

Ambulance Services

4.18.2016

NAICS CODES: 621910

SIC CODES: 4119

Industry Overview

Companies in this industry transport patients by ground or air and provide emergency or other medical care. Major companies include Acadian Ambulance Service (US), American Medical Response (US), Lufttransport (Norway), and Harmonie Ambulance (France).

The majority of the world's population does not have access to ambulance transport or prehospital trauma care. Global groups such as the World Health Organization (WHO), as well as smaller entities like Trek Medics International, are working to improve or establish emergency medical service (EMS) systems in developing countries, where prehospital care could reduce fatality rates.

The US ambulance services industry includes about 5,000 establishments (single-location companies and units of multi-location companies) with combined annual revenue of about \$14 billion.

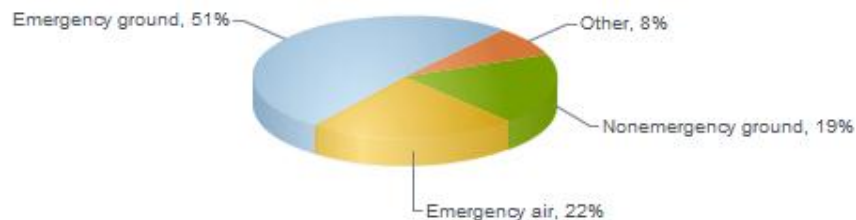
Competitive Landscape

Increases in immigration, birth rates, morbidity rates, and life expectancies, as well as emergency medical events, drive demand for ambulance services. The profitability of individual companies depends on quick and effective response and operational efficiency. Large companies have advantages of scale in contract negotiations, service capabilities, technology, and geographic coverage. Small companies can compete effectively by providing superior service in specific locales. The US industry is **concentrated**: the 50 largest companies generate more than 50% of revenue.

Products, Operations & Technology

The industry's major service is medical transport of patients, which includes emergency ground transport (about 50% of industry revenue), emergency air transport (about 20%), and nonemergency ground transport (about 20%). Emergency calls often require medical assistance, while nonemergency services include transportation for medically unstable patients and transfers between health care facilities.

Revenue by Service - US Census Bureau, 2012



Ambulance service companies respond to **emergency (911) calls** by dispatching vehicles and personnel to attend to patients at their location and en route to a hospital. A dispatched ambulance usually has a driver with first-aid skills and may have a nonmedical attendant, an emergency medical technician (EMT), or a more highly trained paramedic, who can administer life-saving procedures and medicine. Ambulance firms generally receive emergency calls from the local 911 center, but some may operate the service. Firms use their own **dispatch systems** to communicate with their vehicles and other facilities in the public emergency medical system, such as hospitals, police, and fire departments. Firms handle nonemergency calls by request or on a schedule.

Ambulance companies provide services to clients such as towns, counties, and **fire departments** either on a master contract or on standby. Contracts generally range from three to five years with renewal options and require the ambulance service provider to meet certain performance criteria, such as response times, types of vehicles and equipment, staffing levels, quality assurance, indemnity, and **insurance coverage**. Contracts usually are obtained through a competitive bidding process, and sometimes require response to a request for proposal (RFP). Standby support is provided for such events as concerts, athletic games, parades, and conventions. In determining whether to contract with an ambulance company, government entities assess the costs and benefits of providing emergency medical services themselves instead.

The key industry metric is response time, which is typically covered in a contract. For emergency ground ambulance service, the industry standard response time is within eight minutes (from the first call to arrival on scene), 90% of the time. For emergency aircraft, the response metric is the number of minutes from call receipt to liftoff. Some air medical firms maintain strict launch times; 10 minutes for rotor and 20 minutes for fixed wing aircraft. **Quick response** is crucial for patients with life-threatening conditions; many in the industry refer to the first 60 minutes from illness onset or injury as the "golden hour" within which to save lives. For nonemergencies, the response metric reflects reliability in picking up patients on time. Internal operational metrics include transport volume, amount of revenue collected per transport, and cost per transport.

Payment for services comes mainly from third-party payers, such as Medicare, Medicaid, and commercial insurance companies. Bills also go directly to **self-pay patients**, typically those who don't have private insurance or government benefits. Third-party payers don't always pay the entire bill and self-pay patients have a high rate of nonpayment; partial or nonpayment often results in write-offs. Some companies, in an effort to offset the cost of uncompensated care, negotiate subsidies with communities whose payer mix includes a high level of self-pay individuals. Accurate documentation of patients, services, and processes is extremely important to comply with government, insurance, and financial requirements; to get paid; and to avoid or address complaints.

Equipment and supplies are generally bought through distributors. Emergency vehicles include ground, helicopter, and fixed-wing ambulances; critical care trucks; and supervisory vehicles. **Medical equipment** and supplies for emergency patient care include heart monitors, automatic blood pressure cuffs, head immobilizers, stretchers, and gurneys. Ambulance service companies maintain vehicles and equipment in-house or outsource it.

Technology

On-board medical equipment relies on computer technology. Computer-aided dispatch and deployment systems function 24/7 year-round using dedicated radio frequencies licensed by the FCC. GPS tracks vehicle locations, helping deploy the nearest ambulance to the emergency site. On-board monitors detect driver safety infractions and document activity. Status planning and management systems gather and analyze data for operations review. **Compliance systems** track adherence to government requirements, such as for health care operations, corporate reporting, and patient privacy.

Communication systems enable ambulance personnel to describe patient status to the hospital emergency medical team, who advise en-route treatment. Ambulance service providers are exploring the use of tablets to remotely connect with ER physicians and specialists (a process known as telehealth) to improve remote patient diagnosis and treatment rates for time-sensitive patients such as stroke victims. Mobile applications are also being used to locate automated external defibrillators (AEDs) and alert CPR/AED-trained individuals who can respond to a suspected cardiac arrest before paramedics arrive, according to the *Journal of Emergency Medical Services*. Such programs are especially valuable in rural areas. Medics record and send patient data wirelessly to billing and backoffice systems.

