

Improving Safety in EMS:

Reducing the Use
of Lights and Siren

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The Case for Reducing Use of Lights and Siren

It is believed that using lights and siren helps patients receive life-saving emergency care more quickly, leading to better patient outcomes. The use of emergency vehicles' lights and siren does not, however, save clinically significant amounts of time, according to numerous studies, systematic reviews, and position papers.¹ The fortunate fact is that few patients actually require critically time-sensitive, life-saving interventions in virtually all EMS systems.² As a result, using lights and siren fails to accomplish the desired goal and significantly raises (by more than 50%) the chance of an ambulance crash.³ The judicious use of lights and siren, only when necessary, should be standard practice in order to increase the

safety of patients, healthcare clinicians, and the general public.

The National EMS Quality Alliance (NEMSQA) has recommended using two quality measures in relation to the use of lights and siren since 2019:

- Safety-01: Percentage of EMS responses originating from a 911 request in which lights and siren were not used
- Safety-02: Percentage of EMS patient transports originating from a 911 request during which lights and siren were not used⁴

However, the national performance on these two measures in 2020 was 11% and 51.6%, respectively, in spite of this advice and associated position papers.⁵

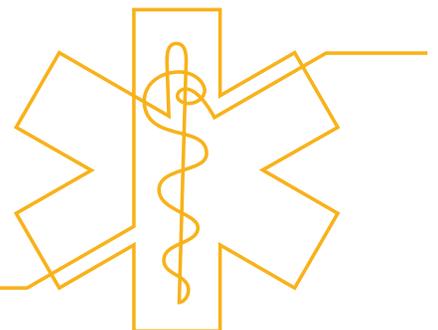


EMS Quality Improvement Partnership and the Lights and Siren Collaborative

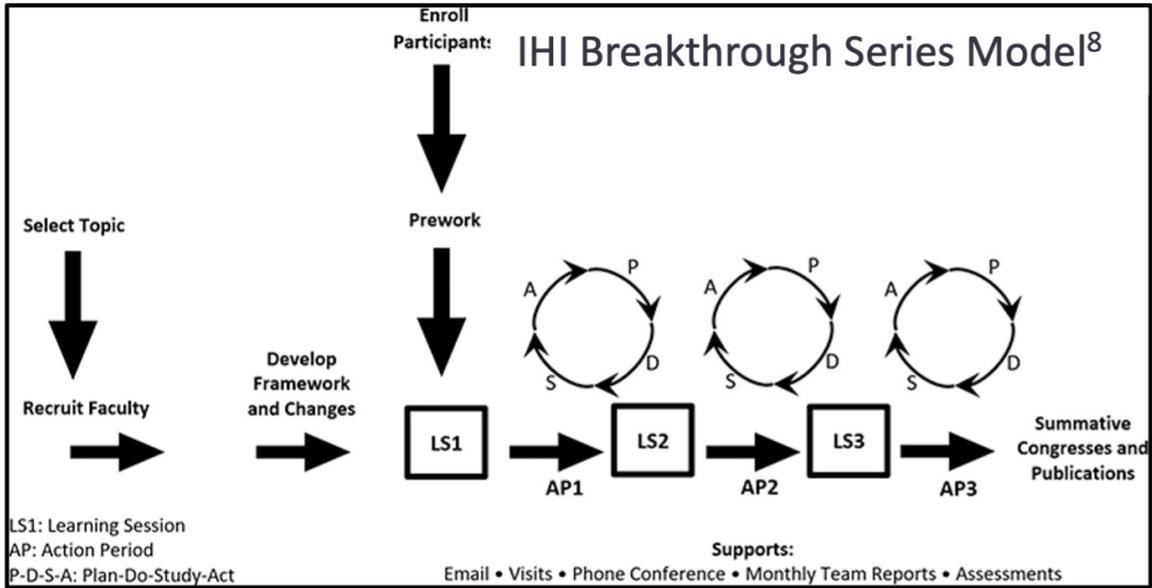
Since 2019, NEMSQA has recommended specific evidence-based clinical quality measures to improve care and outcomes. However, there was no national infrastructure in place to support EMS agencies in making measurable improvements. Recognizing this gap, a passionate group of EMS stakeholders started the first national EMS quality improvement collaborative with NEMSQA providing the organizational and implementation resources. With a vision for future collaboratives designed to improve the performance of EMS clinical care and safety, NEMSQA dubbed the effort the **EMS Quality Improvement Partnership (EQuIP)**, with the Lights and Siren Collaborative as the inaugural effort.

The general aim of the Lights and Siren Collaborative is to reduce injuries, fatalities, and property damage caused by EMS vehicle collisions, including related collisions (also known as “wake” crashes). We planned to accomplish this through safer response and transports – because we know that when lights and siren are activated, collisions involving EMS vehicles occur more frequently and have more disastrous outcomes.^{2,6}

The project’s aim is to increase the percentage of 911 EMS responses made without the use of lights and siren to over 70% and the percentage of transports made without the use of lights and siren to over 95% across all EMS systems in the US.



