

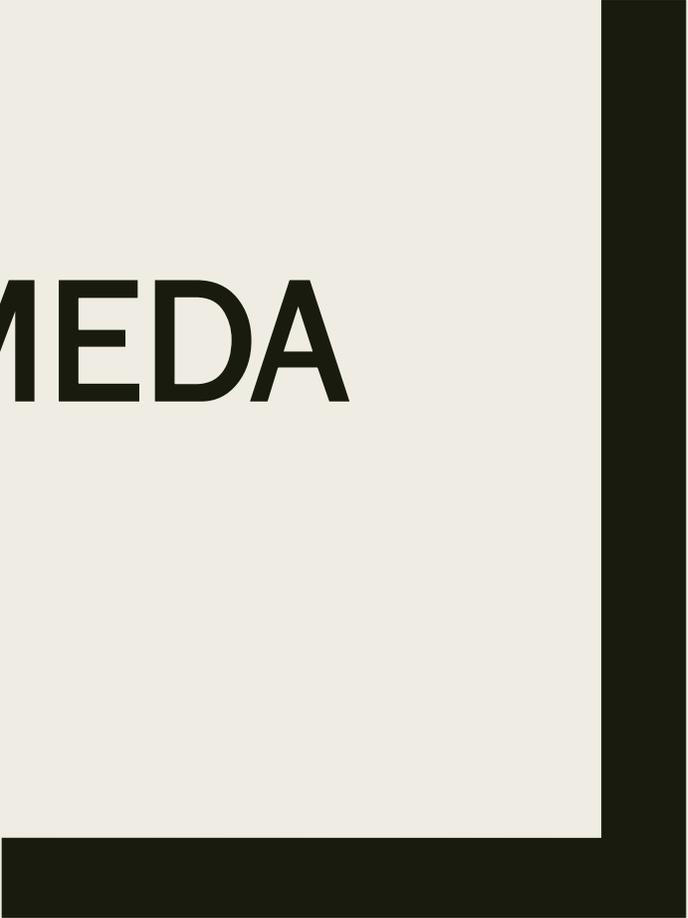


RETHINKING ALAMEDA COUNTY EMS

Challenges and Opportunities

Presentation to the EMS Redesign Workgroup

November 7, 2019



OVERVIEW OF PRESENTATION

- Historical Perspective of EMS
- EMS in Alameda County
- What We Look for in an EMS System
- Evolution of EMS Systems
- Alameda County's Current Model - Private for Profit
- Pros, Cons and Examples of Different EMS System Models
- What's Coming Next for EMS
- Conclusion
- Questions?

HISTORICAL PERSPECTIVE OF EMS

HISTORICAL PERSPECTIVE OF EMS IN THE UNITED STATES

- Modern EMS is considered to have started with Jean Dominique Larrey, Napoleon's chief physician, who organized a system to treat and transport injured French soldiers. During the Civil War, the Union Army developed an organized system to evacuate soldiers from the field.
- Lessons learned during the Civil War were applied as civilian EMS systems formed during the late 1800s.
- In 1869, New York City advertised a 30-second response time and provided an Ambulance Surgeon and a quart of brandy for their patients. This was the earliest recorded history of ambulance service.
- Care was unregulated for many decades. In the 50s and 60s physicians began researching and exploring the science and methods for initial CPR, establishing pre-hospital treatment steps for cardiac patients.
- In 1960 President Kennedy said, "Traffic accidents constitute one of the greatest, perhaps the greatest, of the nation's public health problems." Six years later, the National Highway Traffic Safety Act was signed into law by President Johnson, the bill established standardized EMS training, promoted state involvement, encouraged community oversight, created radio communication and stressed a single emergency number.
- The first 911 call in the US 1968.

US - HISTORICAL PERSPECTIVE (cont.)