Ambulance service providers are involved in the US Department of Transportation's next-generation 911 (NG911) initiative. NG911 allows dispatchers to take calls from any wired, wireless, or IP-based device; receive text message, photos, and other digital data from callers; transfer calls and information to nearby 911 centers; and more quickly and accurately determine the caller's location. A growing number of states are adopting NG911 technology.

Sales & Marketing

Typical customers are towns, counties, fire districts, and other government entities; hospitals; nursing homes; and other health care providers. **Consumers** are the end-user recipients of ambulance service transport and medical care. Patients are covered by Medicare, Medicaid, or private health insurance, or are self-payers, a category that includes those unable or unwilling to pay for services.

In larger companies, selling is via a **sales force** and account managers, but in small firms the owners are the

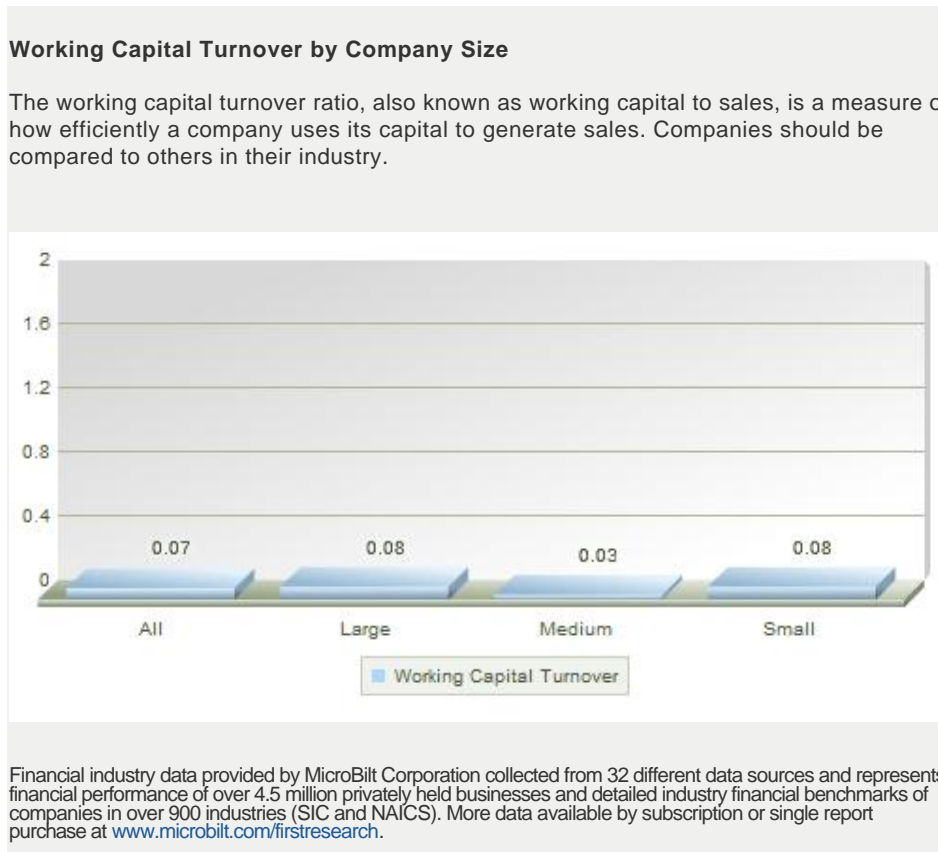
primary salespeople. Sales opportunities often emerge via referrals from existing clients. Sales teams sometimes include former EMTs and paramedics. Marketing is primarily via customer and prospect visits and by formally qualifying to participate in bidding opportunities; other marketing avenues include trade shows, conferences, and the Internet. Often the only way to sell is by responding to requests for proposals (RFPs), a common process in awarding ambulance services contracts. The main goal of sales and marketing teams is to win new and renew existing contracts.

The price per ambulance transport in the US varies by city and is based primarily on the distance and medical complexity of transports. Medicare pays a portion of the cost based on several factors, such as mileage, location, and whether transport was emergency or nonemergency. Other payers are **third-party insurance** providers and private pay patients. Many jurisdictions do not attempt to collect on private payers. Competition comes mainly from government entities, hospitals, other private providers, and local and volunteer groups. Local **fire departments** are often the major competitor, due to their role as first responder for emergencies and their expansion into emergency care.

Finance & Regulation

A significant portion of ambulance service companies' revenue comes from Medicare, Medicaid, and private insurance payers, which often receive discounts off standard charges that are called **contractual discounts**. Multiple payers with different requirements can be involved with each claim. Uninsured patients make up about 14% of all ambulance transports, according to the American Ambulance Association, which estimates that about 70% of all ambulance transports are reimbursed below cost. The cost of providing uncompensated care is high, about 20% of annual gross revenue at one major ambulance services firm in a recent year. A high ratio of uninsured to insured patients is a credit risk. The US industry is **labor-intensive**: average annual revenue per worker is about \$85,000.

Ambulance companies carry high amounts of **liability insurance** to cover patient claims, employee injuries, and vehicle accidents and related personal injuries. The need to fund vehicle purchases, technology upgrades, and acquisitions results in high debt levels at many ambulance firms. Key operating costs include maintenance of vehicles and leasing of communication tower space.



Regulation

Because ambulance companies serve the highly regulated health care industry, they must adhere to prescribed procedures for services, billing, contracts, marketing, and other operations, including Medicare and Medicaid compliance and rates. Ambulance services providers are subject to regulations that vary by state and locality. Towns, counties, fire departments, and other government entities essentially set operational rules in their

contracts with ambulance companies. Professional and trade associations set operational and ethical standards and certify paramedics, emergency medical technicians (EMTs), and companies.

