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# 2020 EMS TREND REPORT:

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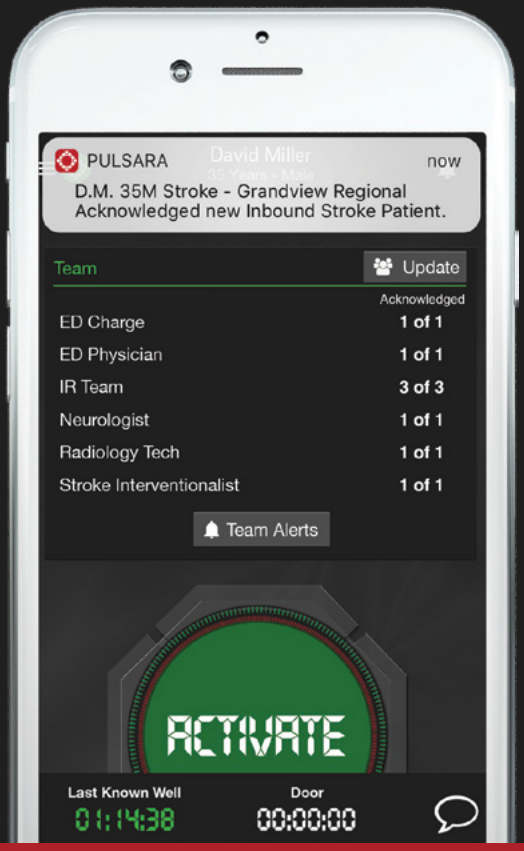


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# Editor's Note

The 2020 EMS Trend Report, produced in collaboration with Fitch & Associates and the National EMS Management Association, continues a 5-year effort to identify how EMS providers, managers and leaders perceive the challenges impacting the sustainability and future of the industry.

More than 3,000 individuals responded from different types of service models and response areas, representing all levels of the profession, from new responders in their first EMS position, to dedicated medical directors.

Respondents answered key questions facing the profession, including the ongoing concerns about recruitment, retention and burnout. Trends in provider perceptions about clinical practice, as well as fatigue, violence, educational requirements and reimbursement also emerged from the data.

This will be a defining year for EMS, shaped by new care delivery options, legislative mandates and the public spotlight. In this, the fifth annual EMS Trend Report, learn how to harness the changes ahead to improve the health of your organization, strengthen and support your personnel, and to face the challenges of tomorrow.

Jay Fitch, PhD, Fitch & Associates

Kerri Hatt, EMS1

# Inside




**EDITORIAL DIRECTOR**
Greg Friese
gfriese@lexipol.com

**EDITOR-IN-CHIEF**
Kerri Hatt
khatt@lexipol.com

**ASSOCIATE EDITOR**
Rachel Engel
rengel@lexipol.com

**EDITORIAL ASSISTANT**
Laura French
lfrench@lexipol.com

**VP OF CONTENT**
Jon Hughes
jhughes@lexipol.com

**GRAPHIC DESIGNER**
Ariel Shumar
ashumar@lexipol.com

# THE STATE OF THE PROFESSION

## Technology adoption, provider resiliency and preparedness: Interpreting The EMS Trend Report 2020

By Jay Fitch, PhD; and Anthony Minge, EdD

EMS leaders anticipated a linear progression in 2020 – managing a slight increase in call volume and reimbursement, while trying to become more efficient and otherwise hold down costs. COVID-19 certainly changed the definition of normal, and perhaps how EMS will evolve in the future.

The EMS Trend Report asks a number of questions each year to ascertain industry perception of a wide variety of key issues and related trends, from measures used to track cardiac arrests, to clinical interventions, ePCR satisfaction, use of lights and sirens for 911 responses, budget changes, and the degree to which agencies are prepared for disruptive events.

**Measuring cardiac arrest survival.** When asked, "Which, if any, measures does your organization calculate and track for cardiac arrest?," the majority of respondents across all service types (61%) report that they measure return of spontaneous circulation (ROSC). A smaller percentage (37%) of respondents indicate they measure survival to discharge. Only 14% report that they use a cerebral performance category (CPC) score, while nearly a third of respondents across all service types (31%) indicate they don't know what their service uses.

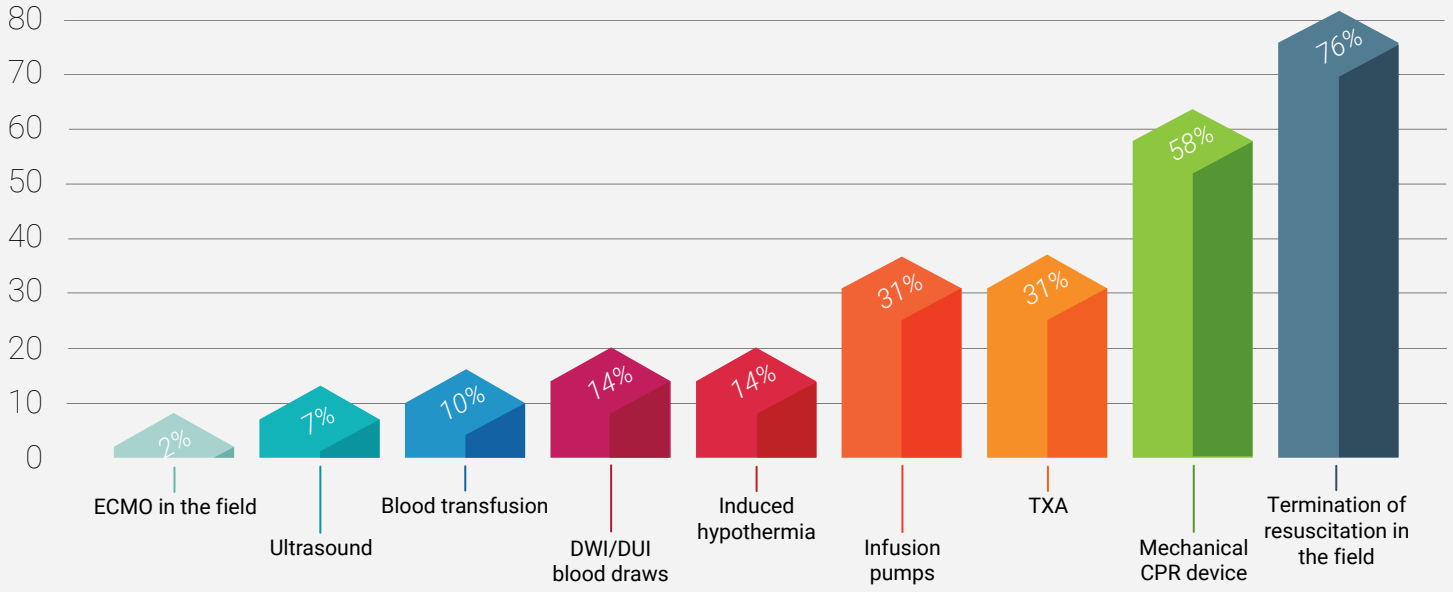
**Clinical interventions.** Respondents were also asked about clinical modalities, equipment and protocols adopted by their agencies.

The percentage of treatment modality usage overall has remained relatively constant in recent years, but as we looked more closely at the data, several trends emerge.

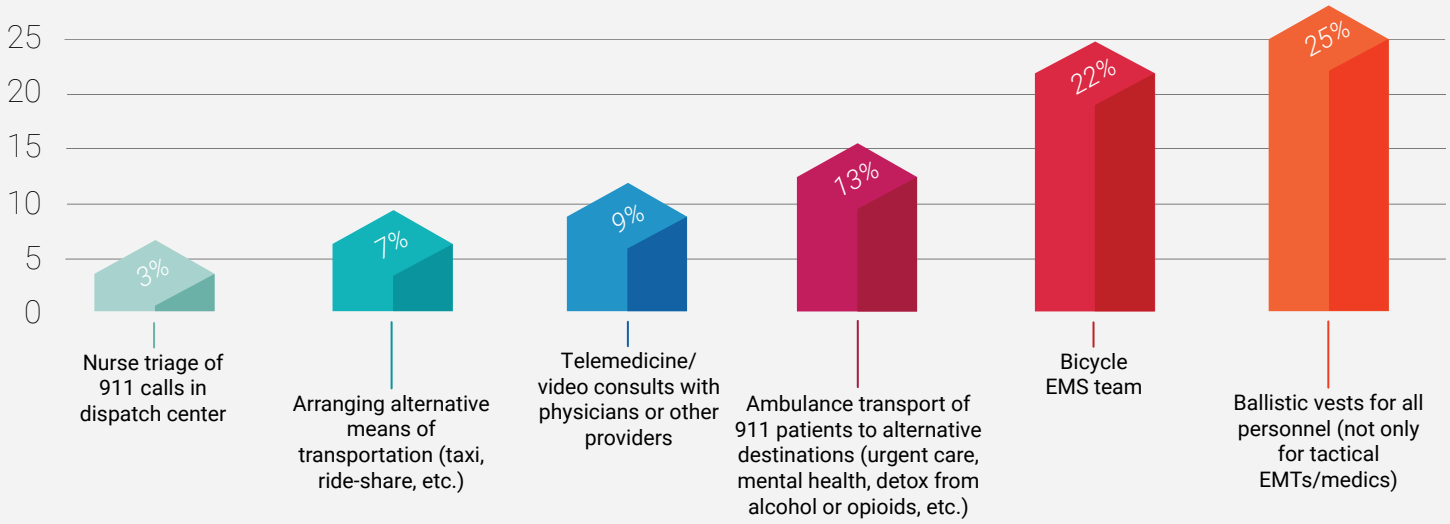
One of the most notable findings is the high frequency of adoption/use by hospital-based service models. Additional cross-tabulations revealed a distinct correlation between medical director engagement and the number of adopted clinical modalities. While the data infrastructure of participating systems does not allow a direct correlation to actual patient outcomes, the key take-away for EMS leaders is that when the medical director is more actively involved with the service, additional treatment modalities are often adopted and available for patients.

**ePCRs Satisfaction.** When asked how their electronic patient care reporting system meets the needs of their organizations, managers were almost twice as likely as field providers to strongly agree that they were satisfied, and nearly four times more likely than educators and medical directors. Managers rated 18.9% compared to 10% by field personnel, 5% by educators and 5.6% by medical directors responding to the survey.

## Which of the following are being used in your agency?



## Which of the following are being used in your agency?




**Lights and sirens.** Fire department-based respondents continue to report the highest rates of using lights and sirens for every call (25%, compared to a 15% average in other agency types). Based on published research questioning the efficacy of responding lights and responses to all 911 calls, and the inherent dangers, this points to a policy and training opportunity to improve patient, provider and community safety.

**Mobile integrated healthcare and community paramedicine.** Despite the excitement about the Center for Medicare and Medicaid Services announcement of the Emergency Triage, Treat, and Transport (ET-3) pilot project last year, the percent of respondents that are operating or planning a mobile integrated healthcare (MIH) or community paramedicine (CP) program declined over the past three years from 33% in 2018 to 25% in 2020. When broken down by type of service, hospitals and third services report the highest percentage of MIH or CP programs this year.

**Budgets changes.** When measured across all agency types, 60% of respondents indicated EMS budgets increased or remained the same in the past year. Fourteen percent of respondents indicated budgets decreased, while 25% of respondents indicated they did not know.

The survey closed before the full impact of COVID-19 was fully realized. Ambulance volumes nationwide were reported to have initially declined dramatically but have recently increased as more healthcare facilities are re-opening and providing surgery and other inpatient services. Return to a normal state (whatever that is) will not be a reality for some time.