- In 1972, the Health Services and Mental Health Administration became the lead agency for EMS. The Physician Responder Program was also put into place, which eventually became the basis for paramedic programs.
- The EMS Systems Act passed in 1973 established funding for 300 EMS systems throughout the U.S. The Department of Transportation adapted standardized training for EMTs, paramedics and first responders codifying their role in prehospital care.
- EMS began to get a stable foothold and emergency medicine began to establish itself as a distinct specialty with the first residency training program established in 1972 preparing physicians to interface with EMS at all levels from responders and educators all the way to medical directors.
- In 1996, the EMS Agenda for the Future was drafted, which connected EMS with other medical professions and provided the standards for certifications of EMS professionals.
- It's been almost two decades since the last EMS Act was passed. Since that time, pre-hospital emergency medical care has continually evolved and improved, The EMT has been acknowledged as a vital member of the health care team.
- National standards have been established. Ambulance equipment essentials have been set. National accreditation of paramedic programs has been achieved, and professional associations for the EMT have been organized.

1966

Accidental Death And Disability

The National Academy of Sciences published the landmark report *Accidental Death and Disability: The Neglected Disease of Modern Society* laying the groundwork for an organized system of pre-hospital care.

Coming Soon... A New Vision for EMS

20 years after the original Agenda was published, a new version will be created that looks ahead to the next few decades of EMS innovation and progression.

2014

EMS Compass

EMS Compass launched to create a system for designing evidence-based EMS performance measures to aid agencies in improving patient care.

2010

Culture of Safety

This three-year project funded by NHTSA and HRSA-EMSC and produced by ACEP developed a national strategic document to create a culture of safety for the EMS profession.

1967

Freedom House Ambulance Service

Pittsburgh residents form Freedom House Ambulance Service and eventually become the first EMS practitioners in the country to provide advanced life support. Freedom House pilot-tested the 1977 NHTSA standard curriculum for paramedics.

1968

First 911 Call

The first 911 call was received at a police station in Haleyville, Alabama, on a bright red phone now on display in a museum in Haleyville.

1970

NHTSA

The National Highway Safety Bureau is reorganized as the National Highway Traffic Safety Administration, whose mission includes the development of an EMS system that responds to all kinds of injuries and illnesses. NHTSA develops the first national standard curriculum for EMTs one year later.

1973

Emergency Medical Systems Act of 1973

This law, part of the Public Health Service Act, provided federal guidelines and over \$300 million in funding to develop regional EMS systems across the U.S.

1977

The Star of Life

Created by NHTSA, the Star of Life became the symbol for emergency medical services across the globe, and is often found on uniforms, equipment, ambulances and roadway signs.

1984

Emergency Medical Services for Children Program

The EMSC program was established within the Health Resources and Services Administration to fund projects focused on research, training, systems development and injury prevention.

1996

EMS Agenda for the Future

On the 30th anniversary of the *Accidental Death and Disability* whitepaper, NHTSA and HRSA supported the development and publication of the Agenda, a collaborative effort to guide development of EMS systems.

2000

EMS Education Agenda for the Future: A Systems Approach

The Education Agenda described an infrastructure for educating EMS professionals that paved the way for the National EMS Scope of Practice and National EMS Education Standards.

2007

NEMSAC

The National EMS Advisory Council, comprised of EMS representatives and consumers, was created to provide EMS recommendations to DOT and FICEMS.

2005

FICEMS

The Federal Interagency Committee on EMS was established by law to coordinate federal agency efforts and improve EMS systems nationwide.