Ambulance operators are subject to **federal fraud and abuse laws** including the False Claims Act and the Stark Law. The Anti-Kickback Statute prohibits solicitation or receipt of payment in return for patient referrals that are reimbursable under Medicare or other government health programs. Companies are also subject to numerous provisions of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Affordable Care Act (ACA).

EMTs and paramedics are certified by the National Registry of Emergency Medical Technicians. EMTs must complete postsecondary non-degree educational programs, and paramedics may need an associate's degree. Emergency workers may also need to pass additional state licensing exams or gain certification from the National Highway Safety Agency, the Department of Homeland Security, or the Coast Guard.

International Insights

Major companies based outside the US include Falck (Denmark), Harmonie Ambulance (France), and Lufttransport (Norway). In countries with state-run health care systems, ambulance service providers are often funded or operated by government agencies, typically either public health or public safety organizations.

European countries such as Germany, France, and Austria use the **Franco-German EMS model**, where physicians travel to the patient and begin aggressive treatment at the scene. The model may result in improved survival rates but comes with high costs. In comparison, the **Anglo-American model**, used in countries including the US, Canada, and Australia, quickly delivers patients to well-equipped hospitals but employs less-skilled personnel at the site of injury. Physician shortages in certain regions of the world influence how ambulances are staffed. Some countries, including Portugal, use a combination of the two models, with the dispatcher determining whether a physician is required on a case-by-case basis.

The majority of the world's population does not have access to ambulance transport or prehospital trauma care. Global groups such as the World Health Organization (WHO), as well as smaller entities like Trek Medics International, are working to improve or establish emergency medical service (EMS) systems in **developing countries**, where injury rates can be high.

Ambulance transport and prehospital care could reduce fatality rates from incidents such as traffic-related injuries, self-inflicted injuries, interpersonal violence, burns, and drowning -- all of which are among the leading global causes of injury-related deaths, according to the WHO. More than 5 million people die each year as a result of an injury. Road traffic fatalities have been steadily increasing in low- and middle-income countries where motorization has not been accompanied by sufficient road safety improvement strategies. Natural disasters and conflicts also increase the need for emergency care and transport services.

Regional Highlights

Most US ambulance service providers are local businesses. About 60% of US ambulance establishments are part of single-site organizations. The states with the most ambulance service companies are [Pennsylvania](#), [Texas](#), [California](#), and [New York](#).

Human Resources

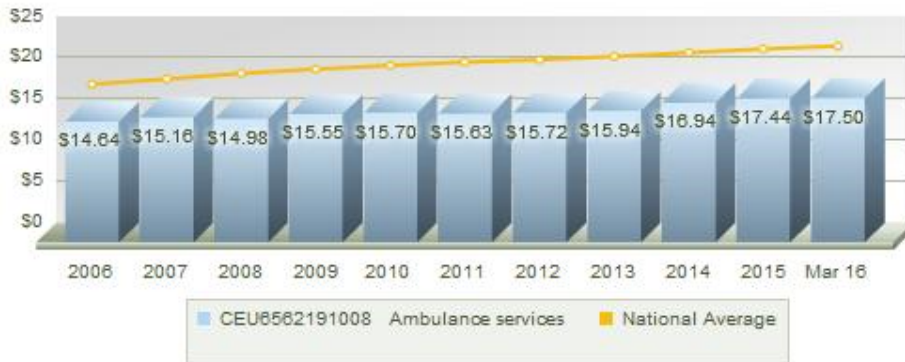
Ambulance drivers and nonmedical attendants usually need external and on-the-job skills training, including emergency driving, first aid, and safety. Paramedics and emergency medical technicians need specific medical training and, in most states, certification or licensing. Work tasks can be strenuous and stressful, and require physical and mental strength. Ongoing **safety training** addresses ambulance operation, medical protocols, equipment use, and patient-focused care.

Average hourly pay for ambulance services is **moderately lower** than the national average wage. Most employees are full-time, though some employees work part-time or are volunteers. Industry **injury rates** are more than double the national average, which can impact turnover rates. Injuries result mainly from lifting patients; EMTs must also do considerable kneeling and bending and may be exposed to diseases, viruses, and combative patients. Many employees are members of unions.

Industry Employment Growth Bureau of Labor Statistics



Average Hourly Earnings & Annual Wage Increase
Bureau of Labor Statistics



Industry Growth Rating



Demand: Driven by demographics and surgery volume
Profits hinge on expertise and reputation
Risk: Cuts in insurer reimbursement rates for services

Call Prep Questions

Conversation Starters

How has the 2010 health care reform law changed the way the company operates?
 Health care reform efforts pose challenges for companies providing ambulance services.

How does the company manage contract demands against revenues?
 Ambulance firms with municipal or other government contracts must provide emergency service, regardless of a patient's ability to pay.

How does the company control liability insurance costs?
 Due to the high risk, life-or-death nature of emergency medical services and transport, ambulance firms have high liability exposure.

What advantages or challenges does the company see in M&As?
 Acquisitions and mergers among ambulance services firms enable efficiencies related to health care reimbursement, new technology purchases, and participation in managed care plans, which require larger provider networks.

How do municipal budget constraints affect outsourcing opportunities?
 Significant budget pressures are prompting municipalities, government agencies, and health care facilities to

consider outsourcing ambulance transports.

How does the company attract and retain employees?

Few consumers know that emergency care, including ambulance service, is a more expensive alternative than a visit to a doctor's office or urgent care facility.

Quarterly Industry Update

How is the company working to improve data recording and sharing capabilities?

Though many EMS organizations have implemented electronic patient care report (ePCR) software, most ambulance data systems do not connect to the electronic health records (EHRs) used at hospitals and other area facilities.

Operations, Products, and Facilities

How many locations and employees does the company have?

Most US ambulance services companies are small and local with one location and fewer than 15 employees; a limited number of companies operate regionally and only two are national.

How important is ground transport to the company's business? Air transport?

Firms may provide air and/or ground ambulance services.

How many ground ambulances does the company have? Other vehicles?