Lights and Siren Collaborative Methodology



An experienced team of EMS experts was assembled and led by NEMSQA to oversee this quality improvement partnership and produce a change package using the Breakthrough Series Model from the Institute for Healthcare Improvement. The team included Sheree Murphy, Jason Gilliam, Richard Ferron, Jeff Jarvis, Bryan Wilson, Brooke Burton, Remle Crowe, Jeffrey Goodloe, Michael Redlener, Joseph Grover, Jeff Clawson, Douglas Kupas, Rick Allgood, Nicola Little, Jon Kromer, Mike Taigman, Doug Wolfberg, and Bobby Hopewell.

The expert panel reviewed the research related to this topic and performed a detailed evaluation of several EMS systems that have significantly reduced their use of lights and siren. They compiled a collection of suggested change strategies/theories and recruited 50 EMS systems from across the U.S. and Canada to test the concepts and demonstrate the efficacy of this nationwide quality improvement collaborative. All of their work was coordinated using SimpleQI™ – a web-based system designed to facilitate the “all learn, all teach” approach to collaboration. Through a series of learning sessions, coaching, and feedback, the systems worked together to improve safety by reducing the use of lights and siren during EMS response and transport.

Demonstrated Improvement: Nine out of the 50 EMS systems were able to modify their systems, processes, and protocols. Beginning on 9/12/2021, those 9 systems provided aggregate data on 738,099 total responses through 4/23/2023 (mean 8,683 per week) and 389,971 total transports through 2/19/2023 (mean 5,131 per week).

Responses 9/12/2021- 4/23/2023		Transports 9/12/2021- 2/19/2023	
9 system Total	738,099	9 system Total	389,971
Mean/week	8,683	Mean/week	5,131

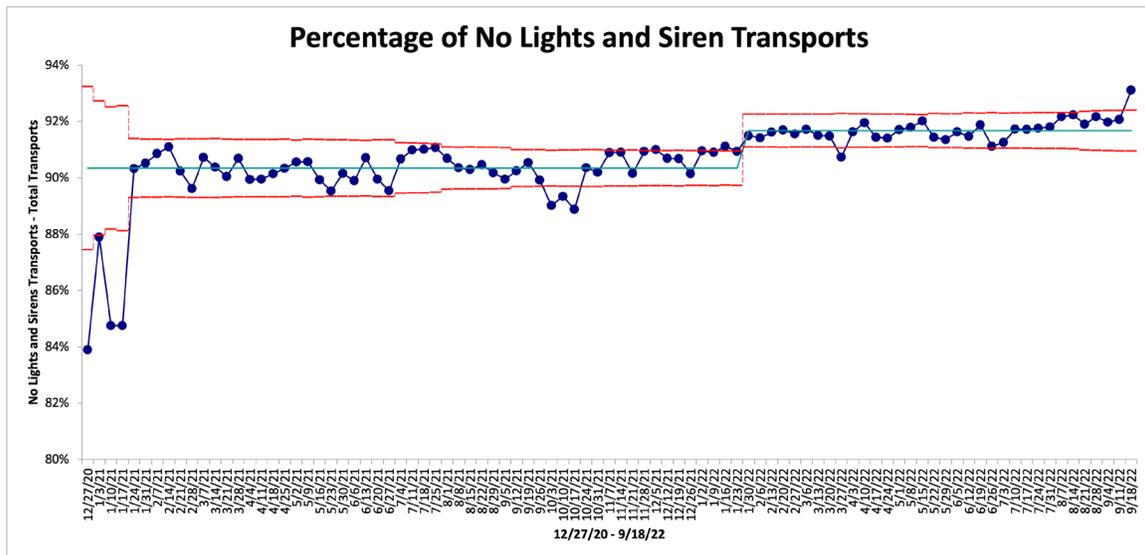
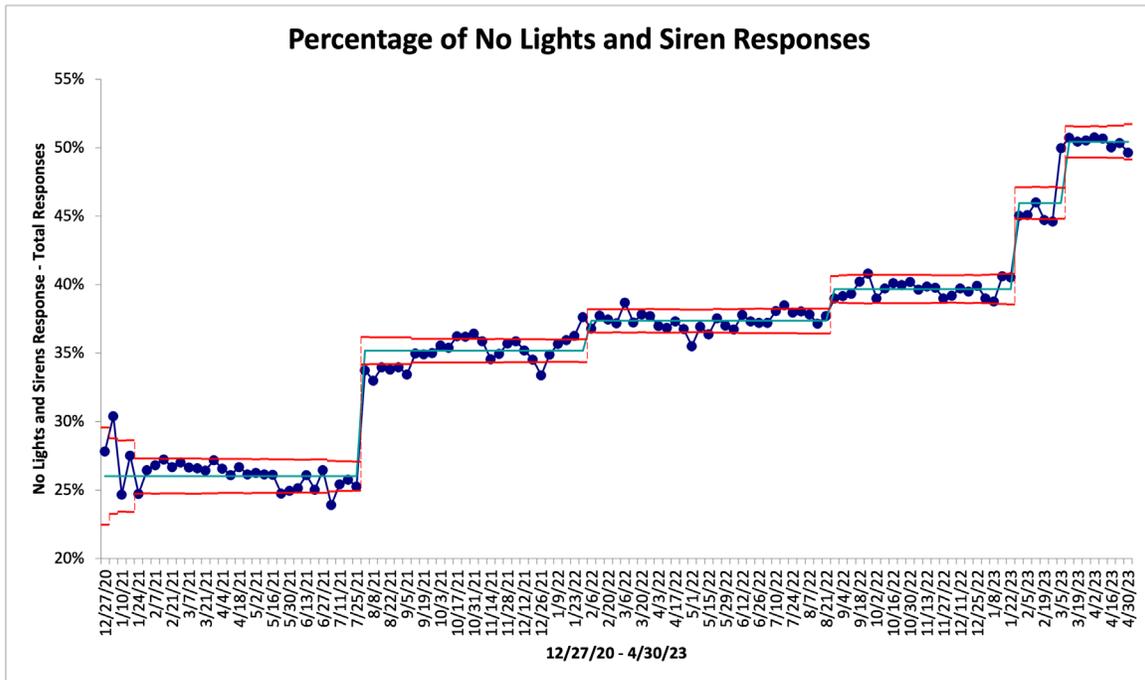
The percentage of responses that did not use lights and siren increased substantially from 26.9% (24.6-32.7) to 53.5% (50.9-56.11) and for transports, increased slightly from 87.6% (82.6-92.6) to 91.8% (88.9-94.83).