2005

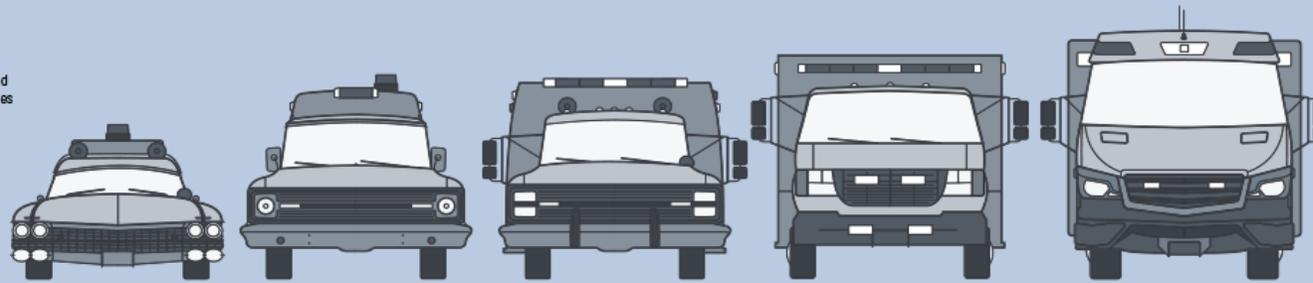
Enhanced 911

The Enhanced 911 Act established the National 911 Program to assess and improve public safety communication services.

2001

NEMSIS

The National EMS Information System, or NEMSIS, established a standardized method of storing and sharing EMS data that improved data analysis, research and performance improvement at local, regional and state levels.



50 Years of Helping EMS Systems Improve

Take a look back at a few of the pivotal moments in national EMS history that helped create and shape the industry.



U.S. Department of Transportation
National Highway Traffic Safety Administration

EMS IN ALAMEDA COUNTY

STATE EMERGENCY MEDICAL SERVICES ROLE (EMSA)

- The Emergency Medical Services Act charged the State EMS Authority in 1980 with providing oversight of the planning, implementation, and evaluation of local EMS agency (LEMSA) systems.
- The EMS Authority is charged with providing leadership in developing and implementing EMS systems throughout California and setting standards for the training and scope of practice of various levels of EMS personnel.
- The EMS Authority also has responsibility for promoting disaster medical preparedness throughout the state, and, when required, coordinating and supporting the state's medical response to major disasters.
- Local EMS agencies may non-competitively contract with or “grandfather” existing providers that have provided the same manner and scope of services without interruption since 1981.

ALAMEDA EMS

- Alameda County's EOA was approved by State EMSA in 1981 and Alameda County LEMSA (Local Emergency Services Agency) provides regulatory and medical oversight of the EMS system.
- Alameda County LEMSA's principle objective is to ensure the financially sustainable provision of high-quality emergency medical services that are efficient and effective both clinically and operationally.
- The LEMSA provides local certification and accreditation for Emergency Medical Technicians and for Paramedics.
- The LEMSA Medical Director working with the Clinical Quality Council provides state of the art industry field treatment protocols, specialty systems of care and clinical quality assurance and improvement.
- Cities who provided ambulance transport prior to 1981 were "grandfathered in" and include the cities of Alameda, Berkeley, Piedmont and Albany Fire Departments. These cities also provide initial emergency medical response to their communities.
- In addition ACFD, Fremont, Hayward, Oakland, East Bay Regional Parks, Cal Fire, Camp Parks and Livermore-Pleasanton Fire Departments provide initial emergency medical care to residents in their cities/districts. These portions of Alameda County comprise the broader EOA that is competitively bid.
- The County competitively bid the contract in 2018, resulting in the selection of the private provider Falck who began operating July 2019

ALAMEDA COUNTY EMS

- Alameda is the 7th most populous county in California and has 14 incorporated and several unincorporated communities.
- In 2018, Alameda County received just over 158,000 9-1-1 requests for medical aid and transported over 100,000 patients.
- Access to the EMS System begins with a call to 911 and the emergency communication centers serving Alameda County.
- There are 18 Public Safety Answering Points (PSAPs) in Alameda County that perform initial intake of 911 calls and provide lifesaving resources. Two of the PSAPs, the Alameda County Regional Emergency Communications Center (ACRECC) and Oakland are Accredited Emergency Medical Dispatch Centers and utilize the Medical Priority Dispatch System (MPDS) to triage calls and assist callers in lifesaving information.

WHAT WE LOOK FOR IN AN EMS SYSTEM

EXCLUSIVE OPERATING AREA (EOA)

- Advantages of an Exclusive Operating Area:
 - Single ambulance provider.
 - Consolidation of logistics.
 - No geographic disparity of care.
- Potential Issues Without an Exclusive Operating Area:
 - Geographic disparity of care.
 - Multiple providers.
 - Multiple dispatch centers.
 - No economies of scale.