Emergency services vehicles include ground, helicopter, and fixed-wing ambulances; critical care trucks; and supervisory vehicles.

What percentage of the company's medical transports is for emergencies? Nonemergencies?

Medical transport services can be for emergency and/or nonemergency patients; contracts can be for one or both types.

If an emergency services provider: What percentage of cases does the company arrive at within eight minutes of the first call?

The key industry metric is response level: the percentage of sites a company reaches within the industry standard of eight minutes or less from the first call.

What relationship does the company have with the local 911 emergency center?

Ambulance firms generally receive emergency calls from the local 911 center, but some may operate the service.

How important to the firm is subcontracting?

Ambulance firms may serve as subcontractors to other entities or may hire subcontractors, such as paramedics.

Customers, Marketing, Pricing, Competition

What types of organizations are the company's major customers?

Major customers may be local governments, health care providers, or insurance companies.

What type of sales organization or channel works best for the company?

In larger companies, selling is via a company sales force and account managers, but in small firms the owners are the primary salespeople.

What is the company's most effective means of marketing and promotion?

Marketing is primarily through customer and prospect visits and by formally qualifying to participate in future bidding opportunities.

What percentage of the company's sales are renewals and new customers?

Renewals are important, because limited sales opportunities exist in many locales. New customers are important to grow the customer base.

How important to sales are responses to requests for proposals (RFP)?

Often the only way to sell into an account is by responding to RFP, a common process in awarding ambulance services contracts.

How important to the company are sales of emergency response contracts? Nonemergency?

Sales may result in contracts for emergency and/or nonemergency patients and may be on a master contract or standby basis.

How competitive are the company's prices?

The price per ambulance transport in the US varies by city and medical complexity; Medicare pays only a portion of basic transport fees.

What are the company's biggest advantages or challenges in sales and marketing?

Sales can be extremely competitive for major contracts and in smaller markets where the number of potential

customers is limited.

Regulations, R&D, Imports and Exports

How does the company ensure compliance with government regulations?

Ambulance services companies need to comply with federal, state, and local regulations pertaining to the health care and insurance industries.

How is the company affected by health care provider requirements?

Because ambulance firms serve the highly regulated health care industry, they must adhere to prescribed procedures for services, billing, contracts, marketing, and other operations, including Medicare and Medicaid compliance and rates.

What is the company's role in the local emergency medical system?

A local emergency medical system typically includes a variety of organizations, including hospitals, police, fire departments, and ambulance services providers.

What changes has the company made to comply with Homeland Security mandates?

Ambulance service providers are subject to Homeland Security requirements and participation in national disasters or emergencies.

How does the company keep informed of the latest R&D related to the industry?

Industry leaders and makers of emergency vehicles seek continual improvement through design and development of ambulances with advanced safety, technical, and medical care features.

Organization and Management

Who is the primary shareholder of the company?

Most US ambulance services companies are small, private operations.

What influence does the primary shareholder have on daily operations?

In small companies, the owner is often the major sales and operations manager.

What credentials does the company require for ambulance drivers, paramedics, and emergency medical technicians (EMTs)?

Ambulance drivers and nonmedical attendants usually need external and on-the-job skills training, including emergency driving, first aid, and safety. Paramedics and EMTs need specific medical training and, in most states, certification or licensing.

How does the company qualify workers as suitable for emergency work?

Management qualifies workers through background checks, proof of certification, and skills demonstration. More difficult is determining a person's psychological stability and ability to perform in stressful situations.

What percentage of the company's employees is full-time?

Many of the industry's employees work part-time.

How might the company reduce turnover?

As demand grows for ambulance services from an aging population, companies that improve pay and benefits will have an advantage in attracting and retaining employees.

What is the company's employee injury rate?

Industry injury rates are nearly three times higher than the national average. Injuries result mainly from lifting patients.

How active are unions at the company?

Many industry employees are members of unions.

Financial Analysis

What factors drive the company's profitability?

The profitability of individual companies depends on quick and effective response and operational efficiency.

What organizations are the company's largest third-party payers?

Payment for services comes mainly from third-party payers, such as Medicare, Medicaid, and commercial insurance companies.

How problematic are write-offs for the company?

Third-party payers don't always pay the entire bill and self-pay patients have a high rate of nonpayment; partial or nonpayment results in write-offs.

How high is the cost of providing uncompensated care as a percentage of gross revenue?

The cost of providing uncompensated care is high -- about 20% of annual gross revenue at a major ambulance services firm in a recent year.

How is the company reducing write-offs?

Companies seeking to reduce write-offs may negotiate subsidies from government clients, ask regulators to increase commercial insurance rates, and participate in public education programs about the unnecessary use of 911 calls.

Business and Technology Strategies

How does the company see the future of the ambulance services industry?

Demand for ambulance services will grow as the US population ages and increases. Demand for ambulance services will grow as the US population ages and increases. About 20% of the US population will be age 65 or older in 2030, up from about 13% in 2010.

How do mergers and acquisitions affect the company?

Consolidation among customers limits sales opportunities. Consolidation among ambulance services firms can create efficiencies of scale for the companies involved and larger competitors for others.

What advantages does the company have over competitors?

Large companies have advantages of scale in contract negotiations, service capabilities, technology, and geographic coverage. Small companies can compete effectively by providing superior service in specific locales.

What plans does the company have to improve or add services?

Plans may include medical care, medical technology, computer support systems, state-of-the-industry vehicles, or service expansion, such as adding nonemergency or air medical transport.

What might the company profile be like in the next 10 years?

Analysts expect the industry to grow in response to demand from an aging population, and for consolidation to continue.

What does the company see as its biggest challenges over the next five to 10 years?

Challenges may include managing growth, maintaining profitability, facing stronger competitors, complying with regulation, controlling expenses, or limiting liability.