Learnings and Challenges: Only Nine out of the 50 EMS systems were able to make meaningful changes to their systems. Many encountered several obstacles to change, including staffing, EMS electronic health record problems relating to tracking L&S use rates, political barriers, and difficulties in changing regulations. The small bench depth in some agencies' QI sections did not allow for redundancy when staff moved on to different roles. Several agencies had staff that were committed to change but had not involved their agencies' leadership at the onset. Without commitment at all levels of

leadership, change was not possible. Stakeholders that were not armed with information about the science behind the change were not prepared to answer questions from constituents when questions came up and were not able to publicly support the changes. Changes to the use of lights and siren requires support and commitment at every level.

This publication is the culmination of this 15-month collaboration providing the EMS community with now-proven strategies to improve safety for your clinicians, patients, and community.



Preparing EMS Clinicians

“Nothing about me without me.”

—Don Berwick, MD, MPH

The practice of using emergency lights and siren, known as “running hot,” is strongly ingrained in the culture, terminology, identity, and recruitment videos of EMS clinicians. It’s crucial to start this path toward safety improvement by speaking with the EMS clinicians in control of the use of lights and siren.

- Meet with front-line crews and [introduce the concept](#) into individual and station-level discussions.
- If your members are unionized, schedule a meeting with labor management to go over the concepts and the plan. Add labor to the list of stakeholders. Discuss what the science says about the use of lights and siren including:
 - An analysis of over 5 million 911 calls showed that less than 7% had any potentially life-saving intervention done at any point in time during the call, including after arrival at the emergency department. While clearly life-saving interventions such as defibrillation and advanced airway were on the list of potentially life-saving interventions, there were also actions that were less certain to have been life-saving like calling a trauma alert or giving dextrose.²
 - Running hot shortens average response times by only 30 seconds to 3 minutes.⁷

- Recognize that every EMS clinician has a story about a call they responded to that was reported as a stubbed toe but ended up being a pediatric cardiac arrest or another similar situation. The data demonstrates that these infrequent occurrences don’t warrant responding quickly to every call, especially in circumstances where the use of lights and siren is unlikely to meaningfully reduce travel times.
- Provide fact sheets and [infographics](#).
- [Listen to concerns](#) and [answer questions](#).
- Share references.



Preparing the Community

1. Before implementing any modifications to response protocols, it's crucial to consult with the key community stakeholders in your service area.

Include key opinion leaders in co-response organizations, hospitals, community organizations, including elected and appointed local government officials like county commissioners and managers, municipal councils, and mayoral offices. Create a standard meeting agenda with talking points. For example:

- a. Outline the dangers that come with using emergency lights and siren, including avoidable crashes, stress on the neighborhood, and anxiety in patients. Most local authorities are aware of the fact that even with properly trained emergency vehicle operators, the general public frequently gets confused and behaves unpredictably when they encounter an emergency vehicle with lights and siren. Research shows that using emergency lights and siren saves less than 3 minutes on average, and less than 7% of all 911 EMS calls need time-sensitive, life-saving assistance.²
- b. For 911 calls like shootings and cardiac arrests, when there is a higher probability of a time-sensitive life-threatening illness or injury, crews will still respond with emergency lights and siren. However, for calls like ankle injuries and rashes, we plan to safely arrive without them. Describe the safety measures you've implemented to keep an eye on patient outcomes, safety, and the operational efficiency of the EMS system during this process of improvement. What [questions or concerns](#) do community key stakeholders have?

2. Adopt a Multi-channel Communication Plan:

Information is accessed by community members in a variety of ways. Include social media, community events, email lists, watch groups in your neighborhood, newspapers, talk radio, and school presentations. Use [local media outlets](#) to help spread the word. Consistently emphasizing both high-quality clinical care AND improving safety has been shown to be a successful tactic. Community members might perceive a loss of clinical quality if the messaging is only directed at limiting the usage of emergency vehicle lights and siren. The message might state that crashes involving ambulances or other emergency vehicles result in a delay in responding to emergencies. This safety program aims to lessen EMS casualties while quickly reaching patients in need of care and ensure that clinical treatment is not compromised while patients are being transported to hospitals.

3. Monitor and Update Community Response:

Give people in your service area simple means to express concerns and provide feedback.