EXCLUSIVE OPERATING AREA

- Sacramento County Lost its EOA in 1994, the Current Sacramento EMS System has:
 - 13 ambulance providers.
 - Eight dispatch centers.
 - Multiple patient care record systems.
 - Fire departments provide 37% of the transports.

THERE IS NO SUCH THING AS A PERFECT SYSTEM MODEL

Each system has pros and cons. Patient care/outcomes should be primary consideration designing a system.

Local factors determine the right delivery model for your community.

The key is how the system focuses on results and ensures quality performance to those it serves.

Political, fiscal and technological factors must be considered.

State and Federal regulations guide system design.

Hybrid systems are becoming more common – what is right for one county might not fit the needs of another county.

WHAT DO WE LOOK FOR IN A LOCAL EMS SYSTEM DESIGN?

Ability to deliver results.

Independent oversight by the LEMSA.

Accounting for all service costs.

Economic efficiency.

High performing system.

Customer satisfaction.

EVOLUTION OF EMS SYSTEMS

SYSTEMS MUST EVOLVE TO ADDRESS EXTERNAL INFLUENCES AND PERFORMANCE REQUIREMENTS

What are the Issues/Challenges in Rethinking EMS System Design?

- Funding and reimbursement issues.
- Performance measured by outcomes, not activity or process.
- Political factors.
- Changing patient demographics.
- Technological advances.

SYSTEMS EVOLVE TO ADDRESS EXTERNAL INFLUENCES AND PERFORMANCE REQUIREMENTS

Funding and reimbursement issues

- The cost of providing EMS services continues to rise; personnel, employee benefits, equipment, disposable supplies, medications, ambulances.
- As expenses rise, reimbursement remains stagnant or has declined.

Alternative Routes

Giving emergency responders the flexibility to manage less-urgent 911 calls without taking patients to hospital emergency departments could generate substantial savings for Medicare, according to estimates from a Rand Corp. study

15.6%

Portion of all Medicare-covered ambulance rides for patients whose conditions are not urgent or could be treated by primary-care providers

\$1 billion

What Medicare spends annually on EMS and emergency-department costs for 911 patients who potentially could be treated outside of the hospital

\$560 million

Annual savings if some lower-level 911 cases were managed in less-expensive settings

SYSTEMS EVOLVE (cont.)

Performance measured by outcomes

- Moving away from response times, or number of response calls as single measures.
- Instead focusing on quality measures, linking hospital outcomes and EMS treatments to measurable performance.
- New measures and benchmarks must include: Patient satisfaction, quality, per capita cost, and workforce resiliency.

Political factors

- What is the best system design for the residents and visitors to the County? Must bring value to the community.
- How do we provide quality service and keep the costs under control?
- Need to involve unions in system design.
- The public and local elected officials need to be informed and briefed on system changes and national EMS trends.

SYSTEMS EVOLVE (cont.)

Changing patient demographics

- The indigent population (homeless and marginally housed) often use EMS as their primary healthcare service.
- More inebriants are accessing services.
- 5150s have increasingly placed demand on the EMS system.

Technological advances

- Exchange of patient records and data.
- Emerging technological improvements to communicate and to track performance.
- Must be aware of cost/benefit and involve providers in decision making.

ALAMEDA COUNTY'S CURRENT EMS
MODEL IS
PRIVATE FOR PROFIT

ALAMEDA COUNTY'S CURRENT EMS MODEL Private for Profit

- Prehospital care is provided through County contract with Falck.
- The contract includes both Advance Life Support (ALS) and Basic Life Support (BLS).
- Falck owns their assets.
- If they don't meet performance measures, we can hold them accountable and/or can cancel their contract.
- Personnel costs are generally less than systems that use sworn personnel.
- The cities of Berkeley, Albany, Piedmont, and Alameda provide their own ambulance transport as well as initial emergency medical care.
- ACFD, Fremont, Hayward, Oakland, East Bay Regional Parks, CalFire, Camp- Parks and Livermore-Pleasanton Fire Departments provide initial emergency medical care to residents in their cities/districts.

