

2024

EMS TREND REPORT

A FORECAST OF THE TOP SIX EMS
TRENDS AND INNOVATIONS OF 2024



IN 2024, THERE'S NO SHORTAGE OF DATA.

But where do we go now?

In a landscape saturated with information and technology, data has become ubiquitous. According to trends, research, stories, and data over the last year, the focus today and into 2024 will lie in using the myriad of information available efficiently and with relevance to each community's unique situation – a task that varies among organizations and locales.

In addition, the demands placed on EMS have reached unprecedented levels – call volumes are surging, responsibilities are expanding, and communities are increasingly vocal about their expectations. The conundrum lies in the stark reality that, despite these growing demands, funding remains stagnant, and pay scales struggle to keep pace with inflation.

How, then, do EMS organizations navigate the labyrinth of ever-growing challenges, balancing the need for excellence with the constraints of limited resources? And as the expectations only continue to increase, what technologies, trends, and innovations are agencies turning to meet these demands?

1 A CONTINUED FOCUS ON RETENTION AND RECRUITMENT



This isn't the first time we've discussed retention and recruitment in our annual predictions, as it is certainly one of the most persistent and critical challenges currently impacting EMS agencies. Compensation still plays a part, but more often, clinicians are leaving the role due to organizational culture, stress, life balance, and mental health concerns. As an already demanding job that can be both emotionally and physically draining, the role of EMS clinicians has only been made more difficult by the increased call volume of a post-pandemic world. And to top it off, crews are encountering a higher volume of patients with opioid overdoses and gunshot wounds representing complex interactions with social determinants of health that require coordinated cross-functional efforts to improve. Additionally, violence against EMS professionals has detrimental impact on the physical and mental well-being of the workforce – creating a dire need for new retention and recruitment solutions and better interventions to reduce burnout.

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Implementing Flexible Education Models

Recognizing the need for a sustainable pipeline of EMS professionals, there's a drive towards flexible, community-based education models designed to recruit and support a diverse range of students reflective of the communities they intend to serve. These models leverage hybrid schedules, night classes, and additional supports like daycare to overcome traditional barriers to program completion. Initiatives such as the Black Fire Brigade in Chicago and the Bay Area Youth EMT Program showcase the potential of these innovative approaches.

Providing Transparency in Job Descriptions and Alternative Schedules

In response to retention challenges, we'll see more efforts to provide clear job expectations and offer flexible arrangements. This includes better communication around the job's nature to ensure alignment between expectations and the reality of EMS roles.

Improving Response Models

As the 911 call volume continues to increase, the classic EMS job structure is no longer sustainable. To combat this, we'll see a push to hire more EMTs to respond to calls that don't require paramedic care as well as more collaboration between EMS and hospitals to optimize resources, inclusive of monitoring trends in patient off-load time.

Addressing Violence Against EMS professionals

The industry must actively address the alarming issue of violence against EMS clinicians. This involves targeted training programs, support initiatives, heightened security measures and advocacy for public policy and legislation to ensure the safety and well-being of frontline healthcare professionals. There will be more discussion and emphasis on research surrounding violence against EMS clinicians in 2024.

2 ANTICIPATING THE IMPACT OF AI AND OTHER ADVANCED TECHNOLOGIES



Despite being plagued by a lack of resources and hiring issues that make working at their current level a challenge within itself, EMS professionals are facing higher standards of care across the entire industry. In order to meet these raised expectations, it's vital for agencies to turn to newer technologies to enhance care and streamline processes. The surge of startups introducing artificial intelligence (AI), machine learning, and mobile app technologies into EMS signals a complex shift, aiming to streamline emergency operations and patient care by providing enhanced data analysis and decision-making tools. However, there's also a risk of creating fragmented systems where data and technologies don't easily integrate.

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Evaluating Ultrasound Technology for Widespread Adoption

As ultrasound has been available for several years within EMS settings, it's now time to assess the impact and determine if this tool is ready for widespread adoption. This technology, promising enhanced diagnostic capabilities and improved patient outcomes in prehospital care, has shown mixed results. We need to evaluate its effectiveness, considering both the benefits and the associated challenges like training requirements and financial implications, to ensure that investments in ultrasound technology do contribute to the advancement of prehospital care's safety and effectiveness.

Shifting Locations with Telemedicine and At-Home Care

In response to the closure of rural hospitals and the end of programs like ET3, EMS is increasingly using telemedicine and at-home care to provide medical services. These approaches help bring specialized care, such as stroke and ICU treatments, directly to patients at home – especially where access to hospitals is limited. This continued shift towards using technology for direct care support ensures that patients in remote areas receive timely and effective medical attention.

Utilizing Vocal Data Entry for Real-Time Workflow Optimization

Voice or speech recognition technology (SRT), uses AI to interpret spoken audio to convert words into text displayed on computer screens. This technology is gaining traction in healthcare to improve documentation efficiency and accuracy, surpassing traditional manual methods. We expect to see this technology emerge in prehospital settings, marking a shift in real-time, voice-driven documentation, while also contributing to more-informed decision-making across the continuum of care.