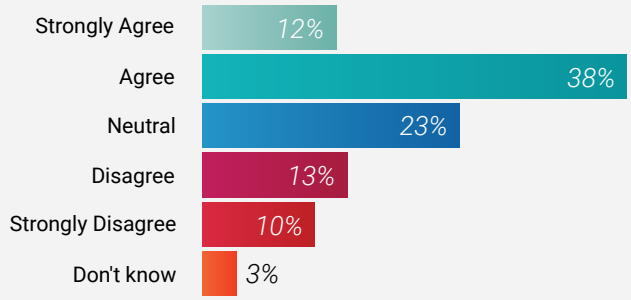
Based on local government's declining sales and property tax revenues, and unemployment figures that may indicate an increasing number of non-insured patients, changes in revenue and expense budgets will be key trends to observe in the coming year.

## AT THE HELM

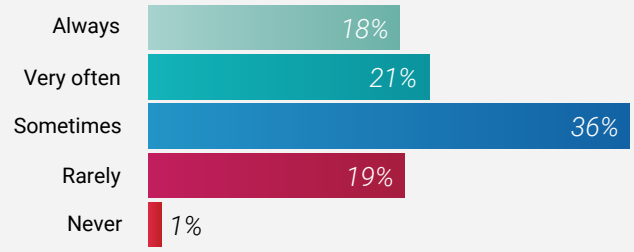
While medical directors believe that they are very engaged with field personnel (7 in 10 strongly agree) only 2 in 10 medics and EMTs agree. In the open-ended field, respondents highly valued face-to-face interaction and "street time," in engaged directors.

Others noted they only encountered their medical director at annual refresher training, or in disciplinary matters. Worse yet, numerous respondents indicated they don't know who

## I am very satisfied with how our ePCR serves the needs of our organization.




## Do you respond to 911 calls using lights and sirens?



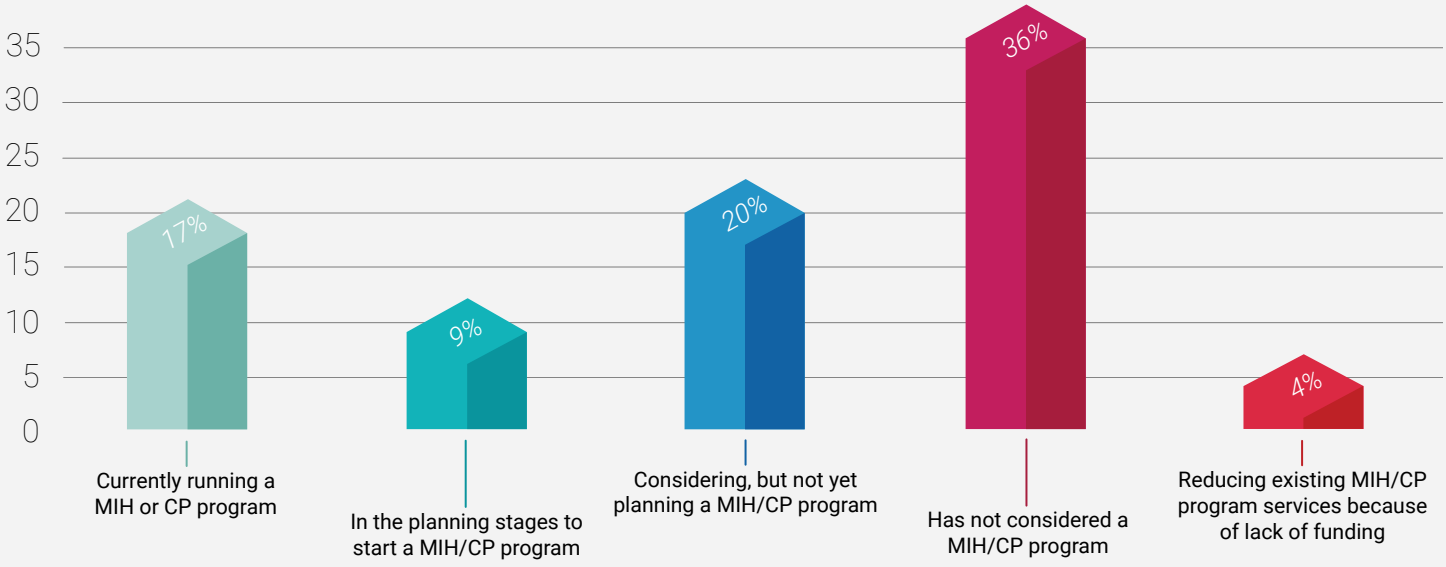

their medical director is, or what they do. Many identified a decline in interaction over time, where the medical director started out strong, and then stopped putting in the effort to meet with providers.

While field personnel may not be aware of all the medical director's activities, it is clear that if perceptions are reality, then there is some heavy lifting to be done to change caregiver perceptions about medical director engagement and to preserve that important relationship.

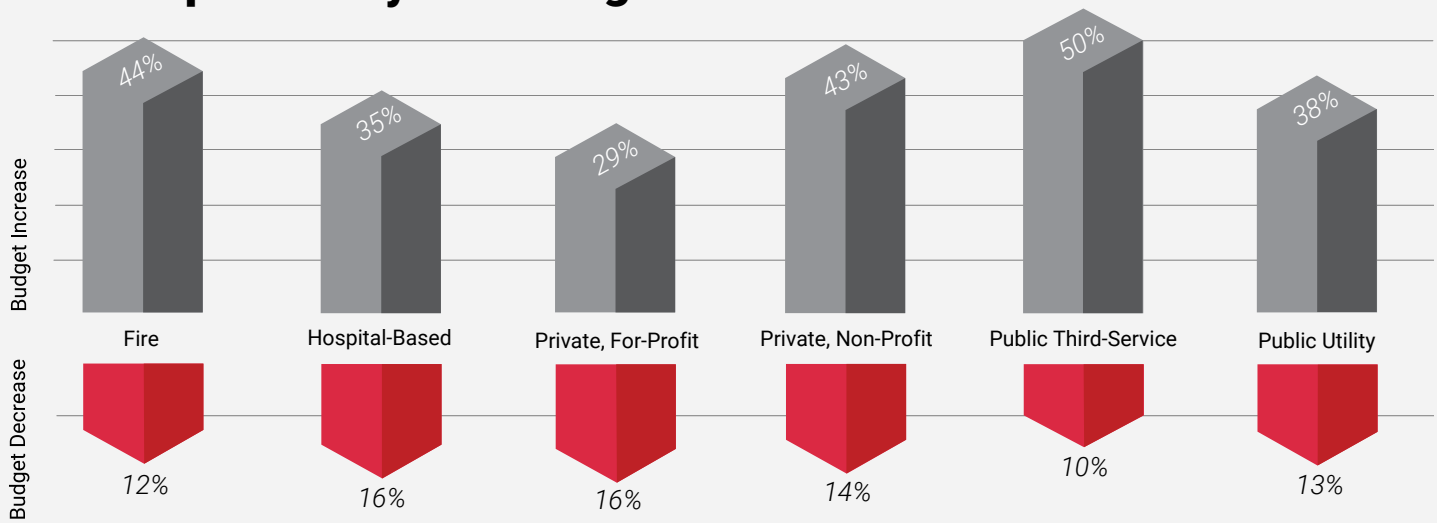
### CARING FOR THE CAREGIVERS

At the outset of our 2020 analysis, we noted two foreboding factors related to the future of the EMS profession. Over the last 3 years, there has been a significant downward trend of those that would recommend EMS as a career for their children or other young people and those optimistic about the future of EMS. In 2018, nearly 9 of 10 respondents (88%) said they would recommend EMS. In 2020, that number had dropped by almost a third to slightly more than 6 in 10 (61%).

## In regards to mobile integrated healthcare (MIH) or community paramedicine (CP), my organization is:



## Did your organization's overall budget increase or decrease over the previous year's budget?




Career satisfaction is a major driver for recruitment and retention and the willingness to recommend EMS as a career is a strong indicator of career satisfaction. Similarly, another concerning trend is the number of respondents reporting that they are optimistic about the future of the profession. Positive responses fell from nearly two-thirds (65%) in 2018 to approximately half the respondents (50%) this year. These overarching satisfaction and optimism trends compel leaders to contemplate what needs to be done to address the changing perceptions.

The way we care for caregivers in EMS continues to be a concern. In the 5 years of the EMS Trend Report, we've asked a series of pointed questions related to sexual harassment, bullying, clinician safety and provider mental health. The percentage of respondents who have indicated that sexual harassment is a major or significant issue impacting EMS has remained constant between 14% and 17%. The perception of bullying as a major or significant issue increased from 15% to 20% during the same period. In addition to concerns about caregiver safety, patient safety was consistently rated as a major or significant factor by more than 75% of the respondents.

Identifying provider mental health as a major or significant issue impacting EMS has increased for all respondents from 61% to 68% overall during the past 3 years. While awareness about mental wellness and suicide prevention has expanded in recent years, the fact that more than two-thirds of Trend Report respondents indicate it is a significant issue indicates that much remains to be done.

This year, the impact of mental health on the profession was rated highest by dispatchers (73%) and educators (74%). For 911 center professionals, there are a number of nasty realities that may contribute to this high rating. According to Jim Marshall, in his recent book "The Resilient 911 Professional," contributing factors include:

- No warning before potential traumatic calls
- Lack of closure
- Staff being emotionally "on scene" but not physically present
- Knowingly sending coworkers into harm's way
- High call volume, frequency, task-saturation

## How does your medical director engage with field clinicians?

"Face to face quarterly with the staff on shift, through our closed social media page or he carries a designated cell phone to answer any question at any hour."

"Attends all training, answers questions timely, is a great resource."

"Attends case review to provide 'the rest of the story' and to advise on potential improvements to the care rendered."

"Haven't seen him in years. Signs off on protocols and policies. No interaction with field employees."

"At one time they would come and ride on trucks regularly, but in the last 7 years, they only come around when there is a clinical issue and disciplinary action is needed."

"Have not seen the medical director in a long time. Not even sure who he or she is."

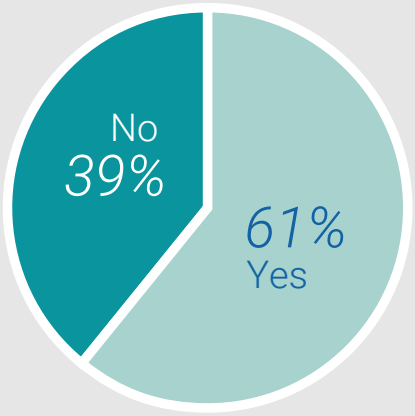
"As an astute colleague once said, 'We have no medical director because he does no directing. He has only set out the rules of the game and left it alone."

- Little time to de-stress before the next call
- Lack of recognition and professional respect

Responding managers and field personnel expressed diverse views about the effectiveness of employee assistance programs (EAPs). In this year's survey, 35% of managers or chiefs agree or strongly agree with the statement that, "my organization's employee assistance program (EAP) staff understand the work of EMS providers." In contrast, 48% of field supervisors disagree or strongly disagree with the same statement. A number of respondents commented on the reluctance to use EAPs, the perception of a lack of confidentiality, the lack of EAP staff knowledge about EMS, and the short-term nature of EAP program services.