4. Maintain Ongoing Communication:

Create a communication strategy to inform the neighborhood on the impact of the policy changes. Share success stories, provide regular updates on developments, and respond quickly to any concerns or challenges.



Modifying Response Process

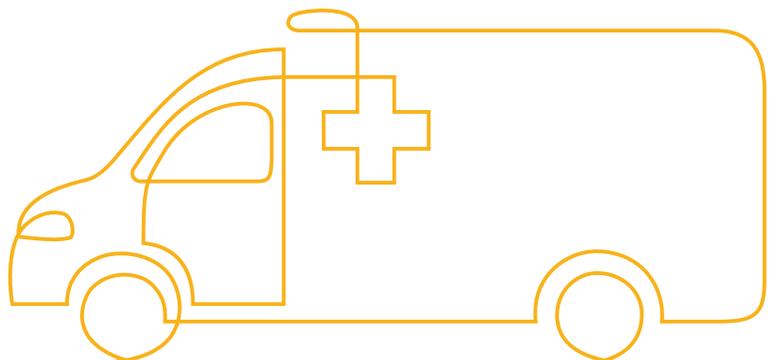
EMS systems' access to and control over their emergency medical dispatch (EMD) and 911 call-taking procedures varies. As a result, a given EMS system will require modifications based on its unique system architecture. Evidence suggests that there are several approaches to boost the percentage of 911 calls that are answered without the use of emergency vehicle lights and siren. Some systems, which let their front-line EMS clinicians choose the response mode based on what they hear from dispatch, have had good success. Others concentrate on selecting response modes in accordance with dispatch determinants. Here are a few things to think about:

- Put patient, community, and personal safety first. Sometimes getting to an obstructed airway as soon as possible is the safest course of action. The majority of the time, driving with purpose, obeying traffic laws, and not employing emergency lights or siren is the safest course of action. Analyze system and agency data. Evaluate [potentially life-saving interventions](#) determined by peer-reviewed, published literature² and by local medical oversight. Align these with dispatch information.
- Leverage technology, including computer-aided dispatch (CAD) systems, dispatch prioritization systems, programs for sharing patient data between EMS and Emergency Departments, as well as data analytic tools to help determine safe, evidence-based improvements. Set up near-real-time safety alerts for when the system doesn't perform well. For example, when a crew responds without emergency lights and siren and transports using them.
- Create or update the [operational policy](#) for your agency's use of emergency lights and siren. Match the patients' time-dependent needs and life-saving intervention with emergency lights and siren use.
- Improve EMD protocols so that emergency lights and siren are used when a potentially life-saving intervention is most likely needed. Indicate that other call types do not require the regular deployment of lights and siren. Many systems start with the call types that have not received a potentially life-saving intervention in the previous one, two, or even three years when developing this list. [Monitor system performance](#) closely by tracking:
 - NEMSQA Safety-01: Percentage of EMS responses originating from a 911 request in which lights and siren were not used during response.
 - NEMSQA Safety-02: Percentage of EMS responses originating from a 911 request in which lights and siren were not used during transport.
 - All EMS vehicle crashes.
 - Cases responded to without emergency lights and siren that needed a potentially life-saving intervention.
 - Complaints/concerns from crews and the public.
- Review and update [dispatch protocols](#) regularly based on analysis of data.



Modifying Transport Process

- 1. Revise Clinical Protocols:** Include use of emergency vehicle lights and siren into [clinical protocols](#) as a clinical intervention on par with a procedural skill or a medication. Describe indications, contraindications, and potential adverse effects. The primary indication for lights and siren use is a clinical condition where a time-dependent, life-saving intervention is needed within 3 minutes of patient transfer at the hospital. Medical directors should use evidence-based medicine to guide this process.
- 2. Use a quality management system:** Review and extract data from transports where emergency lights and siren are used. Make adjustments to [clinical protocols](#) as data warrants.
- 3. Consider an ongoing QI review/analysis** of all transports done using lights and siren.



Modifying Regulations

1. Update Regulations and Contracts:

Examine performance-based contracts that reward prompt responses. Pay attention to clauses that either consciously or unconsciously promote the use of emergency vehicle lights and siren. Response time requirements are the most frequent problem. In order to reduce the usage of emergency vehicle lights and siren that is clinically unnecessary, regulators and providers should collaborate to modify these requirements. Instead of using time-based metrics to evaluate system performance, think about utilizing [clinical metrics](#). Participate in regional oversight panels in changing regulations to increase safety.

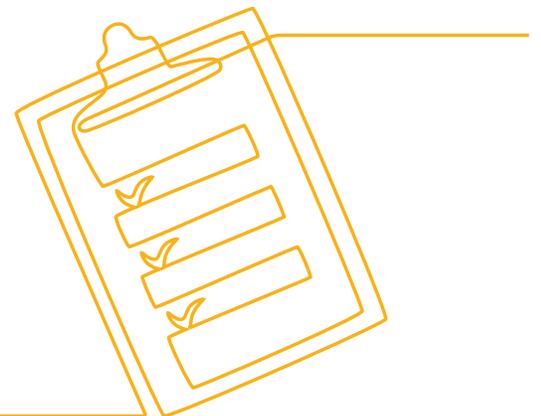
2. Accurately Interpret Medicare Rules: An ambulance responding without lights and siren can be billed as emergent based on how 911 dispatch processed and/or prioritized the call. The documentation of emergent is not coupled with the use of lights and siren. Billing “emergent” does not require the emergency vehicle respond with lights and siren.