Streamlining Processes with AI

Though still in its early stages, AI in healthcare is set to influence prehospital and in-hospital settings by facilitating quicker diagnoses, guiding to the appropriate destinations, and optimizing data synthesis. As data continues to mature, the integration of AI will aim to improve processes and introduce new patient care solutions.

3 OPTIMIZING AND MAKING THE MOST OUT OF YOUR RESOURCES



Even when using new technologies to streamline care, EMS agencies are still having difficulties keeping up with the higher call volumes and tighter budgets. This challenging predicament is leading many to look for other areas to optimize, both financially and operationally.

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Navigating Capital Expense Challenges

Capital expenses in EMS provide significant challenges, not only with the escalating costs of ambulances but across the board. As capital budgets tighten, EMS agencies are seeking additional funding through grants and other sources, emphasizing the need for supportive data. This situation is also driving a shift in capital expenditure, with a growing preference for devices and hardware that offer both cost efficiency and mobility over more expensive and less versatile options.

Establishing Risk Reduction Strategies

Recently, there's been an uptick in the implementation of risk reduction strategies for both EMS professionals and communities - and we'll continue to see growth in public health outreach programs like community CPR classes. Additionally, the use of video systems is reducing risk for EMS professionals as well, providing valuable documentation and feedback mechanisms that can improve patient care and help lower potential risks associated with operational activities.

Reexamining Light and Siren Usage

A hot topic in the industry, the conversation about lights and siren (L&S) usage will continue into 2024 and beyond. Some data points to cases of L&S usage being more harmful than helpful, so the industry is reexamining usage. NHTSA guidance recommends L&S for less than 5% of transports, but when lights and sirens are necessary, we'll see agencies equipping response vehicles with motorist alert systems to inform motorists of first responder activity on roadways.

4 PRIORITIZING WELLNESS FOR A HEALTHY EMS TEAM



Beyond technological advancement, the industry continues to recognize the impact the EMS profession can have on the mental health and overall well-being of its dedicated professionals.

In 2023, the [ESO EMS Index](#) released a new metric measuring critical incidents representing potentially psychologically traumatizing events, including: serious injury or line of duty death, suicide of a co-worker, death or serious injury to a child, prolonged failed rescue, multi-casualty incident disaster, victim is known to the responder, any incident where personal safety of the responder is jeopardized, incidents with excessive media interest, and any incident with unusually strong emotional components. In total, the Index reported 5,045 documented incidents from 297 agencies – though the metric was significantly under reported (with 82% of incidents missing information about the circumstances).

Looking ahead, the EMS industry will integrate a variety of mental and physical initiatives aimed at supporting the well-being of EMS teams. From a development of mental health and stress management programs to the prioritization of holistic fitness, to the strategic implementation of critical incident tracking and enhanced safety measures, agencies are taking significant strides toward addressing challenges, offering a more positive work environment.

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Providing Comprehensive Mental Health Programs

A [study from JACEP Open](#) recently evaluated the correlation between job demands and resources with burnout. The study found burnout among EMS professionals has been linked to higher turnover. Acknowledging the unique stressors faced by EMS professionals, agencies are starting to create initiatives that have organization-wide impact. Providing mental health programs and resources, including peer support and trained therapists, agencies can create a culture that better promotes mental health.

Encouraging Physical Fitness

As mental wellness programs are on the rise, so too are physical programs related to stress management initiatives. EMS agencies that prioritize physical fitness will ensure their team's holistic, overall well-being. We've seen agencies incorporate possible initiatives including gym membership reimbursement, AFG funding for workout equipment, physical fitness program development, smoking cessation programs, and strategies for prioritizing physical wellness throughout the week.

Tracking Critical Incidents

The EMS profession is wrought with moments of stress and trauma, with the recognition that what is psychologically traumatizing will differ across individuals and EMS agencies must strive to create supportive cultures that are free of judgement and stigma. Organizations are cultivating a supportive culture where clinicians can safely report exposure to traumatizing incidents, helping ensure timely access to evidence-based resources to support mental health of our clinicians. By taking it a step further and documenting these events industry wide, agencies can get a big picture view into how to better help EMS professionals.

5 LEVERAGING REAL-WORLD DATA FOR BETTER OUTCOMES



Agencies are starting to recognize the significant impact that harnessing real-time insights can make – that closing the feedback loop isn’t just good for the mental health of their paramedics, but has incredible teaching capabilities, allowing teams to implement changes in real-time based on feedback. This bilateral flow of patient records also allows hospitals to quickly gain insights into prehospital care, allowing them to improve patient safety, efficiency, and reimbursement.

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Informed Decision Making

By capturing critical incidents data, agencies can take a foundational step in creating and fostering a culture of informed decision making. This data-driven approach allows teams to proactively adjust operational strategies based on real time insights into critical incidents, enabling agile and effective decision making. By aggregating this industry data, we can get large-scale insights that can then help improve our practices as a whole.