Fatigue management is another area in which there is a striking difference in responses between management and field personnel. Over half (52%) of managers agree or strongly agree with the statement "my organization is taking steps to address clinician fatigue," while 56% of field providers disagree or strongly disagree with the statement. Looking across agencies, the percent of all respondents that agree or strongly agree their organization is addressing clinician fatigue has declined from 40% in 2018 to 31% in 2020. EMS organizations may find it helpful

## Do you recommend EMS as a career to your children or other young people?




## How much of an impact do you feel the following issues are having on the profession? Major/significant

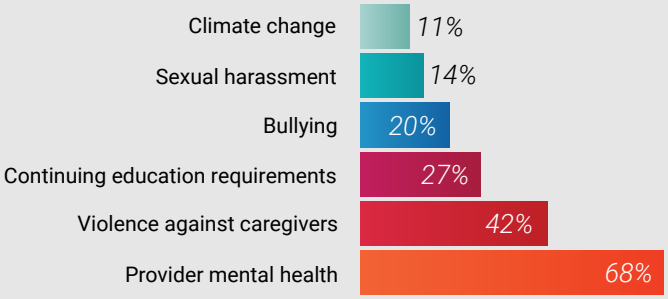



Photo: The American Ambulance Association

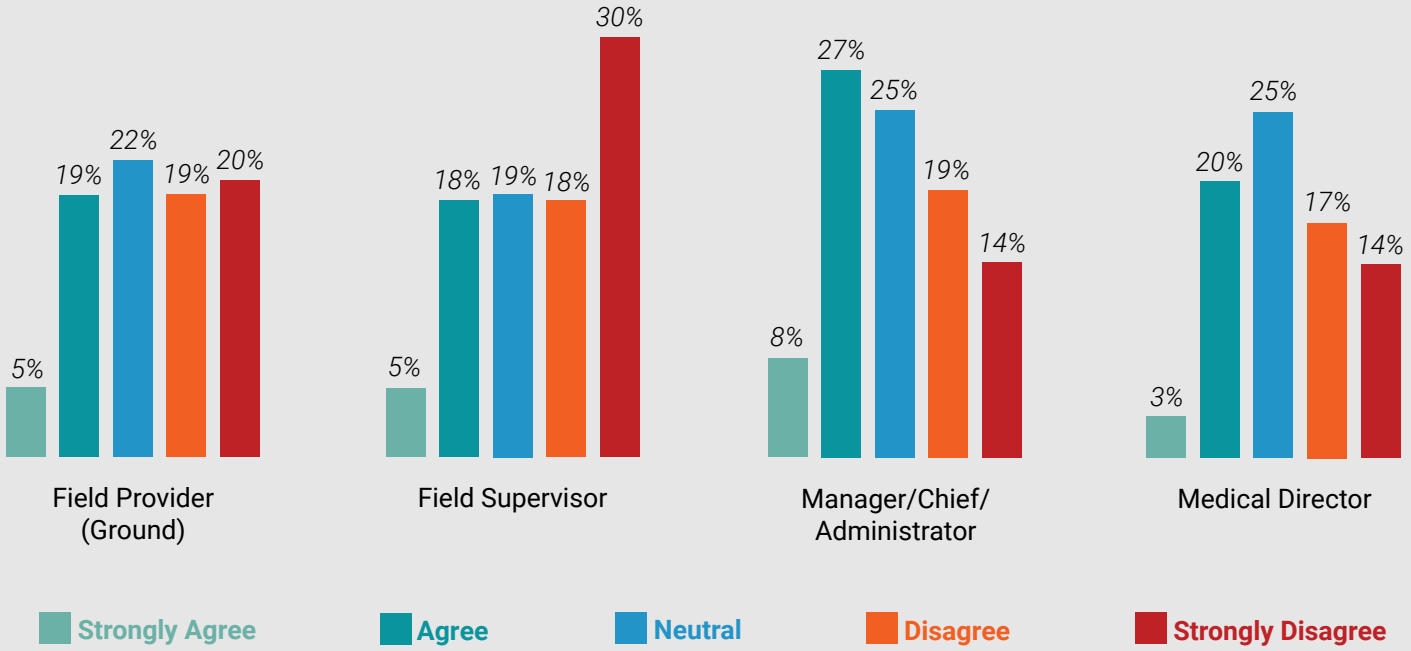
to begin to measure this dynamic internally and begin a dialogue discerning the underlying difference in perceptions to better address provider's concerns.

Most responses to this year's EMS Trend Report responses were received before the impact of COVID-19 was fully felt. It will be interesting to see how the pandemic influences perceptions within the profession in future years.

### IS EMS READY FOR WHAT COMES NEXT?

One of the most telling questions in the 2020 EMS Trend Report asked about pandemic preparedness. Only 15% of respondents across all service models believed their agencies are well prepared for an epidemic or pandemic, and the shortages of personal protective equipment, and scramble to outline quarantine and staffing measures supports the contention. We were clearly not ready.

## My organization's EAP staff understand the work of EMS providers.




During the first few months of the pandemic response, for the first time in the history of our profession, a paramedic, Alanna Badgley, was featured on the cover of "Time." But beyond that, recognition for the incredibly difficult tasks of managing the EMS response was limited. EMS agencies and caregivers were largely forgotten among the healthcare heroes celebrated on the nightly news at the height of COVID-19.

Field providers were afraid to go home, for fear of exposing vulnerable family members. Many experienced the unanticipated stress of interacting with patients' loved ones, who knew they would not be allowed to visit at the hospital and were saying tearful goodbyes in the back of the ambulance.

Despite the PPE shortage, the quarantines, the staffing concerns and the emotional toll, EMS continued to perform.

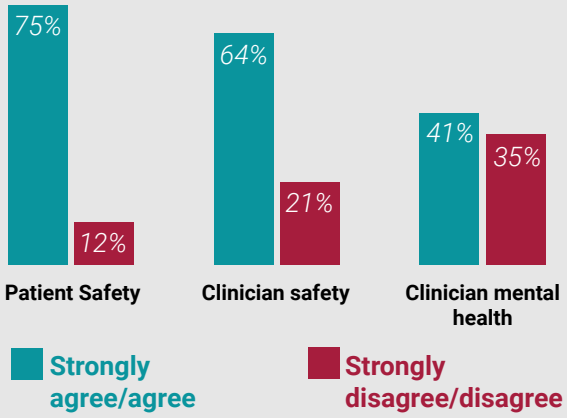
Respondents' perceptions of agency readiness to overcome other risk factors should also give EMS leaders pause. Over the past 3 years, the responses have not shifted dramatically, continuing to indicate that managing the unexpected may be problematic.

Noteworthy among the survey responses were preparedness for active shooters and cyber attacks.

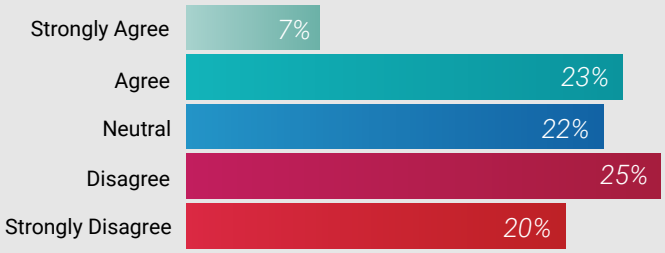
The percentage of respondents answering the question: "How prepared is your organization for an Active Shooter incident" has remained constant over the past three years. Each year, 6% respond that they are "extremely well prepared" and between 23% and 24% indicate that their agencies are "well prepared."

Few respondents believe that their agency is prepared for a cyber attack. On average, 11% of all service models rate their agency as "well prepared." Hospital-based service models rated themselves slightly higher (17%), perhaps due to their access to healthcare network/hospital IT resources and the emphasis on HIPAA and the automation of patient records.

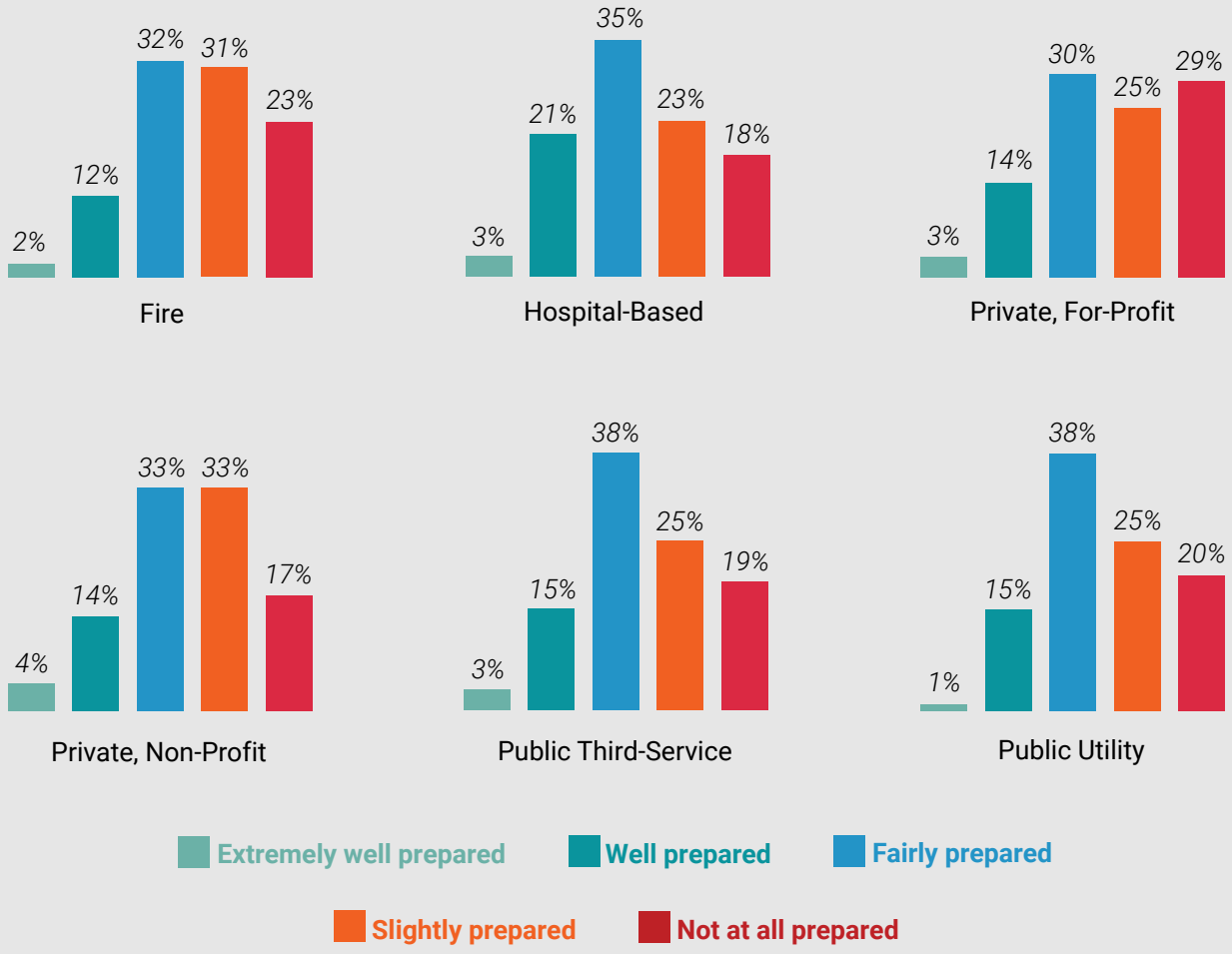
## My organization has made the following a priority:



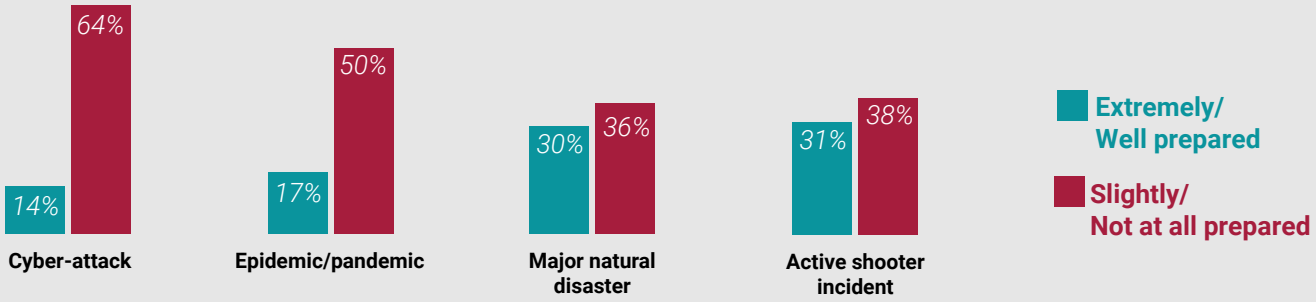

## My organization is taking steps to address clinician fatigue:




## How prepared is your organization for an epidemic/pandemic?



## How prepared is your organization for the following?



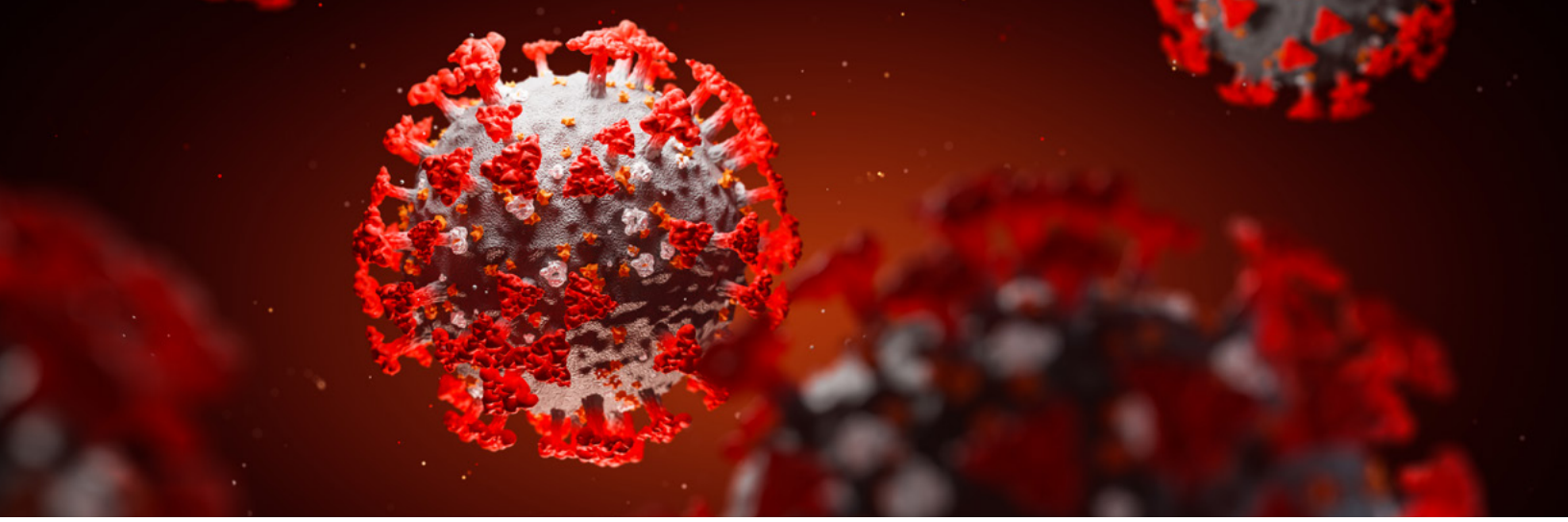

## LOOKING AHEAD

As the EMS Trend Report enters its sixth year in 2021, we look forward to being able to report movement on key trends and perceptions. While we hope that COVID-19 is well behind us at that point, we will continue to monitor its current and longer-term impact on EMS.

### About the authors

Jay Fitch, PhD, is a founding partner of Fitch & Associates and is internationally recognized for leadership as a consultant, educator and innovator in EMS and public safety.

Anthony Minge, EdD, is a senior partner at Fitch & Associates. Prior to joining the firm, he was the business manager for Northwest MedStar in Spokane, Washington.



# HOW CURRENT EVENTS WILL SHAPE THE FUTURE OF EMS

Examining how the COVID-19 pandemic, civil unrest and reimbursement are impacting prehospital medicine, and how leaders can care for the workforce

By Rob Lawrence

This data for this year's EMS Trend Report was collected in 2019 B.C. – before COVID-19. At the time, we didn't know what was just round the corner. This year's report provides a real indicator of the circumstances and challenges we have already seen in the COVID-19 era. As EMS staff were the first warriors into the battle and onto the front line, mental health, post-traumatic stress injury and burnout have elevated to the top of the chart.

Money is also becoming too tight to mention. The reduction in call and transport volume has reduced income, this has led to a reduction in

hours, cancellation of overtime, and ultimately layoffs and furloughs. As we return to the new normal, volumes are showing an increase, but the financial pain remains. With 15% of the entire population now out of work, a precipitous fall in health insurance will follow, which will continue to place a significant strain on organizational budgets.

In addition, civil unrest has added another stressor and response challenge as tensions spread through many cities and communities.

Based on what we've gleaned from the 2020 EMS Trend Report data, we can envision how current events will shape EMS, and what leaders can do to overcome the challenges ahead.

## PANDEMIC PREPAREDNESS

The nation is eagerly awaiting a COVID-19 vaccine, but those of us in healthcare know that there are stages and phases to rollout that require trials and testing. This is not a brief process, and even when the right vaccine is found, manufacturing, distribution and administration of 320 million doses is going to take time. EMS is going to remain on the front lines for considerable time and most probably will experience a case of first in and last out. Against this scenario, we must ensure that EMS workers are high on the priority for early immunization and – for peace of mind – their families as well. This would not only be a great public health and risk reduction measure, but also a great morale boost.

As all in EMS settle into this ultra-marathon, agencies must ensure that their most important asset – their staff, are cared for. That care begins with ensuring their working conditions and environment are the best they can be, given the circumstances. This includes having sufficient PPE and decontamination equipment to ensure operational peace of mind. In addition to having sufficient tools to do the job, pastoral care must be high on the priority list, ensuring mental health, stress reduction and emotional wellness are all addressed. The former requires good management; the latter great leadership.

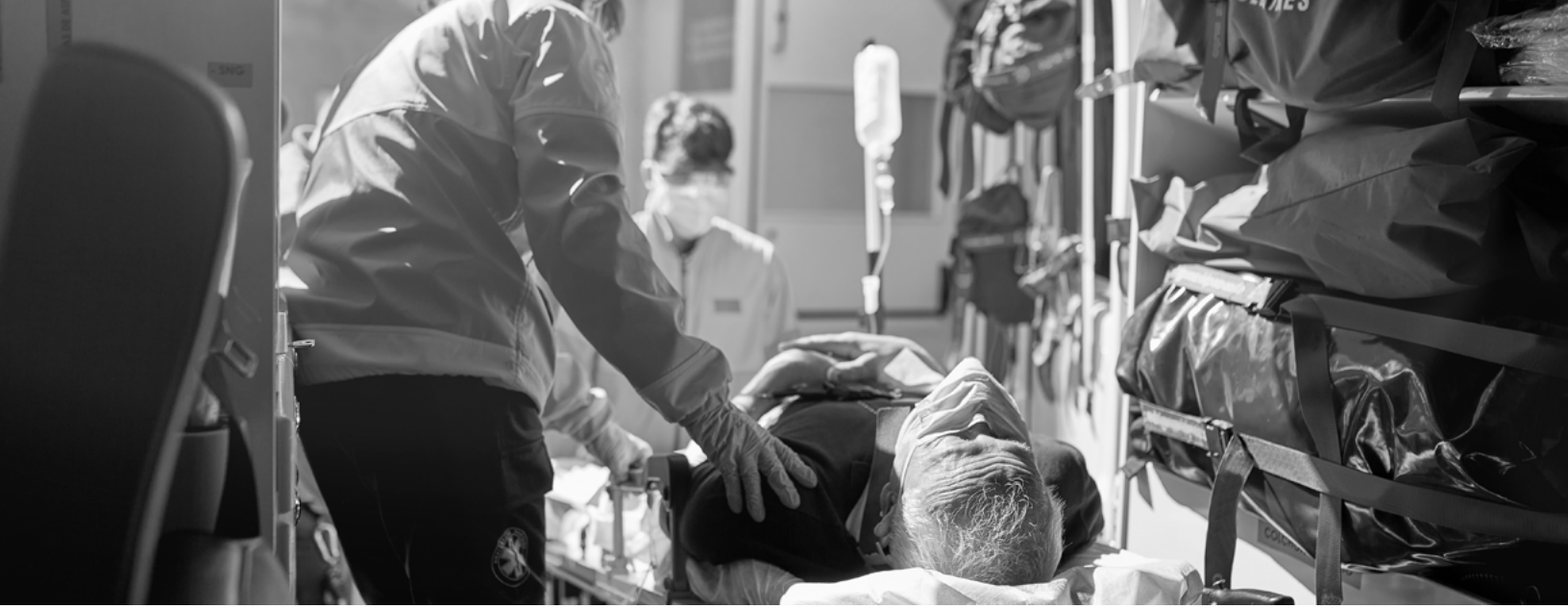
## HEALTH EQUITY

EMS has been operating at high tempo in COVID-19 hotspots and latterly, civil unrest flash points. The nation's emotions are running high, but EMS is doing what it does best – treating our fellow human beings with empathy, compassion and professionalism. EMS does not take a side, it never has, whether it is treating the shooting victim or the shooter, a patient in a vehicle accident or the impaired driver that caused it. We care and must continue to care. Without doubt, the increased intensity is contributing to provider burnout (38% of respondents reported symptoms of burnout, including physical, emotional or mental exhaustion).

As we move into the future, we must also be aware of our own diversity. The recently published EMS Assessment 2020 identified that only a small number of states could identify the ethnic demographics of our industry. The small section that did respond identified a less-than-diverse representation of the workforce. Here we must do better to both identify who we are and thereafter work to ensure that our workforce reflects the communities we serve.

The recently issued NASEMSO statement on racial bias and unity announced the organization's commitment to eliminate racism and promote racial equality. The statement noted, "We must ensure that each facet of the emergency medical system is inclusive, informed, and committed to end racial inequality and racism. We must identify any biases within ourselves and have the courage and empathy to fully commit our platform and resources to create an inclusive, diverse society with the cornerstone of equality for all." We must eliminate any biases we have in dealing with any patient, anywhere, and at any time. We must also work to ensure that we provide an equity of coverage within the operating areas in which we serve.

If a system does not provide an equitable all-encompassing service, then it must be adjusted immediately to do so. A well-documented historical EMS example is the creation of the



Richmond Ambulance Authority. Prior to 1990, several for-profit ambulance services operated in the city of Richmond, Virginia and their combined response focus saw them all essentially racing each other to insured, paying patients. This resulted in a biased level of service that left the lower socio-economic areas of the city virtually uncovered. Against that backdrop, the city created the RAA as a public utility model (PUM) to serve all equitably, regardless of the patient's ability to pay or insurance coverage. Since then, RAA has gained national and international recognition for its approach to EMS as a mobile integrated healthcare provider.

## EMS FINANCIAL HEALTH

Reimbursement has a place in this year's response and is an ongoing EMS challenge. Reimbursement is an essential element of the EMS circle of financial life. No income equals zero solvency or non-existent financial balance. Reimbursement not only means the physical act of reclaiming payment from insurance companies or Medicare but also fighting the legislative battle to ensure that government rates covers the cost of readiness and, therefore, overall EMS delivery.

In 2020 and beyond, the entire EMS industry and its myriad of associations must come together to advocate for reimbursement and provider benefits. The only way forward to is to act with one voice so our elected officials receive one, solid, consistent message.

Similarly the industry disruption caused by COVID-19 has seen EMS systems provide treat-in-place services to save the capacity of emergency departments. This has been laudable, but under current reimbursement rules, has been a massive loss leader and no income has been received for this important service rendered. This essential task is also a key component of the ET3 program, and we must now push to ensure we receive the appropriate fee for service.

Another intention of ET3 was to increase the use of telemedicine, and in the last few months, CMS waivers have allowed its increased use and the ET3 the concept has already proven its worth. We all hope that once the declared pandemic emergency ends, that we do not have to take retrospective steps as current waivers are withdrawn.