Quarterly Industry Update

4.18.2016

Challenge: EMS Agencies Work to Connect with Hospital EHRs - Though many EMS organizations have implemented electronic patient care report (ePCR) software, most ambulance data systems do not connect to the electronic health records (EHRs) used at hospitals and other area facilities. Interoperability is a challenge that the entire health care industry is seeking to improve upon, as care providers use a variety of software systems to capture patient data. EMS organizations in states such as California, New York, and Texas are piloting systems that facilitate information exchange with other health providers, according to *Emergency Management*. Interoperability would allow ambulance workers to search a patient's health record for allergies, medications, and other health concerns; alert the receiving hospital about the patient's status in real time; file a patient care report directly into the EHR (instead of via a printed report); and reconcile data from the EHR with data in the ePCR.

Industry Impact - Ambulance service companies may invest in technology upgrades so they can improve patient health outcomes and operational efficiencies by electronically sharing data with other health care providers.

1.18.2016

Trend: Industry Consolidation - In a deal that can be expected to reduce competition in the private emergency response industry, two of the leading US providers of ambulance services are combining operations. American Medical Response (AMR, a subsidiary of Envision Healthcare) completed its purchase of cash-strapped rival Rural/Metro in late 2015. The acquisition adds emergency and nonemergency transport and fire protection services, helping Envision diversify its operations in response to the health care market's focus on integrated care. Envision expects to realize efficiencies of \$25 to \$28 million through 2017 from the integration. Rural/Metro has experienced financial and operational difficulties in recent years. The company reorganized under bankruptcy protection in 2013.

Industry Impact - Consolidation of major industry providers will reduce competition in some markets, potentially increasing prices and response times and compromising quality of services.

10.12.2015

Trend: Number of Volunteer EMS Squads Dwindles - As funding declines and expenses rise, volunteer EMS

organizations are struggling to continue operations. Some 120 volunteer ambulance companies in New Jersey have folded since the mid-1990s, according to *EMS World*. The costs for volunteer training, professional licensing, equipment, and other requirements have risen for community ambulance operators. At the same time, companies struggle to collect reimbursement from insurers and patients, and they are unable to rely on the donations that historically funded most staffing needs. Many organizations are merging to help control costs. About 30 mergers were reported in Pennsylvania between 2008 and 2015. Other municipalities are contracting out EMS services to hospitals and other large health care organizations.

Industry Impact - Merger and acquisition opportunities are growing for larger EMS organizations, while smaller entities that rely mainly on volunteers and community support are struggling.

7.13.2015

Opportunity: Data Analysis to Help Improve EMS Patient Outcomes - EMS leaders in the US are working to improve ambulance response times and patient outcomes by analyzing performance data. By using standard information collected at the local, state, regional, and national levels, the EMS Compass project aims to create patient-centered performance measures for all agencies to follow. Public health process measures, or steps, include the time between the first 911 call and the implementation of evidence-based procedures for time-sensitive conditions, such as chest compression for heart attack patients, according to the *Journal of Emergency Medical Services*. Other measures track patient safety, engagement, care coordination, efficiency, and effectiveness, as well as EMS fleet, workforce, data, and finance operations. The national Compass initiative was created by the National Highway Traffic Safety Administration and the National Association of State Emergency Medical Services Officials.

Industry Impact - With enhanced data analysis tools, EMS agencies should gain insight into how to improve patient outcomes, response times, workforce problems, and other operational measures.

Industry Indicators

The average US retail price for diesel and regular gas, a major operating cost for ambulance services, fell 20.9% and 18.3%, respectively, in the week ending May 16, 2016, compared to the same week in 2015.

US consumer prices for medical care commodities, which may impact ambulance service operational costs for equipment and supplies, increased 2.7% in April 2016 compared to the same period in 2015.

US consumer prices for medical care services, an indicator of profitability for ambulance services, rose 3.1% in April 2016 compared to the same month in 2015.

Total US revenue for other ambulatory healthcare services, which includes ambulance services, rose 4.8% in the fourth quarter of 2015 compared to the previous year.

Industry Forecast

Revenue (in current dollars) for US ambulance services is forecast to grow at an annual compounded rate of 6% between 2016 and 2020. Data Published: February 2016



First Research forecasts are based on INFORUM forecasts that are licensed from the Interindustry Economic Research Fund, Inc. (IERF) in College Park, MD. INFORUM's "interindustry-macro" approach to modeling the

economy captures the links between industries and the aggregate economy. [Forecast FAQs](#)

Companies

| Company | Country | Sales |
|--|---------------|-------------|
| Providence Service Corporation | United States | \$1,695.45M |
| AMERICAN MEDICAL RESPONSE, INC. | United States | \$1,384.90M |
| RURAL/METRO CORPORATION | United States | \$918.13M |
| ACADIAN AMBULANCE SERVICE, INC. | United States | \$611.58M |

Industry Drivers

Changes in the economic environment that may positively or negatively affect industry growth.

Data provided by First Research analysts and reviewed annually



Government Regulations Changes in federal, state, or local government regulations or business-related policies

Critical Issues

Health Care Reform - Health care reform efforts pose challenges for companies providing ambulance services. For instance, since the US Affordable Care Act (ACA) is increasing the number of Americans with health insurance, it could reduce the amount of uncollected fees, which can total more than 20% of an ambulance company's revenues. However, the law may require ambulance services providers to seek reimbursements from hospitals under a "bundled payments" provision and may also increase compliance costs with new regulations, which could affect revenues and profits.

Dependence on Municipal Contracts - Ambulance firms with municipal or other government contracts must provide emergency service, regardless of a patient's ability to pay. Contracts, which often run for three to five years, typically are subject to competitive bidding procedures. Some cities are taking back all or some emergency transport services from private providers to save taxpayer money, limiting growth and revenues. To grow, ambulance firms must increase services provided under existing contracts or add new contracts; most contracts are terminable upon notice of as little as one month.