3. National Fire Protection Agency (NFPA):

NFPA 1710 (paid departments) and 1720 (volunteer and combination departments) specify response times. The standards were downgraded from standards to annex status. “Standards” are actual consensus standards that departments are typically held to, whereas items in the “annex” are merely suggestions, not holding the weight of a standard. These standards were implemented many years ago to create response time standards (still in place in many municipalities today) and are sometimes applied to contracted ambulance services with financial penalties for failure to achieve the goals. Many are unaware that EMS was largely eliminated from the NFPA time standards. Fire departments should set their own standards for EMS responses and follow them, keeping safety and good clinical care in mind.

4. Commission on Accreditation of

Ambulance Services (CAAS): CAAS is not prescriptive on ambulance response modes. It is necessary to document and monitor response times. An agency or system can work with their Medical Director to develop a dispatch response plan that has different modes of response based on different criteria.



Case Study – Plum EMS

Plum EMS (Plum, Pennsylvania) is an ALS ambulance service that responds to 3,000 911 calls each year while servicing a suburban area that is 30 square miles in size and has a population of 30,000. Respected management, a supportive local community, a station with modern amenities, and competitive salary are some of the benefits shared by their 26-member team. However, historically, this service relied heavily on the usage of lights and siren during emergencies.

Lights & Siren Usage at Plum EMS

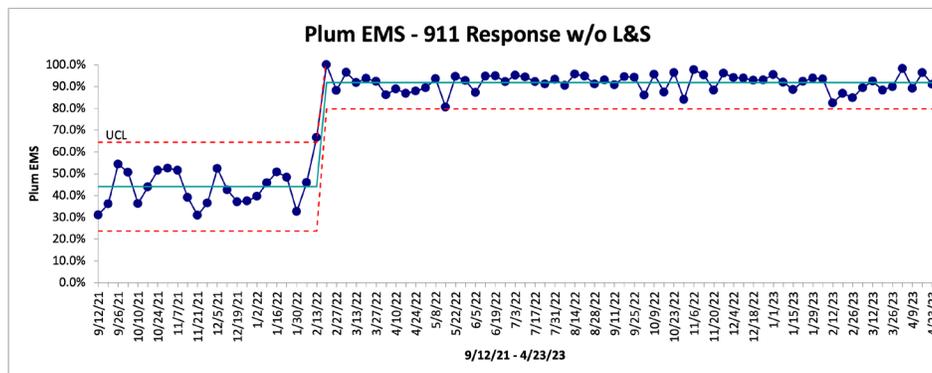
When Plum EMS saw excessive use of lights and siren during transport, they decreased it from 23.9% in 2016 to 12.2% in 2018. This alteration sparked a conversation that resulted in their participation in the National EMS Quality Alliance’s (NEMSQA’s) joint initiative to reduce collisions involving EMS vehicles by limiting the use of lights and siren.

Lights & Siren Considerations and Evaluation

Plum EMS prioritizes a culture of curiosity, feedback, collaboration, and learning. They take a non-punitive approach to improvement and have a rigorous call review process assessing clinical conditions, hospital staff actions, crew perspective, and time saved.

Progress in Reducing Lights & Siren Usage

Since 2018, Plum EMS has made an effort to reduce use of lights and siren. They succeeded in responding to fewer than 5% of 911 calls during the project with the use of emergency lights and siren. Following the partnership, Plum EMS intends to keep working to bring down emergency lights and siren calls to fewer than 1% of all responses.



Making the Change

Education and debate on the impact of lights and siren on patient care are part of the change at Plum EMS. Following each use, there are open discussions centered on chute times, appropriate use, and learning from the experiences of others on the crew. Plum EMS is dispatched by a county 911 system that does not use a commercial dispatch prioritization system, so to guide its response mode, Plum EMS relies on provider judgement tempered with education and continual feedback.

Insights from Plum EMS Team Members on Reduced Lights & Siren Use

1. Lights and siren increase danger on the road.
2. Responsibility for using lights and siren lies with the EMS clinicians.
3. The stress reduction that came with not turning on the emergency lights and siren was acknowledged by the clinicians.
4. The department management wished that the project had been started earlier.

Case Study – Williamson County EMS

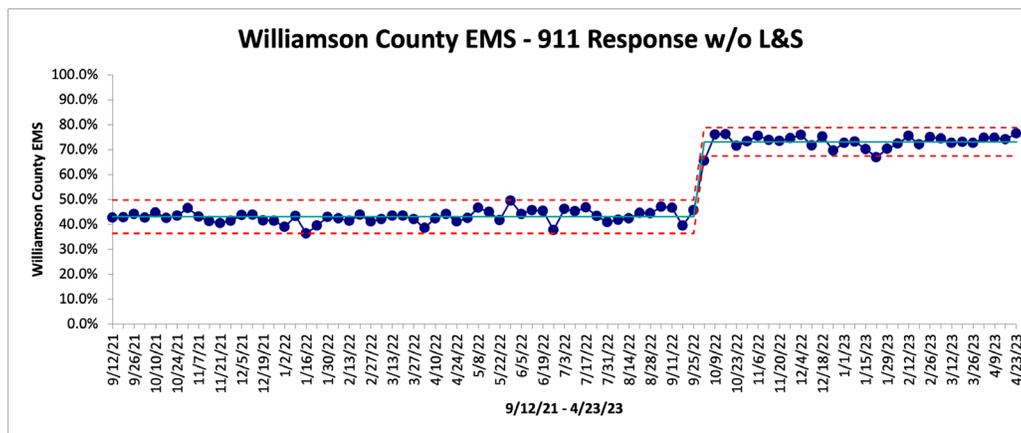
Williamson County EMS operates in Williamson County, Texas, with a population of over 640,000. This agency has been the primary 911 EMS provider for the area since its inception in 1975. They respond to an average of 32,000 calls annually with 19 station-based ambulances covering a mix of urban, suburban, and rural communities.