## MAINTAINING A STRONG WORKFORCE

Recruiting and retention continues to be a major issue for non-fire-based EMS services and systems. Recruiting and retention tends to be a vicious circle as it takes 3-4 months to advertise, recruit, induct and clear a new employee to operate on the street, and can take just one day to lose an employee. This means organizations are always on the back foot when it comes to having the appropriate numbers of staff and are always having to recruit.


This cycle demands significant time, effort and funding into keeping staffing levels up. The antidote is simply to reduce staff attrition by improving perceived terms and conditions for the workforce and increase retention. Constant HR and staffing needs require significant funding, but imagine if a similar amount of budget was placed into retention initiatives? Whether it is an increase to the hourly rate, enhanced medical coverage or long service bonus programs, the same amount spent on finding new people could be invested in current – and therefore more experienced and productive – staff.

A major retention issue also plagues rural areas. The traditional model of volunteer fire departments and ambulance squads providing coverage on a 24/7 basis is declining to the point of closure. The solution has been to establish combination agencies, where the volunteers fill the evenings and weekends as they are available and paid providers are brought in to staff the day shift. This model could well be an unfunded mandate to local governing bodies as they have never had to finance their first response to a major extent. Now they must dig deep into a coffer that has also shrunk because of COVID-19.

The second rural danger also lies in reimbursement. Rural EMS usually equates to large or challenging geography and a dispersed population. The cost of readiness, in this case, equates to widely dispersed units to deal with a low call volume. This drives the overall cost per call to an unaffordable sum and has led some areas to lose their coverage as providers pull out because their business models do not allow such loss leaders.

Rural versus urban also comes into focus when examining paramedic availability and certification. The EMS Trend Report observes better availability in urban areas than rural. This supports a statement frequently made by NAEMT President, Matt Zavadsky who has said, “We don’t have a paramedic shortage, we have a paramedic mal-distribution.”

It has often been said in years past that EMS is at a crossroads. While COVID-19 has created challenges for all, there is also an opportunity to pass through the intersection and hit the open road. But this will take cooperation, collaboration and above all, care – not only for our patients but our precious staff as well.

## About the author

Rob Lawrence is the principal of Robert Lawrence Consulting. He previously served as the chief operating officer of Paramedics Plus in Alameda County, California. Before that, Rob was the COO of the Richmond Ambulance Authority.

Rob is a former board member of the American Ambulance Association and currently serves as chair of its Communications Committee and a member of the media rapid response task force.

# THE CONSEQUENCES OF LOST PASSION FOR THE JOB

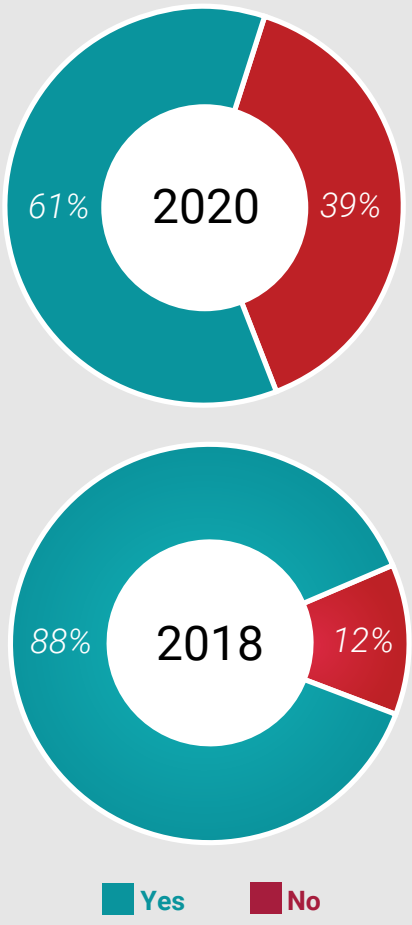
Improve compensation, career path and safety to recruit the next generation, and retain the current EMS workforce

*Photo: The American Ambulance Association*

By Anthony Minge, EdD

Parents typically hope for more for their children. This is not just a financial goal, but one of happiness and satisfaction, including a career that is gratifying. Parental encouragement and influential adults are contributing factors in young people's career decisions that cannot be discounted. Many have followed in the footsteps of a parent, teacher, or other mentor who provided encouragement and endorsement of a particular field. There was a time when children took their parents to school and presented them to the class, bragging about what mom or dad did for a career. This year's data suggests, not as many public safety/EMS parents are guests at show-and-tell.

**Do you recommend EMS as a career to your children or other young people?**




A key question from the 2020 EMS Trend Report survey asked, "Do you recommend EMS as a career to your children or other young people?" In the past, responses have predominantly been "yes." In the past two years, however, respondents indicate that they would not promote the profession to the next generation. Previously, 9 in 10 respondents said they would recommend the career to their children. That number now only sits at 6 in 10. With respondents identifying recruitment and retention as a major concern in EMS year after year, this can only be seen as disturbing.

## WHY PEOPLE ARE LEAVING EMS

The question also allowed for an open-ended explanation, providing a deeper dive into the reasoning behind not promoting EMS as a career to the next generation. The cohort did not hold back with these responses. Here's a sampling of comments:

"EMS is plagued by low total compensation, poor career growth opportunities and a pervasive lack of understanding by elected or appointed public officials."

"I can no longer recommend EMS as a career when it has become obvious that nursing and other careers pay better and provide a more stable career ladder."

"I love EMS but It's not a career to retire in."

Poor compensation was far and above the most reported reason preventing people from recommending the profession.

Other responses consistently demonstrate concerns related to high rates of burnout, physical and emotional injury, negative impact on family life and system abuse. A lack of a career path and opportunity for advancement, as well as respect from other areas of healthcare were also cited often. Many respondents noted EMS is not a long-term, sustainable career.

***When expectations are not met, compensation is low, and there is little opportunity for advancement, people lose passion for the job.***

Those most likely to recommend the profession were those with the fewest years in EMS (71% of those with 0-5 years in, compared to 57% of those with 11-30 years in), and those in fire-based and public utility service models (67% and 69%, respectively, compared to 53% in private agencies).

Responses to other questions in the survey show a direct correlation to why people are leaving the profession – comparable reasons reported include:

- Wages and benefits
- No career advancement opportunity
- Burnout

Another parallel can be found in the percentage of respondents who are not optimistic about the future of the profession. Comparison to prior years' reports shows a steady decline in enthusiasm. In 2018, 65% were in agreement that the future was strong, however, this declined to 57% in 2019. This year, only 51% of respondents felt positive about the future, equating to a 14% reduction in optimism in the most recent three years. As the outlook diminishes, so shall the probability that the profession will be recommended to the next generation.

## REVERSE THE TREND

Increased risk and danger is another element that cannot be ignored. Even before the pandemic which has since the time of this survey fully engulfed the world, concerns related to disease exposure had compounded. Patient violence towards caregivers has risen steadily in the past decade. Only a few years ago, there was little discussion about the need for body armor in

EMS, and now, such is a regular budget line item for many agencies.

A career in EMS is not viewed as favorably as it once was. Clearly a variety of intrinsic and extrinsic factors have contributed to the downward shift. The contributing factors are repeated throughout this year's findings, but to understand why these are coming to a head now requires a much more intense focus on the circumstances that have led to this tipping point.

In order to reverse the trend, EMS has to find ways to positively combat low reimbursement, disproportionately high operational costs and funding deficits, as well as physical and mental stress and injury, and to protect caregivers.

Without passion, there will be no promotion of EMS as a career for the next generation. It's time EMS took its place at the front of the class on career day with young students proclaiming, "When I grow up, I want to be in EMS just like my mom and dad!"

## About the author

Anthony Minge, EdD, is a senior partner at Fitch & Associates. Prior to joining the firm, he was the business manager for Northwest MedStar in Spokane, Washington, one of the largest air medical programs in the Pacific Northwest. He holds a Doctor of Education degree in organizational leadership.


# Q&A: HOW CAN EMS AGENCIES LEVERAGE TECHNOLOGY FOR GROWTH AND EVOLUTION?

*SPONSORED BY* pulsara®

EMS1 talks with Pulsara's Kris Kaull about the importance of communication, how to improve it with the right technology, and how the role of EMS in the overall healthcare landscape is changing.

By Rachel Zoch, EMS1 BrandFocus Staff

Technology is a fact of life and an integral part of modern medicine. EMS1 sat down to discuss the evolving role of technology in EMS with Kris Kaull, co-founder of EMS1.com and currently chief marketing officer for Pulsara. We asked him how EMS agencies can best leverage current and future tech tools to enhance patient care, and what's next for EMS overall.

## WHAT DO YOU THINK IS THE MINIMUM TECHNOLOGY STANDARD FOR EMS AGENCIES RIGHT NOW?

That's a good question. Times are changing in that we're less hardware dependent and more connectivity dependent, so I believe the bare

necessity is access to mobile-first technology. That device – or computer, I should say – that you carry in your pocket is an untapped, invaluable resource, from communications to reference lookup to even documentation, coordination, communication and collaboration.

The minimum tech standard should be smartphone technology, and then connectivity, whether that's dedicated WiFi from the ambulance or through cell service. Connectivity is really the name of the game, and what device we use today may or may not be the device we use tomorrow, so it's important to steer clear of focusing too much on hardware. Instead, we should be focusing on the value that being connected brings to the clinician and the teams they work with.

In the back of the ambulance, I envision a future environment where everything is connected. To do that, you need dedicated bandwidth. For public safety, FirstNet provides the first high-speed, wireless broadband dedicated to first responders. In the future, we're going to see much greater cell coverage with technologies such as Quality of Service, Priority, and Preemption, aka QPP, even in rural areas.

## WHAT ABOUT THE MEDICAL DEVICES THEMSELVES?

As new medical devices come onto the market – whether it's AEDs and heart monitors, the stretcher or any device you'd expect to see in the back of an ambulance – they will all be "smart." Ideally, these devices connect with each other so that the story of the care being provided to the patient is centrally located for documentation and then communicated with the entire care team in real time.

Of course, that's easier said than done. Getting every company on the same standard and allowing different hardware devices to all work together and share information will be a challenge. Not a technical challenge – a people challenge. The difficulty will be aligning corporate agendas to a unified vision.

## SO IT'S NOT SO MUCH THAT AGENCIES SHOULD BE ADOPTING A SPECIFIC TECHNOLOGY, BUT RATHER A GOAL OF COMMUNICATION AND INTERCONNECTIVITY?

Exactly. That's actually a mindset that needs to change – we buy technology, and because we spend a lot of money in capital dollars on hardware, we think it should last 20 years. That kind of thinking simply isn't true anymore.

When purchasing a technology solution for the back of the ambulance, we need to be thinking about how it can adapt and change for what we need in the future. Those solutions need to be flexible and scalable for the unknown. We don't know what we don't know. That's the tough part.

In EMS, we have a tendency to create one-off solutions for disasters or the next big thing. Instead of building a specific solution or technology or a plan around COVID-19 or the opioid epidemic, we need to leverage existing or new technologies that can be used for all illnesses and injuries, for small or large events and for short and extended incidents. That's a big paradigm shift from what we've historically done.

We need to be asking, "Can I use this technology across the board, and is it scalable to adapt and change for my clinical needs?" It's why I use the example of the mobile phone: How I use this mobile phone today may or may not be how I'll use this technology tomorrow, and the needs of my ambulance service may change tomorrow. A mobile phone is simply a platform for other solutions.

## WHAT ARE THE BIGGEST CHALLENGES EMS FACES WHEN IT COMES TO TECHNOLOGY IN THE NEXT FIVE YEARS?

EMS is at a crossroads. Instead of being the prehospital provider, which is a common term now, we are becoming out-of-hospital clinicians. I often hear people asking, "How do we better communicate between the back of the


ambulance and the emergency department?" That question is fundamentally flawed because it automatically labels EMS with the limited scope of transport only. The better question is, "How do we better communicate as a healthcare team?"