PROS, CONS AND EXAMPLES OF DIFFERENT EMS SYSTEM MODELS

EMS SYSTEM MODELS

Fire Service

In the dual fire-based model personnel are trained as both firefighters and EMTs or paramedics, providing enhanced versatility to workforce.

Public Private Partnership

There are many ways of creating public private partnership models. We will explore three such models today, Medic One in Seattle, the Fire Alliance Model in Contra Costa County and the Orange County Model.

Third Service

A stand-alone department within the county that is dedicated to emergency ambulance service.

Joint Powers Agreement

A joint powers authority is established when two or more public agencies enter into a joint agreement to exercise power common to the contracting agencies.

Public Utility

Public agency providing oversight but day to day services and management contracted through a competitive performance-based bid process. Public agency owns assets and does billing.

Hospital Based

Service provided directly by the hospital. Continuum of care integrated with hospital in seamless service.

FIRE MODEL

In the dual fire-based model personnel are trained as both firefighters and EMTs or paramedics, providing enhanced versatility to workforce.

- Pros:

- *Respected members of the community*
- *Provides enhanced versatility to workforce, which enhances the services provided to the community.*
- *Management and administration is combined for fire suppression and prehospital care.*
- *Reimbursements potentially improve because the fire department qualifies for improved Medi-Cal reimbursement.*
- *Fire owns its assets.*

- Cons:

- *This model is potentially costly because of initial capital expenditures, engines, ambulances, equipment, medications and supplies.*
- *Cost of providing service is also higher because sworn personnel are the prehospital responders.*
- *Fire needs to create additional infrastructure because it is responsible for all billing and collections.*
- *Generally measured by level of effort (LOE) rather than outcome focused result-based measurements.*

EXAMPLE - FIRE MODEL

South County/ Snohomish Fire

- The South County/ Snohomish fire service is the primary provider of emergency medical services (EMS).
- The nationally acclaimed EMS program prides itself on innovations to improve response and patient care.
- More than 85 percent of calls are for medical aid.
- All firefighters are certified as either Emergency Medical Technicians or Paramedics.
- Paramedics – are trained to provide care in the most serious medical emergencies and are stationed at neighborhood fire stations throughout southwest Snohomish County.
- Cardiac arrest survival rate is one of the best in the nation, typically averaging between 50 to 60 percent, well above the national average of 20 percent.

PUBLIC PRIVATE PARTNERSHIPS

There are many ways of creating public private partnership models. Three examples are presented today to highlight the versatility of a public private partnership.

■ Pros:

- *Flexibility in designing system to suit specific needs of the jurisdiction.*
- *Potential to increase resources in the community.*
- *Competitively outsourcing the private portion.*
- *Possible increase in revenue.*
- *Decrease need of paramedics.*

■ Cons:

- *Depending on model design, could pose operational challenges to fire departments.*
- *May not be as appealing for private providers to participate.*