Business Challenges

High Risk, High Liability Exposure - Due to the high risk, life-or-death nature of emergency medical services and transport, ambulance firms have high liability exposure. Medical errors, inadequate response time, and vehicle accidents can lead to negligence, malpractice, or wrongful death lawsuits. Liability lawsuits can be complicated and costly. Increases in the number of patient lawsuits and the value of jury awards have been common in recent years, which contribute to the rising cost of general and professional liability insurance.

High Number of Uninsured - Though the federal Affordable Care Act is increasing the number of insured patients in the US, ambulance companies will continue to face difficulty in recovering full fees from the uninsured. Public policy requires providing emergency response to patients who call 911, regardless of their ability to pay. Ambulance companies say that uninsured patients are more likely to call 911 for a variety of ailments, not just emergencies, as many don't have a primary physician.

Industry Fraud - Intended and inadvertent fraud damages the industry's reputation. Common types of fraud in

the ambulance services business include unnecessary medical treatment and billing schemes, like "upcoding" for a higher level of service than provided or billing for services not rendered. Bad publicity results from scams by unscrupulous operators, especially those that contract privately for medical transport and take advantage of patients' emotionally vulnerable families.

Fuel Price Changes - Fluctuations in the price of diesel fuel can drastically impact costs for ambulance service providers. A majority of ambulance transport revenue, particularly for larger providers, is generated from government-funded programs such as Medicare and Medicaid, which do not automatically allow ambulance service companies to offset higher costs with rate increases. Ambulance service providers may be able to offset some inflationary fuel costs through operating efficiencies and successfully negotiating fees and subsidies.

Business Trends

Rising Costs of Equipment, Insurance - The costs of specialty vehicles used in ambulance services has trended up in recent years. US producer prices for heavy-duty trucks, including those on which ambulances are based, increased 14% between 2009 and 2015. Anticipated strong demand will likely continue to put upward pressure on equipment prices.

Higher Levels of Medical Care - Ambulance personnel provide increasingly higher levels of medical care, even more than a decade ago, and must undergo more rigorous training to gain certification. Advances in portable medical equipment enable better diagnostics, and wireless communications allow ambulance medical personnel to talk with remote hospital doctors while administering to patients at the scene and en route. Paramedics can administer life-saving drugs and procedures; EMTs give advanced first aid.

Training, Equipment for Special Populations - The medical community recognizes that various population segments need different emergency care, and continues to develop new protocols to meet those needs. As the population ages, a wider range of geriatric care is a growing focus. Emergency pediatric care is evolving; children need smaller equipment and different protocols, especially for autism and other neurological conditions that nonmedical response teams often misinterpret. Patients weighing over 500 pounds require special ambulances with large stretchers and automatic lifting devices.

Consumer-Directed Care - Controlling health costs, including ambulance transport, is a priority for municipalities and managed care companies alike. A new trend in controlling costs is consumer-directed care, in which patients have more upfront financial responsibility for their health care bills. This could adversely affect ambulance service providers, as it may increase collection costs. Ambulance services are already pressured by the failure of many self-payers to pay all or part of their transport costs. Consumer-directed care is still too new for companies to know how revenues will be affected by this trend.

Industry Opportunities

Growth through Acquisition - Acquisitions and mergers among ambulance services firms enable efficiencies related to health care reimbursement, new technology purchases, and participation in managed care plans, which require larger provider networks. Greater geographic coverage justifies investment in more sophisticated equipment, like geographic information systems, that expedite dispatching and resource use.

Increase in Outsourcing and Partnering - Significant budget pressures are prompting municipalities, government agencies, and health care facilities to consider outsourcing ambulance transports. Additionally, the complexities of the emergency ambulance business, including the complicated claim submission requirements of third-party payers like Medicare and Medicaid, are leading many public providers of emergency ambulance services to partner with private firms. Outsourcing and public-private partnerships will likely drive growth in the ambulance services market.

Changing Public Perception - Few consumers know that emergency care, including ambulance service, is a more expensive alternative than a visit to a doctor's office or urgent care facility. Many people use emergency services unnecessarily, lack health insurance, or don't pay, which raise costs. Because ambulance firms have to write off unreimbursed services, companies have an incentive to help educate the public regarding appropriate circumstances for calling 911 for ambulance services.

Rapid Growth in Demand - As the US population ages and increases, demand for ambulance transport is rising. Ambulance service employment, an indicator of demand, grew by about 13% between 2010 and 2015. About 20% of the US population will be age 65 or older in 2030, up from about 13% in 2010. Rising demand affects planning and operations at ambulance services companies.

Data Services - Investment in health care information technology (HIT) has grown. Industry leader American

Medical Response credits positive clinical results and new contract wins in part to the company's proprietary clinical database. The database tracks patient transports and associated mortality and resuscitation metrics.

Executive Insight

Chief Executive Officer - CEO

Health Care Reform

The Affordable Care Act of 2010 may substantially change how the ambulance services industry operates. The law makes health insurance available for many more Americans, which may decrease the number of patients who are unable or unwilling to pay. The law is also expected to extend Medicare bonuses to certain providers. However, the law is almost certain to seek to contain reimbursement rates, which are already lower than private pay or third-party insurance rates, and may increase the complexity of operations due to increased government oversight.

Planning, Preparing for Growth

Rising demand from an aging population challenges ambulance service executives to plan and prepare for growth. The population of Americans age 65 and older will increase to about 20% in 2030 from about 13% in 2010. Greater demand requires executives to establish strategies for personnel, medical equipment, vehicles, and communications. M&As are a common strategy to strengthen geographic coverage and gain efficiencies of scale.

Chief Financial Officer - CFO

Managing Risk

Because ambulance services is a high-risk, high-liability business with much regulation, financial officers focus on containing and managing risk exposure. Management establishes internal policies and controls to minimize the potential for liability lawsuits and government noncompliance issues, which are complicated and costly. Companies buy liability insurance to limit exposure.