With mobile integrated health and the expanded scope of community paramedicine, we'll be that out-of-hospital caregiver, not prehospital. The COVID-19 pandemic had already rapidly modified our scope to meet the unprecedented needs. We are not just one step in a linear progression from the time of injury to arrival at the hospital. Instead, we are another access channel for healthcare and ongoing wellness in our communities, and there's a lot of discussion around technology and how we communicate.

EMTs and paramedics need to be able to communicate dynamically with different people, for different needs, for different patients, each and every call. And the technologies to allow them to do that in a safe and secure, HIPAA-compliant way will need to be dynamic and able to cross different organizations, not just from point A to point B, not just from the back of the ambulance to the emergency department.

## HOW IS PULSARA ADDRESSING THESE CHALLENGES, INCLUDING HIPAA COMPLIANCE?

The technology is really about connecting the people. Who are the people that need to be connected, and how do we do that on the fly? And, because every call is different, how do we connect the right people at the right time with a simple tap? That's what Pulsara does. It allows EMS services or hospital facilities, nursing homes, standalone emergency departments, urgent cares, and referring hospitals all to be on the same network with each other and to be able to communicate in real time.

Pulsara is fully HIPAA-compliant. It's encrypted at both ends, meaning at the sender's end on their smart device, as well as the receiver's end and at rest. For example, EMS personnel show up on scene of a car crash, they take photos of the scene and the injuries. Those images are sent with the patient alert to the hospital requesting the trauma team. The hospital then alerts all the caregivers within the hospital that are part of that trauma team on their smart devices. At the end of the day, none of the sensitive data is actually on the phone. None of those photos are in the camera roll. It was all done within a HIPAA-compliant, secure encrypted app.

## SO YOU'RE ADDING A PURPOSE-BUILT TOOL FOR FIRST RESPONDERS TO THAT FAMILIAR SMARTPHONE, RATHER THAN THEM NEEDING A NEW DEVICE OR MODE OF COMMUNICATION.

Yes. Healthcare providers – from physicians to nurses to lab techs to allied health to paramedics – use what they normally use in their real life. Take that same car crash example. If it's easier to FaceTime or make a phone call or text the hospital with those images, that's what they do, including physician to physician; even if it's against policy and not secure.

The key to great design isn't to change the behavior of what they do naturally. I would argue that if live video, messaging, sending photos and recording audio are a well-thought-out, good way to communicate day-to-day, then it's probably a good way to communicate about the patient within that setting. The only difference is that we need to put safeguards around it so that we can be protected and we know where that data is, who's seen it and that we are protecting the community and the providers from needless liability.

When an entire region is using the same communication platform, it enables the opportunity for transparent communications without a lot of back and forth. Ineffective communication, especially during transitions of care, is the No. 1 cause for medical errors in healthcare.

## WHAT'S THE DIFFERENCE BETWEEN SHARING DATA AND COMMUNICATING?

I do think there's a difference between communication and data. Let's go back to the future concept that all medical devices in the back of the ambulance are smart devices. And, for the sake of this example, let's agree that they are all seamlessly interoperable with each other. Ideally, there's an opportunity for all that data to automatically flow into one clear, chronological picture within the documented patient care report. It's good for streamlining the paramedic workload, it's good for quality assurance, it's good for consistency of patient care, it's good for billing – it's good for a number of things. That is data.

And then there's also communication. You are sharing data, but it's about sharing the right information at the right time with the right people for the right patient. So, what are the key pieces of data that I need now – in real time – in order to mobilize the right resources and then make the right decisions for my patient? That's what communication is.

Data and communications are partners in patient care, but we often blur the lines and say that interoperability, smart machines, wearables, health information exchanges, data repositories, or post care documentation are the same as communicating, but they aren't. When treating and transporting the trauma patient from the car crash, the paramedic may have access to a thousand pieces of data.But at that moment, the emergency department doesn't need to know all 1,000 data points. They simply need to know key pieces of information so that they have the right people and resources available upon EMS arrival at the hospital.

## WHAT'S NEXT FOR EMS?

The EMS industry must be proactive to the ongoing and changing needs of our communities. In preparation, we should be incorporating technologies, processes and leadership skills that allow us to scale and change accordingly.

If you want a glimpse into the future of EMS, just take a look at what you do in your regular life. So, if my mother, who's in her late 60s, can video chat with my nephew who's 3, and they don't need an instruction book, that's probably a good way to transfer information. We should consider communicating in a similar fashion in the back of the ambulance.

*Note: The above conversation has been condensed and edited for clarity.*

***ROUNDTABLE:***

# MAPPING ALTERNATIVE DESTINATIONS AND A CAREER PATH FOR EMS

EMS leaders interpret the results of the 2020 EMS Trend Report in light of COVID-19 and what it means for the future workforce

By Kerri Hatt

The fifth annual EMS Trend Report explores how recurring and emerging trends are impacting prehospital medicine.

We asked industry experts to analyze how the results reflect current healthcare trends, what they mean for EMS post-COVID-19, and how they can guide retention efforts.

**The panel includes:**

- **Maria Beerman-Foat**, PhD, MBA, NRP, battalion chief
- **Chris Cebollero**, EMS consultant
- **Catherine Counts**, PhD, MHA, health services researcher
- **Maia Dorsett**, MD, PhD, EMS physician
- **David K. Tan**, MD, EMT-T, FAAEM, FAEMS, president, NAEMSP
- **Matt Zavadsky**, MS-HSA, EMT, president, NAEMT

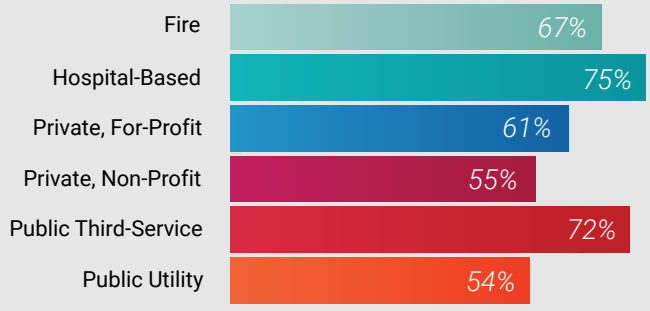
## EMS1: WHICH FINDING SURPRISED YOU THE MOST?

**Beermann-Foat:** I was most surprised by the question pertaining to medical director engagement. While alternative destinations have been an area of discussion for several years (especially due to hospital over-crowding), I was pleasantly surprised to see nearly two-thirds of all respondents selected that they agreed/strongly agreed their medical director was engaged in ambulance transport of 911 patients to alternative destinations. Hospital-based systems reported the highest engagement in this area, closely followed by public third-service models.

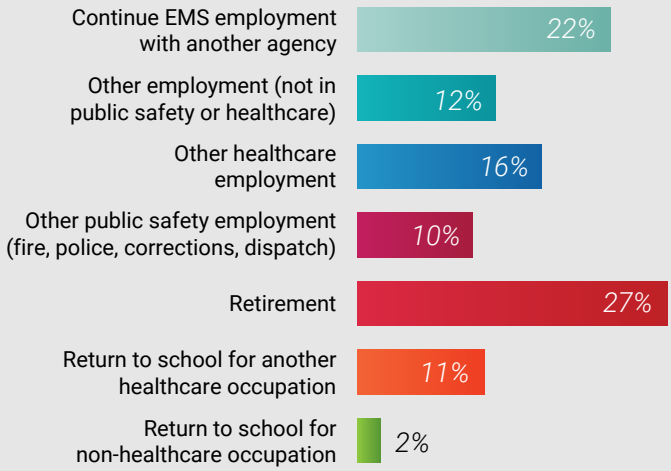
This made me wonder if this was because hospital-based systems are essentially able to keep the patient under their umbrella of care, though the patient isn't being transported to their emergency department. In other words, the hospital system may be able to continue billing the patient for additional services beyond the initial ambulance transport, thereby not "losing" revenue from the non-ED destination. Whereas in other types of systems, the alternative

**My organization's medical director is very engaged with our field personnel in ambulance transport of 911 patients to alternative destinations.**

**– Agree/strongly agree**




**If you plan to leave your current employer, why are you leaving?**



destinations do not necessarily contribute toward the organization's bottom line beyond the initial transport.

**Cebollero:** One thing that stood out for me was the percentage of individuals who are looking to retire. The age-old question comes to mind, is EMS a career or a steppingstone? Are we finally turning the corner, in that more individuals are making EMS a career they can retire from?

On the clinical side, the amount of TXA adoption (31% across respondents, highest in hospital based services – 45% and public third-service models – 39%) was surprising. Is this the next wonder drug that everyone is getting on the bandwagon, and will it continue to have an impact in the future? We shall see.

**Dorsett:** When asked what the most critical issue facing EMS today, the one choice that appeared in the top three of all demographics was retention of personnel, above and beyond public perception, integration with healthcare and quality of care, which did not make the top three of any subset of EMS professionals.

I think that this is an example of focusing on the symptom rather than the disease. In reading the answers to the question, "If you could recommend to policymakers and the public one thing that would improve the current state of EMS, what would that be?", many of the responses focused on recognition of EMS as essential healthcare providers within the system, with wages, benefits and respect commiserate with their expertise. I would argue that the critical issues are actually the interrelated root causes of our lack of retention of the EMS workforce.

**Tan:** As an EMS medical director, the finding that caught my attention was the obvious disconnect between medical directors and field personnel when it comes to perceived levels of engagement, and it was a major disconnect! Seventy percent of the medical directors felt like they were engaging field providers, whilst only 21% of those providers felt engaged. I think this represents a major opportunity for the physicians to improve their relationships with their surrogates in the field.

Closing this gap would undoubtedly have clinical implications for improvement. In those agencies where the medical director is felt to be more engaged, for example, there was a positive correlation with the belief that they were better prepared to address a pandemic. This is especially timely information in the age of COVID-19. When medical directors actively participate in the training and evaluation of their crew members, I cannot help but believe it improves overall crew performance and care.

**Zavadsky:** The finding that "retention of quality personnel" ranked first, second and third as the three most critical issues facing EMS today for field providers is exceptionally concerning. The survey also found a 10-point decline in the willingness to recommend EMS as a career for providers with five or more years' experience. Clearly, field providers feel that career longevity is a threat to the future of our profession, and they are less than willing to recommend it as a profession.

Other survey findings seem to paint a rosy picture for EMS' future and the recent COVID-19 pandemic has brought a lot of attention to new value propositions for our profession. But, we need a strong foundation upon which to build the EMS delivery model of the future. Leaders need to focus efforts on finding ways to improve employee satisfaction and sense of worth in the organization to keep them.