EXAMPLE - PUBLIC PRIVATE PARTNERSHIPS

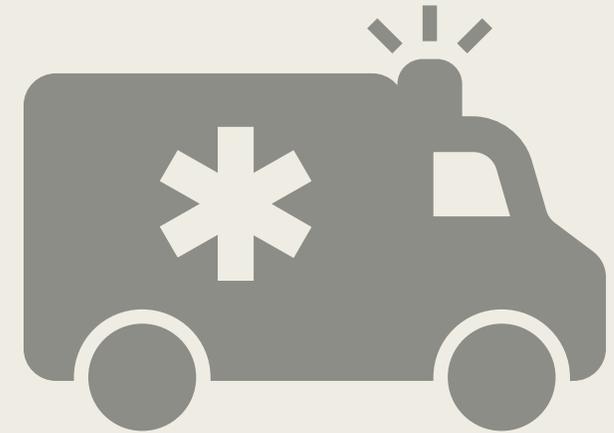
Seattle Fire Department- MEDIC ONE

- The Medic One Program began in 1970 when the first group of firefighters were trained as paramedics in cooperation with Harborview Medical Center and the University of Washington. Since then, the Medic One Program has gained notoriety due to the training, dedication and pre-hospital emergency patient care paramedics deliver within the community.
- Medic One provides the community with Advanced Life Support (ALS) activities that, in the past, could only be performed by licensed physicians. In addition to responding to medical emergencies, medic units respond to all working fires, hazardous materials and rescue responses.
- Seattle Fire employs only 76 paramedics yet has 981 EMTs.
- Of the 77,752 EMS calls that the Seattle Fire Department responded to in 2015, 74% were handled by BLS units.
- Key to success is enhanced paramedic education and triage.
- If the Seattle model were adopted in Alameda County, it would translate to approximately 150 paramedics for the entire County.

EXAMPLE - PUBLIC PRIVATE PARTNERSHIPS

Fire Alliance Model

- New model for the delivery of ambulance services was implemented in 2015 in Contra Costa County.
- AMR was hired by the county fire department to provide exclusive pre-hospital emergency ambulance services.
- Changes the relationship between private ambulance companies and the local LEMSA.
- Private ambulance company is no longer an autonomous service provider but is subordinate to the fire department.
- In the Fire Alliance model, the LEMSA holds the alliance responsible for compliance with standards and performance – not the ambulance company. In other words, the LEMSA cannot terminate the ambulance company contract for nonperformance.
- Ambulance provider is paid a specific rate for unit hours of service.
- The county fire department qualifies for improved Medi-Cal reimbursement and is responsible for all billing and collections.
- The fire alliance model could consist of a single fire department (as in Contra Costa County), or multiple fire departments under a Joint Powers Agreement.



EXAMPLE - PUBLIC PRIVATE PARTNERSHIPS

Orange County Model

- All fire engines have paramedics on the rigs.
- All transport ambulances are Basic Life Support (BLS).
- Paramedics on the fire engines ride into the hospital in the BLS ambulances if the patient requires Advance Life Support (ALS).
- Fire shares in revenue.
- This model decreases the overall number of paramedics required in the system.
- The model can pose significant operational challenges to the fire departments.

THIRD SERVICE MODEL

A stand-alone department within the county that is dedicated to emergency ambulance service.

■ Pros:

- *Stand alone department within a city or county government.*
- *Dedicated solely to emergency ambulance service.*
- *Own the ambulance component of the EMS system.*
- *Use of civilian workforce is generally less expensive.*

■ Cons:

- *Cost containment.*
- *Performance often measured by LOE, not outcomes or results.*
- *Problems addressed by adding resources.*
- *Targeted at the emergency market and may not adequately address the nonemergency population.*

EXAMPLES - THIRD SERVICE MODEL

New Orleans EMS

In the early 1900s EMS was part of the New Orleans Police Department. Over time, it was incorporated into the Health Department. Hurricanes Katrina and Rita highlighted the need for a stand-alone agency.

Boston EMS

The Boston EMS department is a recognized leader in emergency medical service and the largest municipal EMS in New England. Boston EMS is staffed by full-time uniformed emergency medical technicians, paramedics, supervisors, and command personnel.

JOINT POWERS AGREEMENT

A joint powers authority is established when two or more public agencies enter into a joint agreement to exercise power common to the contracting agencies.

■ Pros:

- *Joint powers agreements are touted as being a cost-effective means for governments to carry out business.*
- *JPA's can be an efficient means to leverage limited funding sources and to carry out common missions.*
- *Shared costs, shared resources, shared assets, shared revenue.*

■ Cons:

- *Start up costs can be prohibitive.*
- *Requires common vision between competing agencies, which can be a challenge.*
- *All parties must agree to system design and problem resolution.*

EXAMPLES - JOINT POWERS AGREEMENT

California Tahoe

The California Tahoe Emergency Services Operations Authority (or "Cal Tahoe") is a Joint Powers Authority (JPA) formed in 2001 as a transport contractor for ambulance service under a contract with the County of El Dorado to the Tahoe South Shore service area and parts of northwestern Alpine County.