Controlling Costs

Competition for customer contracts and reduced reimbursement rates for services can squeeze margins for ambulance services companies. Financial managers seek to control costs by improving productivity, negotiating supplier contract terms, and implementing expense policies. Implementing operational systems that track resources by individual services can help identify cost improvement opportunities and accurately price services.

Chief Information Officer - CIO

Improving Responsiveness

Response time to emergencies is a major industry metric and a critical priority for IT executives. To achieve speedy response with the appropriate personnel, management ensures optimal operations support systems, which are the backbone of an ambulance services company. These systems enable immediate communication and data-sharing throughout a case, including call receipt, dispatch and deployment, on-scene and en route medical care, patient delivery, and information transfer to staff at the destination facility.

Upgrading Technology

Advances in computer and medical technologies, critical to ambulance services operations, require technical management to continually assess new products and upgrades. Mobile medical technology and equipment, including ambulances, are continually upgraded in an effort to improve patient care and safety. Technology managers monitor products with advanced technical, safety, and medical care features, investing in them when operationally feasible and advantageous. Advanced emergency services and communication software, GPS, and mobile medical diagnostic and monitoring devices are of particular interest.

Human Resources - HR

Hiring, Retaining Qualified Employees

Recruiting and retaining employees challenges management in an industry with irregular working hours, low pay, and high injury and personnel turnover rates. Management balances the growing need for workers with the necessity to ensure that employees can handle the work, both professionally and emotionally. Management qualifies workers through background checks, proof of certification, and skills demonstration. More difficult is determining a person's psychological stability and ability to perform in stressful situations.

Safety Training

Safety is a major industry concern and a top ongoing training priority for ambulance services firms. Management provides safety training that addresses ambulance operation, medical protocols, equipment use, and patient-focused care. Training also addresses workplace safety, because industry injury rates are three times higher than

the national average. A company's safety record is important for getting, fulfilling, and keeping customer contracts and complying with government, insurance, and union requirements.

VP Sales/Marketing - Sales

Keeping Current Customers

Many locales have few potential contract customers for ambulance services, making customer retention key for sales management. Consolidation among health care providers decreases the number of contracts, as does the sharing of municipal services among neighboring towns. Keeping customers is cheaper than getting new ones, although contract renewals often require ambulance firms to make concessions, such as lower rates, that affect margins. Loss of a major contract can devastate an ambulance firm, especially a small one.

Selling New Contracts

Management's growth strategies depend on winning accounts in existing geographies and expanding to new ones. New opportunities exist in neighboring towns, and in small towns and rural areas that depend on voluntary emergency teams. Size advantages, often a result of acquisitions and mergers, help qualify ambulance firms to participate in managed care plans, which sales teams pursue.

Executive Conversation Starters

Chief Executive Officer - CEO

How will health care reform affect how the company operates?

Although the 2010 health care law is expected to increase the number of Americans with health insurance, thus reducing the number of nonpayments, other provisions will likely reduce Medicare and Medicaid reimbursement rates, which will affect revenues.

What strategies does the company have to manage expected growth in demand as the population ages?

Greater demand requires executives to establish strategies for personnel, medical equipment, vehicles, and communications. M&As are common to strengthen geographic coverage and gain efficiencies of scale.

Chief Financial Officer - CFO

How does the company contain and manage risk?

Management establishes internal policies and controls to minimize the potential for liability lawsuits and government noncompliance issues, which are complicated and costly.

What approaches does the company find most successful for controlling costs?

Financial managers seek to control costs by improving productivity, negotiating supplier contract terms, and implementing expense policies.

Chief Information Officer - CIO

How satisfied is the company with its average response time to emergency calls?

IT executives must develop operations support systems that enable speedy and appropriate response.

What types of advanced computer or medical technology is the company considering for purchase or upgrade?

New or upgraded ambulances, advanced emergency services and communication software, GPS, and mobile medical diagnostic and monitoring devices are of particular interest for improving operations.

Human Resources - HR

What advantages or challenges does the company have hiring and retaining qualified employees?

Recruiting and retaining employees challenges management in an industry with irregular working hours, low pay, and high injury and personnel turnover rates.

What plans does the company have to improve its safety record?

Management typically prioritizes safety training that addresses ambulance operation, medical protocols, equipment use, patient-focused care, and worker injury avoidance.

VP Sales/Marketing - Sales

What advantages or challenges does the company have in retaining current customers?

Many locales have few potential contract customers for ambulance services, and customer consolidation decreases the number of available contracts. The loss of a major customer can devastate an ambulance firm,

especially a small one.

What plans does the company have to expand its customer base?

Potential customers for ambulance service contracts include towns, counties, and other government entities; hospitals, nursing facilities, and other health care providers; and insurance companies.

Financial Information

COMPANY BENCHMARK TRENDS

Quick Ratio by Company Size

The quick ratio, also known as the acid test ratio, measures a company's ability to meet short-term obligations with liquid assets. The higher the ratio, the better; a number below 1 signals financial distress. Use the quick ratio to determine if companies in an industry are typically able to pay off their current liabilities.



Financial industry data provided by MicroBilt Corporation collected from 32 different data sources and represents financial performance of over 4.5 million privately held businesses and detailed industry financial benchmarks of companies in over 900 industries (SIC and NAICS). More data available by subscription or single report purchase at www.microbilt.com/firstresearch.

Current Liabilities to Net Worth by Company Size

The ratio of current liabilities to net worth, also called current liabilities to equity, indicates the amount due creditors within a year as a percentage of stockholders' equity in a company. A high ratio (above 80 percent) can indicate trouble.