Lights & Siren Usage at Williamson County EMS

Williamson County EMS has always depended on lights and siren for emergency responses primarily because they believed it helps to speed up response times and benefits patients. A growing body of research, however, indicates that the majority of responses don't necessitate interventions that could save lives. This, together with the knowledge that the use of lights and siren significantly increases the morbidity associated with ambulance crashes, served as motivation for Williamson County to take action.

Lights & Siren Considerations and Evaluation

Williamson County EMS conducted a comprehensive analysis of their 911 call responses. They aimed to determine the percentage of 911 calls involving emergency lights and siren that resulted in potentially life-saving interventions (PLSIs) – interventions capable of reversing critical conditions or rapidly improving hemodynamic stability. This analysis focused on identifying call types where emergency lights and siren responses were common but led to few PLSIs. The team set a goal of understanding the correlation between dispatch determinant and PLSI use, aiming for a threshold of 7%. If the percentage of PLSI use was less than 7% for a specific determinant in any call, routine use of lights and siren was not advised.



Making the Change

Williamson County EMS thoroughly examined how they responded to 911 calls. They sought to ascertain the percentage of 911 calls using emergency lights and siren that led to potentially life-saving interventions (PLSIs), which are actions capable of quickly improving hemodynamic stability or reversing life-threatening conditions. This analysis concentrated on finding call types that frequently elicited emergency lights and siren responses but few PLSIs. The team decided to study the relationship between the dispatch determinant and PLSI usage, with a 7% threshold as their target. Routine use of lights and siren was not recommended if the use of PLSI was less than 7% for a specific determinant in any call.

Insights from Williamson County EMS Team Members on Reduced Lights & Siren Use

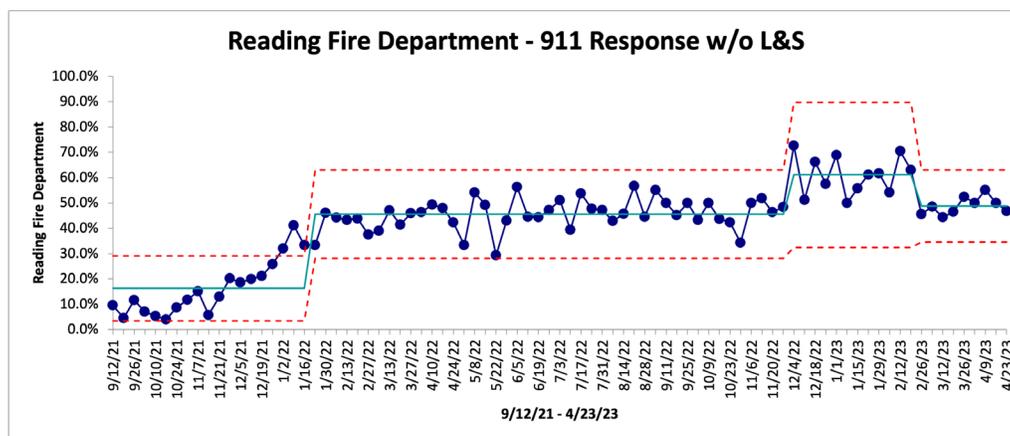
1. Williamson County EMS reviewed the fire departments that respond alongside them, and the information was provided to the field staff and fire department partners so they could independently decide how to respond. The complement of responses was unchanged by the use (or absence) of lights and siren. Williamson County EMS [reviews the data regularly](#) and can adjust the response mode if the data changes.

Case Study – Reading Fire Department

Reading Fire Department, Reading, Ohio, serves a community of 10,000 residents in Reading and neighboring villages including Arlington Heights and Amberley Village. Their dedicated team of 14 career clinicians, 16 part-time clinicians, and 1 paid on-call clinician provides 24/7 coverage with two ambulances, one supervisor, and an engine company. They respond to various emergencies, dispatching units based on the nature of the situation. Services include emergency medical services, fire suppression, and specialized rescue.

Lights & Siren Considerations and Evaluation

Over the years, the department has experienced a number of crashes, some leading to career-ending injuries associated with high-speed responses using lights and siren. The department's data showed that, in many cases, the use of lights and siren did not significantly impact response times or ultimately affect patient outcomes. They joined the collaborative because they wanted to take action to reduce unnecessary use of lights and siren.



Making the Change

The Reading Fire Department's initial changes involved sending only one unit with lights and siren and having any additional responders go without them. This reduced the risk immediately without impacting the time to get assistance to the patient. The next step was to determine which call types weren't connected to potentially life-saving interventions.

