end-stage renal dialysis, pregnancy > 20 weeks and EMS provider judgement.

When applying the guideline and following the decision tree, recommendations are given as to where the patient should be transported including the level of trauma center or to a specific resource hospital. The guidelines do not specify the method of transport (air vs. ground), only that transport should occur.

National Association of EMS Physicians (NAEMSP)/American Academy of Pediatrics (AAP)/American College of Surgeons Committee on Trauma (ACS COT)/EMS for Children Innovation and Improvement Center (EIIC)/Emergency Nurses Association (ENA)/National Association of State EMS Officials (NASEMSO)/National Association of Emergency Medical Technicians (NAEMT)

In an updated Joint Position Statement coauthored by NAEMSP, AAP, ACS COT, EIIC, ENA and NASEMSO and endorsed by NAEMT, Lyng et al. (2021b) stated that the delivery of high-quality and effective EMS care is dependent on several factors, including but not limited to:

- Credentialed providers who have demonstrated appropriate knowledge, ability, psychomotor skills, and critical thinking.
- Clinical protocols or guidelines supported by the best available scientific evidence.
- Equipment and supplies necessary to deliver appropriate care as indicated by clinical protocols/guidelines for patients of all ages.

The purpose of this statement is to review and revise the 2014 version of the joint position statement to include a review of equipment lists established by individual state/territory rules and statutes for all 56 U.S. states and territories and to establish recommended equipment standards to build consistency across the EMS system of care and to facilitate advances in the delivery of quality and cost-effective EMS care. The statement also establishes that EMS agencies should include in their routine quality assurance practices efforts to assess that:

- Their EMS providers are outfitted with all necessary equipment for them to perform clinical care.
- All equipment and supplies undergo appropriate preventive maintenance and routine function checks.
- Malfunctioning or missing equipment issues are quickly addressed to preserve readiness to respond and provide patient care continuously.

The statement includes a list of required equipment for basic life support (BLS) Emergency Ground Ambulances and Advanced Life Support (ALS) Emergency Ground Ambulances, a list of optional equipment that should be used based on local needs and resources and a list of optional medications.

National Association of EMS Physicians (NAEMSP)/American College of Emergency Physicians (ACEP)/ Air Medical Physician Association (AMPA)

In an updated Joint Position Statement and Resource Document of NAEMSP, ACEP and AMPA, Lyng et al. (2021a) stated that air medical services must be used in a clinically effective, safe and fiscally responsible manner. The statement indicates that emergency air ambulance transport should only be used for one of three primary patient-centered goals:

- Initiation or continuation of advanced or specialty care that is not otherwise available locally from hospital or ground EMS (GEMS) resources;
- Expedited delivery of a patient to definitive care for time-sensitive intervention; and/or
- Extraction, evacuation and/or rescue from environments that are difficult to access due to geography, weather, remote location, distance and other factors that limit timely access to a patient or GEMS.

The Statement also indicates that GEMS transport is preferred to air transport if a patient's clinical need for critical care expertise and timely transport to definitive care can be met with GEMS resources and that GEMS clinicians on scene should be empowered and encouraged to cancel air medical services response if/when it is determined that continuing that response would:

- Place the air crew and aircraft at undue risk;
- Place ground crews at undue risk; and/or
- Not align with at least one of the three primary patient-centered goals noted above

Air Medical Physician Association (AMPA)

In a 2012 revised position statement, the AMPA supports the following for Acute Coronary Syndrome and ST elevation MIs (STEMI):

- The use of air medical transport for patients with ACS requiring or potentially requiring urgent/time-sensitive intervention not available at the sending facility.
- The use of air medical transport for STEMI patients directly from the scene to PCI capable hospitals as part of a system of prehospital STEMI care.

AMPA acknowledges that scene air medical transport of STEMI patients occurs routinely and supports that the medical necessity is determined by the requesting authorized provider based on regional policy and their best medical judgment at the time of the request for transport. AMPA supports that a receiving physician, or the transport program medical director may complete the Certificate of Medical Necessity on scene transports.

In a 2004 position statement, the AMPA supports the following for Acute Stroke Syndromes:

- The use of rapid medical transport for patients with acute stroke syndromes requiring or potentially requiring urgent/time-sensitive diagnosis and intervention to stroke treatment centers.

AMPA acknowledges that scene medical transport of acute stroke syndromes occurs routinely and supports the standardized field identification of acute stroke syndromes by trained personnel, based on regional and national policy and their best medical judgment at the time of the request for medical transport, and that this method of determination is sufficient to certify the medical necessity of the medical transport.

U.S. Food and Drug Administration (FDA)

This section is to be used for informational purposes only. FDA approval alone is not a basis for coverage.

Ambulance transportation is a service and, therefore, not subject to regulation by the FDA.

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Instructions for Use

This Medical Policy provides assistance in interpreting UnitedHealthcare standard benefit plans. When deciding coverage, the member specific benefit plan document must be referenced as the terms of the member specific benefit plan may differ from the standard plan. In the event of a conflict, the member specific benefit plan document governs. Before using this policy, please check the member specific benefit plan document and any applicable federal or state mandates. UnitedHealthcare reserves the right to modify its Policies and Guidelines as necessary. This Medical Policy is provided for informational purposes. It does not constitute medical advice.

This Medical Policy may also be applied to Medicare Advantage plans in certain instances. In the absence of a Medicare National Coverage Determination (NCD), Local Coverage Determination (LCD), or other Medicare coverage guidance, CMS allows a Medicare Advantage Organization (MAO) to create its own coverage determinations, using objective evidence-based rationale relying on authoritative evidence ([Medicare IOM Pub. No. 100-16, Ch. 4, §90.5](#)).

UnitedHealthcare may also use tools developed by third parties, such as the InterQual® criteria, to assist us in administering health benefits. UnitedHealthcare Medical Policies are intended to be used in connection with the independent professional medical judgment of a qualified health care provider and do not constitute the practice of medicine or medical advice.