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COMPANY BENCHMARK INFORMATION

NAICS: 621910

Data Period: 2014

Last Update April 2016

Table Data Format

Mean

| Company Size | All | Large | Medium | Small |
|-----------------|------|------------|--------------|------------|
| Size by Revenue | | Over \$50M | \$5M - \$50M | Under \$5M |
| Company Count | 2880 | 5 | 70 | 2805 |

Income Statement

| | All | Large | Medium | Small |
|--------------------------|-------|-------|--------|-------|
| Net Sales | 100% | 100% | 100% | 100% |
| Gross Margin | 56.8% | 62.2% | 55.3% | 55.2% |
| Officer Compensation | 3.1% | 2.1% | 2.5% | 3.9% |
| Advertising & Sales | 0.3% | 0.3% | 0.2% | 0.2% |
| Other Operating Expenses | 51.5% | 57.6% | 50.9% | 48.9% |
| Operating Expenses | 54.8% | 60.0% | 53.6% | 53.0% |
| Operating Income | 2.0% | 2.2% | 1.7% | 2.2% |
| Net Income | 0.7% | 0.7% | 0.6% | 0.7% |

Balance Sheet

| | All | Large | Medium | Small |
|-----------------------------|-------|-------|--------|-------|
| Cash | 7.9% | 6.4% | 7.0% | 9.3% |
| Accounts Receivable | 14.8% | 17.2% | 11.2% | 15.4% |
| Inventory | 1.3% | 1.6% | 1.2% | 1.3% |
| Total Current Assets | 35.2% | 36.8% | 30.5% | 37.0% |
| Property, Plant & Equipment | 29.6% | 27.6% | 35.8% | 27.3% |

| | | | | |
|------------------------------------|--------|--------|--------|--------|
| Other Non-Current Assets | 35.2% | 35.5% | 33.7% | 35.7% |
| Total Assets | 100.0% | 100.0% | 100.0% | 100.0% |
| Accounts Payable | 5.4% | 5.9% | 5.9% | 4.8% |
| Total Current Liabilities | 19.6% | 19.8% | 22.0% | 18.1% |
| Total Long Term Liabilities | 32.1% | 21.3% | 31.0% | 38.7% |
| Net Worth | 48.4% | 58.9% | 47.0% | 43.2% |

Financial Ratios

(Click on any ratio for comprehensive definitions)

| | | | | |
|---|--------|--------|---------|--------|
| Quick Ratio | 1.18 | 1.21 | 0.86 | 1.38 |
| Current Ratio | 1.80 | 1.86 | 1.38 | 2.04 |
| Current Liabilities to Net Worth | 40.5% | 33.6% | 46.8% | 41.9% |
| Current Liabilities to Inventory | x14.61 | x12.07 | x18.80 | x14.27 |
| Total Debt to Net Worth | x1.07 | x0.70 | x1.13 | x1.31 |
| Fixed Assets to Net Worth | x0.61 | x0.47 | x0.76 | x0.63 |
| Days Accounts Receivable | 23 | 30 | 15 | 23 |
| Inventory Turnover | x77.03 | x48.16 | x102.57 | x84.93 |
| Total Assets to Sales | 42.6% | 48.9% | 37.8% | 42.5% |
| Working Capital to Sales | 6.7% | 8.3% | 3.2% | 8.0% |
| Accounts Payable to Sales | 2.3% | 2.8% | 2.2% | 2.0% |
| Pre-Tax Return on Sales | 1.1% | 1.1% | 0.9% | 1.2% |
| Pre-Tax Return on Assets | 2.5% | 2.2% | 2.4% | 2.8% |
| Pre-Tax Return on Net Worth | 5.1% | 3.7% | 5.1% | 6.4% |
| Interest Coverage | x1.45 | x1.45 | x1.34 | x1.54 |
| EBITDA to Sales | 2.5% | 2.7% | 2.2% | 2.6% |
| Capital Expenditures to Sales | 1.4% | 1.6% | 1.4% | 1.2% |

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ECONOMIC STATISTICS AND INFORMATION

Annual Construction put into place - Census Bureau



VALUATION MULTIPLES

Ambulance Services

Acquisition multiples below are calculated using at least 2 US private, middle-market (valued at less than \$1 billion) industry asset transactions completed between 4/2006 and 11/2008. Data updated annually. Last updated: November 2015.

| Valuation Multiple | MVIC/Net Sales | MVIC/Gross Profit | MVIC/EBIT | MVIC/EBITDA |
|--------------------|----------------|-------------------|-----------|-------------|
| Median Value | 1.1 | 1.3 | 9.6 | 7.3 |

MVIC (Market Value of Invested Capital) = Also known as the selling price, the MVIC is the total consideration paid to the seller and includes any cash, notes and/or securities that were used as a form of payment plus any interest-bearing liabilities assumed by the buyer.

Net Sales = Annual Gross Sales, net of returns and discounts allowed, if any.

Gross Profit = Net Sales - Cost of Goods Sold

EBIT = Operating Profit

EBITDA = Operating Profit + Noncash Charges



SOURCE: Pratt's Stats, 2014 (Portland, OR: Business Valuation Resources, LLC). Used with permission. Pratt's Stats is available at <http://www.bvresources.com/prattsstats>

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Industry Websites

American Ambulance Association

Industry issues, initiatives, links.

Association of Air Medical Services

Features, survival stories.

Best Practices in Emergency Services

News, articles.

Commission on Accreditation of Ambulance Services

Standards, accreditation.

EMS World

News articles and industry features.

Journal of Emergency Medical Services (JEMS.com)

Daily news and articles, training and career information, resource links.

National Association of Emergency Medical Technicians

Industry and job issues, educational programs, research.

National Highway Transportation Safety Administration, EMS Division

Paramedic Chiefs of Canada

Media, events, and links.

St. John Ambulance (Canada)

News, events, training, and resources.

Glossary of Acronyms

ACA - Affordable Care Act

ALS - advanced life support

AMR - American Medical Response, Inc.

BLS - basic life support

EMS - emergency medical services

EMT - emergency medical technician

FEMA - Federal Emergency Management Agency

GIS - geographic information system

GPS - global positioning system

HEMS - helicopter emergency medical services

HIPAA - Health Insurance Portability and Accountability Act

RFP - request for proposal

SMS - system status management