Modifying the protocols for lights and siren wasn't without its difficulties. Within the department, there were varying responses to it. Although the change was strongly backed by the management, including the chief and medical director, some employees, particularly front-line EMS clinicians accustomed to use of lights and siren, voiced opposition. Despite the department's findings to the contrary, there was pushback because of the conviction that lights and siren were necessary to meet the public's expectations for emergency response. The Reading Fire Department changed its policies on the use of lights and siren despite resistance from some department members. They later curbed several changes, mainly because of worries about the consistency and dependability of dispatcher triage. The department is steadfast in its resolve to minimize the use of lights and siren while still maintaining efficient and safe emergency responses.

Insights from Reading Fire Department Team Members on Reduced Lights & Siren Use

1. While initial support for the change was evident among line officers, the real challenge lay in convincing front-line staff.
2. Reading discovered the importance of engaging personnel from all levels of the department in the decision-making process from the onset.

Case Study – MedStar Mobile Healthcare

MedStar provides advanced life support ambulance service to a vast coverage area of 436 square miles, serving more than 1 million residents across Fort Worth and 14 surrounding cities. Their fleet consists of 65 ambulances, enabling them to respond to approximately 150,000 calls annually.

Lights & Siren Usage at Medstar

Since 2020, 11 MedStar personnel have been injured in ambulance crashes. All these crashes occurred while the vehicle was operating with lights and siren. MedStar has taken proactive steps to reevaluate their approach to emergency lights and siren operations. They have joined this national effort to reduce the frequency of emergency lights and siren responses in their EMS system.

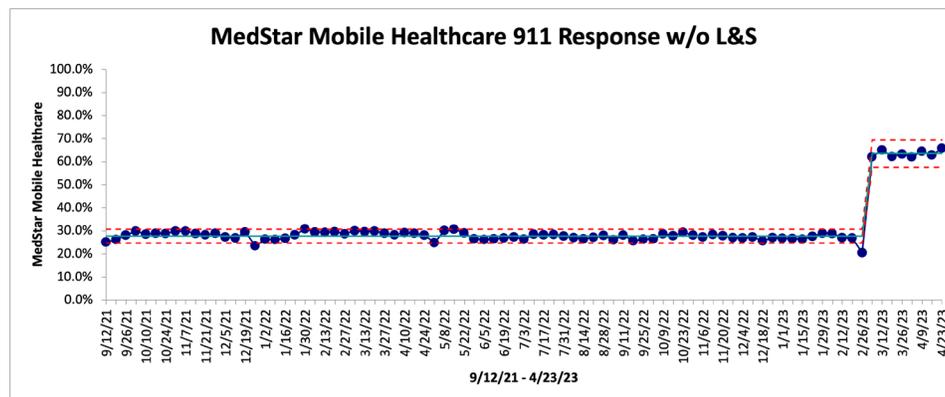
Lights & Siren Considerations and Evaluation

MedStar has initiated a comprehensive evaluation of their emergency lights and siren practices, focusing on several key considerations:

Community Expectations: They challenge the myth that the public uniformly expects emergency lights and siren responses, conducting surveys to understand actual community perceptions.

Time Savings: MedStar critically assesses the time saved with emergency lights and siren responses. They rely on data analysis to determine when emergency lights and siren responses actually do result in significant time savings for time-sensitive cases.

EMS Personnel Safety: A critical aspect of their evaluation involves assessing the safety and preferences of their EMS clinicians. Many team members prefer non-emergency lights and siren responses due to safety concerns.



Making the Change

Cultural shifts in EMS operations require time, education, and leadership commitment. Their goal is to strike a balance between the need for speed in critical situations and the safety of their personnel, patients, and the public. They use a combination of data-driven decision-making and community education efforts. By matching potentially lifesaving intervention (PLSI) with MPDS Call Determinants, MedStar was able to make dramatic changes in their responses.

Insights from MedStar Mobile Healthcare Team Members on Reduced Lights & Siren Use

1. Many EMS clinicians express concerns about the dangers associated with emergency lights and siren responses and believe they often do not save much time.
2. Some clinicians have reported that non-emergency lights and siren responses allow for a less stressful and more focused approach to patient care.
3. Ambulance response mode and patient satisfaction do not seem to be related.