## HOW DO THE FINDINGS ALIGN WITH OTHER TRENDS IN EMS AND HEALTHCARE?

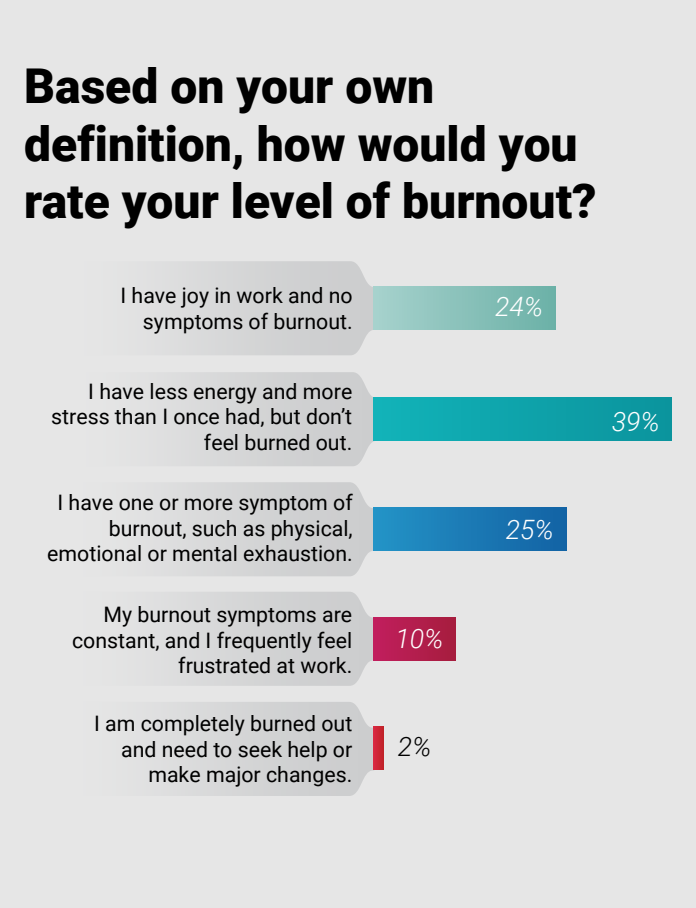
**Beermann-Foat:** Recruitment and reimbursement continue to be areas of focus and concern across the profession. Without having performed a Pareto chart to see where the true 80/20 principle lies among the various factors impacting EMS, my impression is that these two areas would give us the biggest bang for our buck if they were improved/remedied. Retaining experienced personnel (who have not yet reached retirement age) has the potential of improving an organization's overall performance. More years on the street bring with them insight, wisdom and intuition that can only be achieved through putting in the time on the job. It's a bit disheartening to see that approximately 44% of respondents in the 0-5 years of experience category have plans to leave within the next 4 years of service. Right as they're really hitting their groove and the job skills are becoming second nature, they're jumping ship.

While reimbursement may seem like a concern for upper level managers and executives, it's something that impacts every employee of an organization. Our ability to get paid as a service for the work that we've done dictates every other financial decision down the line (including providing livable wages and decent benefits). Though personnel may not have financial motivators when they enter the profession, finances often become an issue later as the cost of living increases and/or their family size grows.

Personnel should be able to feel confident that they're going to have ambulances that are reliable and safe; that they'll have all the equipment that they need to perform at their provider level, and that their needs will be covered if they get injured while in the service of others. Yet, more often, agencies are having to tighten the purse strings because the cost of doing business continues to increase while reimbursement lags behind.

**Counts:** Physicians receiving formal training before entering the managerial space is a growing trend in brick and mortar healthcare, so it doesn't surprise me that active medical directors are continuing to grow as the norm rather than the exception.

**Dorsett:** The prevalence of burnout remains a clear and present danger to our workforce and to the quality of patient care. More than a third of respondents reported having at least one symptom of burnout, with more than 1 in 10 responding that these symptoms are constant.




Estimates of burnout amongst other healthcare providers parallel or even exceed these numbers. This not only is disturbing, it is a healthcare crisis.

**Zavadsky:** The sections of the survey related to expanded roles for EMS seem very logical given the continued march of the healthcare industry toward value-based care. Nearly 64% of medical directors indicated that MIH-CP is the future of EMS. The COVID-19 pandemic is demonstrating to our key stakeholders that EMS is more than just 911 and a method of conveyance. EMS agencies across the country are performing patient testing and follow-up, contact tracing, navigation of 911 patients to alternate destinations, and a plethora of other roles. CMS and other payers quickly changed coverage rules to align clinical and financial incentives to prevent patients from going to the ER. Payers, hospitals, public health and elected officials are finally recognizing we are part of the healthcare system.

## HOW DOES THE COVID-19 PANDEMIC SHAPE OUR INTERPRETATION OF THIS DATA?

**Beermann-Foat:** Like other times in history, people often make career entry and exit decisions based on major events. For example, after Sept. 11, 2001, the public safety sector saw an increase in the number of people leaving their established professions to join our ranks to serve the community. The pandemic has the potential to drive people toward or away from the EMS profession. Many of the difficulties we've encountered in obtaining sufficient levels of PPE, and ensuring the health and safety of responders may serve to drive away experienced personnel and those considering entering the profession.

However, similar to 9/11, the public has come to re-appreciate the role that EMS and other health professions serve in the community. Therefore, we may see an increase in individuals interested in joining this honorable profession. It's too early to tell which way things will go. Depending on a provider's impression of how well their agency has adapted to and addressed the challenges the pandemic has presented, we may see experienced providers who had not planned to leave any time soon suddenly decide to leave or vice versa.

***It's easier to have confidence in a system that remains untested.***

Likewise, what we deem as important can be drastically impacted by societal events. It will be interesting to see if there will be a stronger push for MIH/community paramedicine programs and telemedicine as the pandemic continues.

**Counts:** While our internal dialogue has shifted to provider safety, supply chain management, and – in some cases – crisis standards of care, the bigger change has likely been external to EMS. This pandemic has highlighted the value that EMS provides to the community while shining a light on the risks faced by providers in

the prehospital setting. In many cases, this has resulted in increased support and appreciation from the community. Whether this translates to positive operational or budgetary changes is a later question, but the first step of recognition and awareness has come a long way in the past four months.

Internally, I worry most about burnout. EMS is already hard on the soul, when faced with the challenges that a prolonged disaster brings, we're only going to see an increase in mental health needs. Interestingly, this survey showed that burnout is also growing among those that aren't field providers (i.e., management), I would guess that trend will also continue as developing new response systems from scratch in the span of weeks and months is also emotionally exhausting.

**Dorsett:** In hindsight, I think that the confidence in preparedness for a pandemic would be much lower. Reviewing the survey results, about half felt that they were at least fairly prepared for a pandemic.

Needless to say, in many parts of the country, the system has been tested to the brink and many organizations, not just in EMS, found themselves struggling to find ways to protect their workforce, manage the ups and downs of call volumes, and distribute rapidly changing information in an organized way. EMS as a specialty rose to these challenges, rapidly adapted and found solutions, but not without paying a significant price in terms of the mental and physical health of EMS professionals.

**Tan:** If disaster preparedness, to include pandemic response, was important pre-COVID-19, imagine how crucial it is to EMS now. As we continue to learn about the current pandemic, we must learn to adapt those lessons learned to other emerging diseases and other disasters that will challenge our ability to respond.

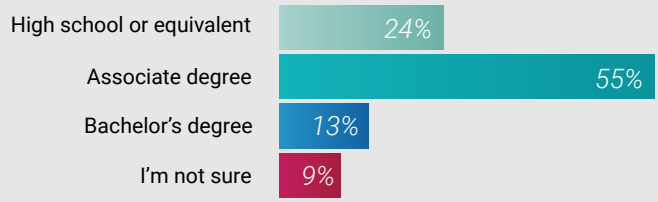
We also should consider the effect COVID-19 has had on future recruitment. How do we convince the next generation of EMS providers that the risks and hard work are worth it? The EMS Trend Report reveals that it takes 6 to 10 years of service in EMS before the value of patient interaction surpasses other things like adrenaline rush and intellectual stimulation, but we have to get them in the door first.

**Zavadsky:** The pandemic has dramatically changed nearly every aspect of our culture, and EMS is no exception. The value proposition EMS is transforming, but for the first time in a long time, EMTs and paramedics are being laid off from employment due to decreasing response volumes for traditional EMS services. As we interpret this data, we need to keep in mind that the current economic model for EMS is unsustainable. Prior to the pandemic, it was difficult to empirically prove that what we do every day makes a difference in patient outcomes. But, from a prevention, navigation and public health perspective, the value of our services may be easier to demonstrate that those types of services do actually enhance patient outcomes.

## WHAT CAN WE LEARN FROM THE FINDINGS TO TAILOR RETENTION EFFORTS?

**Beermann-Foat:** The data also shows that of respondents who said they were planning to leave their current employer, the second most given reason (behind retirement) was to continue EMS employment with another agency. This implies that these people haven't given up on EMS, but are seeking an organization with a better fit for their needs/wants.

### What should the minimum level of education be for paramedics?




This, combined with the over 50% who said they agreed/strongly agreed that they were optimistic about the future of EMS, shows that EMS is still valued as a profession by those in it. This doesn't give us a pass to take things for granted and stop our efforts to resolve stressors and challenges that make providing EMS difficult. But it does give us a point of focus to discover why our personnel are leaving our agency to work for another (i.e. pay, benefits, organizational culture, etc.).

Photo: The American Ambulance Association

**Cebollero:** EMS is always chasing its tail in retaining high-performing coworkers. From a leadership aspect, we do not need a survey to know we have to change our leadership practice and increase our value in those we need to do the job. The days of command and control, and leading from a position of authority are over. We have to focus on the only organizational resource that increases in value and that's the workforce.

**Counts:** Retaining personnel means giving them a reason to continue donning the uniform. It means giving them a chance to find joy in work, giving them a purpose, and giving them the flexibility to be who they are while also representing our industry. If we look at the questions about what people find satisfying about working EMS, it's relieving to see patients and the community at the top of the list. At the end of the day, we primarily serve our communities by treating patients. If providers don't value that, they don't belong, and they likely won't last.

**Dorsett:** We need to recruit and educate the workforce for the job they are actually going to do, build clinical career paths within EMS and pay a living wage. Fundamentally, we need to help EMS professionals find value and feel valued for the work that they do.

Based on the survey results, the more time that someone spends in EMS, the more they value patient interaction and intellectual stimulation, and the less they value the adrenaline rush. This is likely in part something learned through time, but I think it also tells us about those providers who are able to persist in EMS despite low satisfaction with pay and respect; they are a group of people who derive satisfaction out of caring for others, whether it be a rare critical call or the lift assist which they are much more likely to encounter.

The practice of prehospital medicine has transformed in the last 20 years. Most notably, the term "technician" no longer applies to the majority of prehospital providers who function as highly skilled clinicians. Indeed, the term "emergency medical" itself has evolved to include integration of EMS, not just for the management of time-critical conditions, but to the role of EMS as an access point to the healthcare safety net.

EMS has a choice to make: resist change or embrace this expanded identity by changing the requisite education requirements, focus on integrating within the healthcare system to better navigate patients, demonstrate value to the system and identify additional reimbursement opportunities to financially support employees.

**Tan:** Clearly, recruitment and retention of qualified personnel is of major importance to all respondents across all groups. One of the things to note is that as the level of provider education increased, the percentage of providers planning to leave their current employer also increased. Thus, while many of us promote higher levels of education for our field personnel, we must be cognizant of potential unintended consequences of further worsening our ability to retain good people in the field.

As an industry, we must discover the real intrinsic and extrinsic principles that providers value to make EMS a lifetime commitment, and it isn't salary alone as the results also demonstrate that as education level increases, the importance of wages and benefits actually decreases. I believe we need to find ways to compensate personnel who advance in education, and we also need to make sure the industry allows for meaningful application of that higher education in the form of additional practice opportunities in areas such as MIH/CP and critical care.

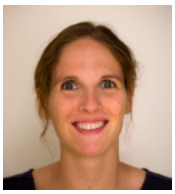
**Zavadsky:** Field EMTs and paramedics are the backbone of the EMS system, but they are also in high demand in hospitals, clinics and other healthcare settings. EMS leaders need to invest energy and resources to gain insight into why people stay in EMS, and create environments that retain quality employees. Many EMS agencies conduct exit interviews to see why people leave. What if we invested the same amount of effort on conducting "stay" interviews – learn the reasons that they stay with us – what are the things that bring them the most satisfaction? What frustrates them? Armed with this knowledge, we can help develop a culture people want to be part of.

# ABOUT THE PANEL

**Maria Beermann-Foat, PhD, MBA, NRP,** has over 20 years of prehospital emergency care experience in privately-owned, hospital-based and county government-based emergency services. She is battalion chief of operations for MED-ACT-Emergency Medical Services, Johnson County, Kansas.