Addressing Disparities

By analyzing data patterns that identify inequities in healthcare delivery, EMS agencies are creating strategies to address and provide evidence-based pathways that reduce racial, gender, and geographical disparities and enhance care equity. Especially with the addition of AI, there must be focus taken to ensure that healthcare disparities are not further exacerbated by models ingesting real-world data.

Bidirectional Data Flow

Implementing a bidirectional flow of data between EMS crews and hospitals provides more seamless communication. This not only ensures the exchange of crucial information in a timely enough manner to take action on, but also make measurable improvements in continuity of care, training, risk management, and loop closures for improved patient outcomes.

Continuing Education and the Value from Integrated Data

Nurses and physicians have benefited from patient-centered continuing education (CE) focused on the actual care that they have provided. Continuing education in EMS will evolve similarly. By offering CE credits to paramedics for micro-learning modules featuring their own patient outcomes, EMS agencies can help their clinicians enjoy the same benefit of directly linking their experiences to their learning.

6 CLINICAL CHANGES TO MEET INCREASED EXPECTATIONS



Just as an increase in data allows agencies to make changes based on their own performance, organizations can also better understand the quality of the care they provide based on aggregated industry insights. With this information, EMS professionals can more confidently improve interventions and incorporate new practices having the evidence to back it up.

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Improving Trauma Care

Advances in burn care and trauma management have been increasingly incorporated into hospital and EMS protocols, including the increase of prehospital distribution of whole blood in trauma care. This collaboration ensures that EMS professionals and hospital-based teams are aligned in providing effective and comprehensive care across the board.

Tracking Outcomes

By implementing outcome tracking strategies, EMS agencies can collect and measure data from their day to day to improve operations and patient care, while assessing the impact of prehospital interventions in the hospital environment. This also allows personnel to see the true impact of their work in their communities, increasing job satisfaction and motivation.

Advancements in Opioid Use Disorder Treatment

Research is beginning on the effects of the prehospital administration of buprenorphine to help patients experiencing opioid use disorder. One study by Johns Hopkins has shown that prehospital administration has been associated with a nearly 6x increase in the partaking of treatment for opioid use disorder within 30 days of an overdose-related EMS encounter.

Updated Practices around Ketamine Use

Ketamine's role as a non-opioid analgesic alternative in EMS is getting more and more attention due to patient safety concerns. We will likely see a shift towards a more proactive approach, emphasizing standardized practices, dosage, and vigilant monitoring. Additional education and training could play a role to ensure that paramedics feel confident using ketamine and align with national guidelines and protocols for its safest and most effective use.

Addressing "Wall Time"

"Wall time" significantly impacts EMS operations, with crews frequently delayed at emergency departments, limiting their availability for new emergencies. Addressing this requires collaboration between EMS and emergency departments to improve patient flow and reduce wait times. Possible solutions include diverting specific cases to appropriate care centers and having open communication between EMS leaders and hospital administrators.

Firearm Injury Response

The rise in gunshot wounds and traumatic injuries among the younger population requires rapid and proficient EMS response. Specialized training in pediatric and adolescent trauma care is essential to enable EMS crews to administer immediate, lifesaving interventions. Upstream interventions aimed to address the social determinants of health are necessary to impact the root cause of many firearm injuries.

Overview



Focus Area 1
Continued Focus
on Retention and
Recruitment



~~Focus Area Necessity 4~~
Prioritizing Wellness
for a Healthy EMS
Team



Focus Area 2
Anticipating the
Impact of AI and Other
Advanced Technologies



Focus Area 5
Leveraging Real-
World Data for
Better Outcomes



Focus Area 3
Optimizing and Making
the Most Out of Your
Resources



Focus Area 6
Clinical Changes
to Meet Increased
Expectations

Look Ahead

The trends observed for 2024 reflect a pragmatic response to common challenges faced. Between addressing recruitment hurdles to integrating new technologies, the industry is navigating through a labyrinth of constraints and innovations with data as its guide.

By prioritizing mental health, continuously optimizing resources, and integrating high-quality data whenever possible, agencies will showcase their dedication to overcoming these challenges, while taking care of their crew and delivering exceptional care to the community. These innovations mark progress towards the future of EMS.

ABOUT US

ESO (ESO Solutions, Inc.) is dedicated to improving community health and safety through the power of data. Since its founding in 2004, the company continues to pioneer innovative, user-friendly software to meet the changing needs of today's EMS agencies, fire departments, hospitals, and state EMS offices. ESO currently serves thousands of customers throughout North America with a broad software portfolio, including the industry-leading [ESO Electronic Health Record \(EHR\)](#), the next generation ePCR; [ESO Health Data Exchange \(HDE\)](#), the first-of-its-kind healthcare interoperability platform; [ESO Fire RMS](#), the modern fire Record Management System; [ESO Patient Registry](#) (trauma, burn and stroke registry software); and [ESO State Repository](#). ESO is headquartered in Austin, Texas. For more information, visit www.eso.com.