Appendix A – L&S Collaborative Faculty

Name	Affiliations
Rick Allgood Captain EMS Quality Management	Indianapolis Fire Department NAEMSP Quality & Safety Faculty
Scott Bourn, PhD, RN, FACHE Senior Quality Consultant Chair, Research Leadership Group	ESO NAEMSP Quality & Safety Faculty
Brooke Burton, NRP, FACPE Quality Improvement/Controlled Substance Manager	Unified Fire Authority NAEMSP Quality & Safety Faculty Add National EMS Quality Alliance BOD
Jeff Clawson, MD	International Academies of Emergency Dispatch
Remle P. Crowe, PhD, NRP Director of Clinical and Operational Research	ESO NAEMSP Quality & Safety Faculty
Rick Ferron, ACP, PhD (candidate) Chief	Niagara Emergency Medical Services
Jason Gilliam Project Manager / EMS Consultant	National EMS Quality Alliance
Jeffrey M. Goodloe, MD, NRP, FACEP, FAEMS Chief Medical Officer, Medical Control Board Professor & EMS Section Chief, Department of Emergency Medicine	EMS System for Metropolitan Oklahoma City & Tulsa University of Oklahoma School of Community Medicine
Joseph Grover, MD FACEP FAEMS Clinical Associate Professor Medical Director	UNC Department of Emergency Medicine Orange County Emergency Services NAEMSP Quality & Safety Faculty
Jeffrey L. Jarvis, MD, MS, EMT-P Medical Director Chief Medical Officer & System Medical Director MAEMSA / EPAB Office of the Medical Director	Metropolitan Area EMS Authority National EMS Quality Alliance BOD
Jon Krohmer, MD, FACEP, FAEMS	Former Director, NHTSA Office of EMS
Douglas F. Kupas, MD, EMT-P, FAEMS, FACEP Director, Geisinger EMS Co-Director, Geisinger Mobile Integrated Healthcare Program Professor of Emergency Medicine	Geisinger Health
Brian LaCroix	Center for Patient Safety NAEMSP Quality & Safety Faculty
Nickie Little	NAEMSP Quality & Safety Faculty
Michael Redlener, MD, FAEMS Medical Director, Emergency Department Mount Sinai West Associate Professor, Emergency Medicine	Mount Sinai Health System/ Icahn School of Medicine at Mount Sinai National EMS Quality Alliance BOD NAEMSP Quality & Safety Faculty
Mike Taigman Improvement Guide Associate Professor, Improvement Science	FirstWatch NAEMSP Quality & Safety Faculty UCSF
Bryan R. Wilson, MD, FAEMS, FAAEM, FACEP EMS Fellowship Director	St. Luke's University Health Network NAEMSP Quality & Safety Faculty

Appendix B – Participating Agencies

Team	City, State
Alameda County EMS Agency	San Leandro, CA
AMR Santa Cruz/San Benito	Santa Cruz and San Benito, CA
Anchorage Fire Department	Anchorage, AK
Bondurant Emergency Services	Bondurant, IA
Calhoun County EMS	Rockwell City, IA
CHI St Joseph EMS	Bryan, TX
City of Madison Fire Dept.	Madison, WI
Contra Costa County EMS	Martinez, CA
Deer-Grove EMS	Cottage Grove, WI
Emergency Medical Services Authority	Oklahoma City and Tulsa, OK
Fitch-Rona EMS District	Fitchburg and Verona, WI
Florissant Valley Fire Protection District	Florissant, MO
Fountain Fire Department	Fountain, CO
Geisinger EMS	Harrisburg, PA
Greater Pittston Regional Ambulance	Pittston, PA
Harris County ESD11	Spring, TX
Indianapolis EMS	Indianapolis, IN
Kalamazoo County Medical Control Authority	Kalamazoo, MI
Kenosha Fire Department	Kenosha, WI
Leon County EMS	Tallahassee, FL
Lower Allen Township EMS	Camp Hill, PA
Marion County Ambulance District	Hannibal, MO
McGregor Memorial EMS	Durham, NH
Mecklenburg EMS Agency	Charlotte, NC
Medical Rescue Team South Authority	Pittsburgh, PA
MedStar Mobile Healthcare	Fort Worth, TX
MEMS	Little Rock, AR
Monona Fire Department	Monona, WI
Newton Emergency Medical Services	Newton, NJ
Niagara EMS	Niagara on the Lake, Ontario
North Dakota EMS Association	Bismarck, ND
North East Mobile Health Services	Rockport, ME
Onslow County EMS	Jacksonville, NC
Orange County EMS	Irvine, CA
Pendleton County Ambulance	Falmouth, KY
Plum EMS	Plum, PA
Reading Fire Department	Reading, OH
RWJBarnabas Mobile Health	Newark, NJ
Sachse Fire-Rescue	Sachse, TX
Saratoga County EMS	Saratoga, NY
Sioux Falls REMSA	Sioux Falls, SD
Stratford EMS	Stratford, CT
Surry County Emergency Medical Services	Mount Airy, NC
Trumbull EMS	Trumbull, CT
Waushara County Paramedic Services	Wautoma, WI
Wayne County Ambulance Service	Fairfield, IL
Williamson County EMS	Georgetown, TX

Special Recognition

2022 National EMS Quality Alliance Organizations
American College of Emergency Physicians
International Association of Fire Chiefs
International Association of Fire Fighters
National Association of EMS Physicians
National Association of State EMS Officials
National EMS Management Association
Academy of International Mobile Healthcare Integration
Air Medical Physician Association
American College of Surgeons Committee on Trauma
Emergency Nurses Association
National Registry of EMTs

Partners



firstwatch.net



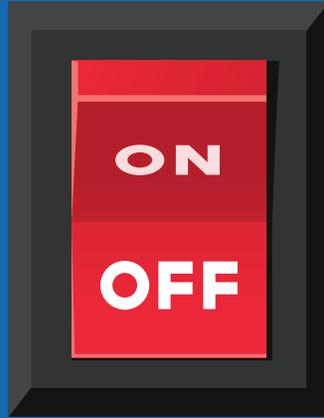
eso.com



redflashgroup.com

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Improving patient outcomes through the collaborative development of quality measures for EMS and health systems of care.

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