**Chris Cebollero** is a nationally recognized emergency medical services leader, best-selling author and advocate. He is a member of the Forbes Coaching Council, and the president/CEO for Cebollero & Associates, a medical consulting firm.

**Catherine Counts, PhD, MHA**, is a health services researcher with Seattle Medic One in the Division of Emergency Medicine at the University of Washington School of Medicine. She is a member of the National Association of EMS Physicians and AcademyHealth.



**Maia Dorsett, MD, PhD**, is a physician at the University of Rochester in upstate New York and is board certified in both Emergency Medicine and EMS. She is the medical director of Gates Ambulance and EMS Education Programs at Monroe Community College. She is also the president-elect of the New York Chapter and chair of the Education Committee for the National Association of EMS Physicians.

**David K. Tan, MD, EMT-T, FAAEM, FAEMS**, is associate professor and chief of EMS at Washington University School of Medicine in St. Louis. He is president of the National Association of EMS Physicians and vice-chairman of the Missouri State Advisory Council on EMS.

**Matt Zavadsky, MS-HSA, EMT**, is the chief strategic integration officer for MedStar Mobile Healthcare in Fort Worth, Texas, and the president of the National Association of EMTs and chair of its EMS 3.0 Committee. He is also adjunct faculty for the University of North Texas Health Science Center.

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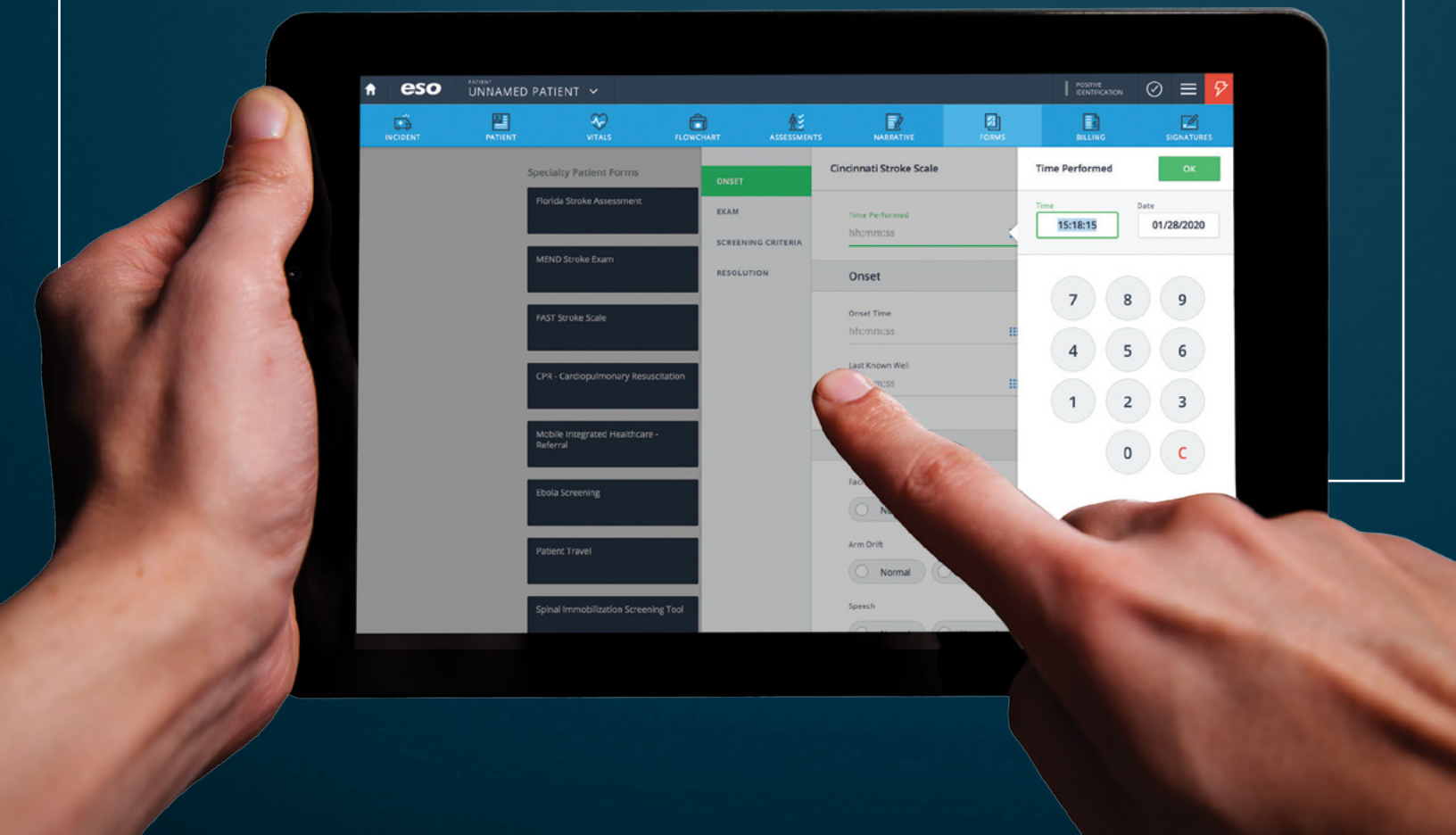

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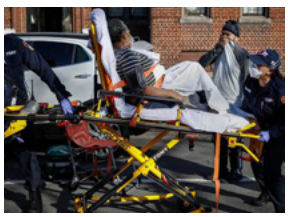

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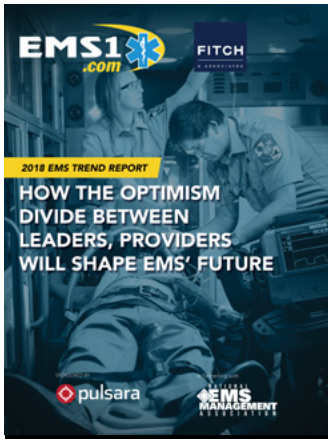
# EMS TREND REPORTS


**2019 EMS Trend Report**




**2018 EMS Trend Report**


**2017 EMS Trend Report**


**2016 EMS Trend Report**

# MORE RESOURCES

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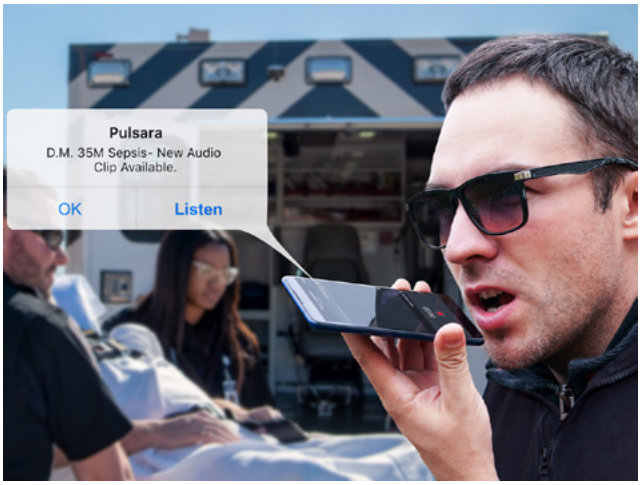


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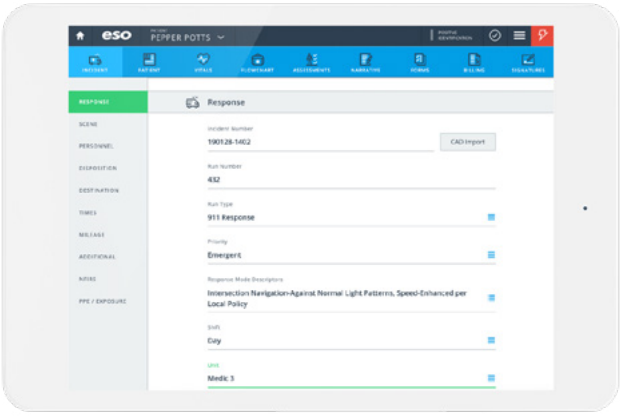


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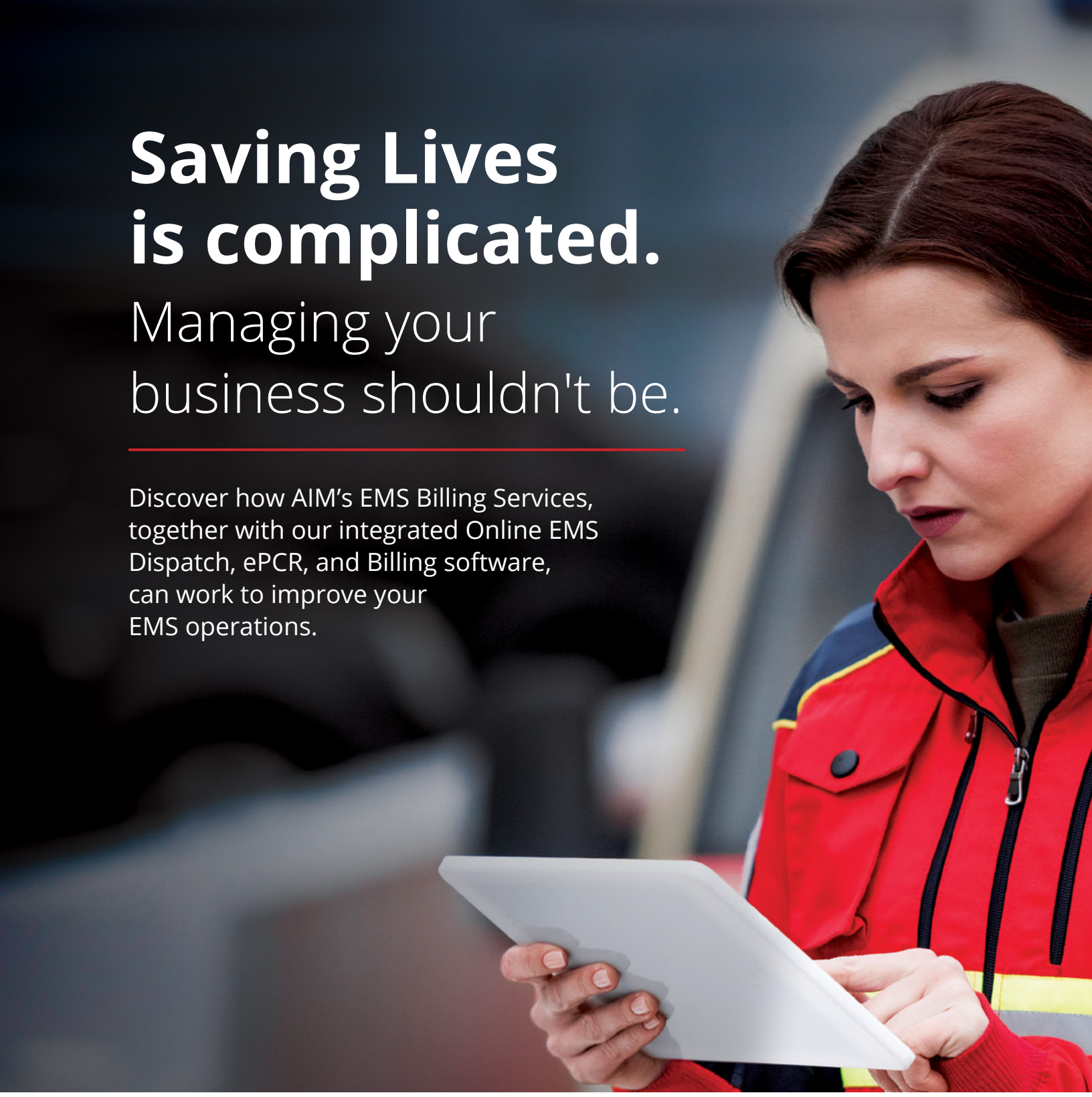

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