El Dorado County

The El Dorado County Emergency Services Authority (or "West Slope JPA") formed in 1996 as a transport contractor for paramedic ambulance service to the Western Slope service area of El Dorado County.

PUBLIC UTILITY MODEL

Public agency providing oversight but day to day services and management contracted through a competitive performance-based bid process.

■ Pros:

- *Strictly defined business structure with public agency providing oversight, but services provided by ambulance provider through competitive bid.*
- *System infrastructure owned by the public agency.*
- *Management of billing process by public agency.*
- *Performance based contracting.*
- *Stability and accountability.*

■ Cons:

- *Model is complex and may be difficult to manage.*
- *Requires creation of separate oversight entity.*
- *Difficult to find qualified bidders.*

EXAMPLES - PUBLIC UTILITY MODEL

Metropolitan Ambulance Services Trust

MAST Ambulance Service is operated solely through the City of Kansas City, MO. and there are no private ambulance contractors operating within the city of Kansas City, MO. MAST operates as a 501(c)(3) non-profit organization.

Med Star

MedStar Mobile Healthcare in Fort Worth, Texas is the Metropolitan Area EMS Authority (MAEMSA). The MAEMSA is a governmental administrative agency and not a subsidiary of any other agency or corporation, nor does it have any financial interest in any other agency or corporation.

Richmond Ambulance Authority

In 1990 the city's EMS system was restructured creating the Richmond Ambulance Authority (RAA) to provide EMS services to the City of Richmond. Since then, RAA has gained national and international recognition for its approach to EMS as a Mobile Integrated Healthcare provider.

HOSPITAL BASED SYSTEM

Service provided directly by the hospital.

■ Pros:

- *Hospitals play key roles in their communities and have public respect.*
- *Perceived to be more stable because the parent organization provides the capital.*
- *Provision of seamless continuum of care for the patient.*
- *Easy access to physicians and medical records.*

■ Cons:

- *Hospital based services may operate in isolation from the rest of the hospital structure and hierarchy.*
- *Revenue recovery and billing for ambulance services is very different than hospital care and may require additional resources.*

EXAMPLE - HOSPITAL BASED EMS

Jamaica Hospital Medical Center EMS

- The Department of Prehospital Care provides emergency ambulance service to the communities serviced by Jamaica Hospital Medical Center through the New York City 911 system.
- Highly skilled emergency medical technicians and paramedics provide basic and advanced life support care 24-hours each and every day.
- An additional function of the Department of Prehospital Care is the Medical Bike Unit which was formed in 1996. The Medical Bike Unit consists of specially trained Emergency Medical Technicians and Paramedics who respond to emergency calls on bicycles.
- With a history of providing ambulance services to the community dating back to the early 1900's, Jamaica Hospital Medical Center is among the largest hospital-based ambulance operators in the city of New York.

WHAT'S COMING NEXT FOR EMS?

NEW TRENDS IN EMS SYSTEMS FROM ON SCENE CARE TO DESTINATION DECISIONS

- Mobile Integrated Healthcare (MIH) MIH also known as community paramedicine, deploy EMS providers to offer disease management support and primary care in the community. Calls can be screened, low-acuity calls are rerouted to some other form of care that could include a nurse, doctor or physician assistant who determines whether an ambulance is needed. They many choose to make an appointment for the caller at a clinic and arrange for a community paramedic to see them at a later date – or taxi or uber to pick them up 30 minutes before the appointment.
- Another new model, Ready Responders provides access to a doctor via video chat who can evaluate and treat the patient on scene. This can be utilized by first responders on scene, or by an individual patient (in the three communities currently being served).

NEW TRENDS IN EMS SYSTEMS

FROM ON SCENE CARE TO DESTINATION DECISIONS

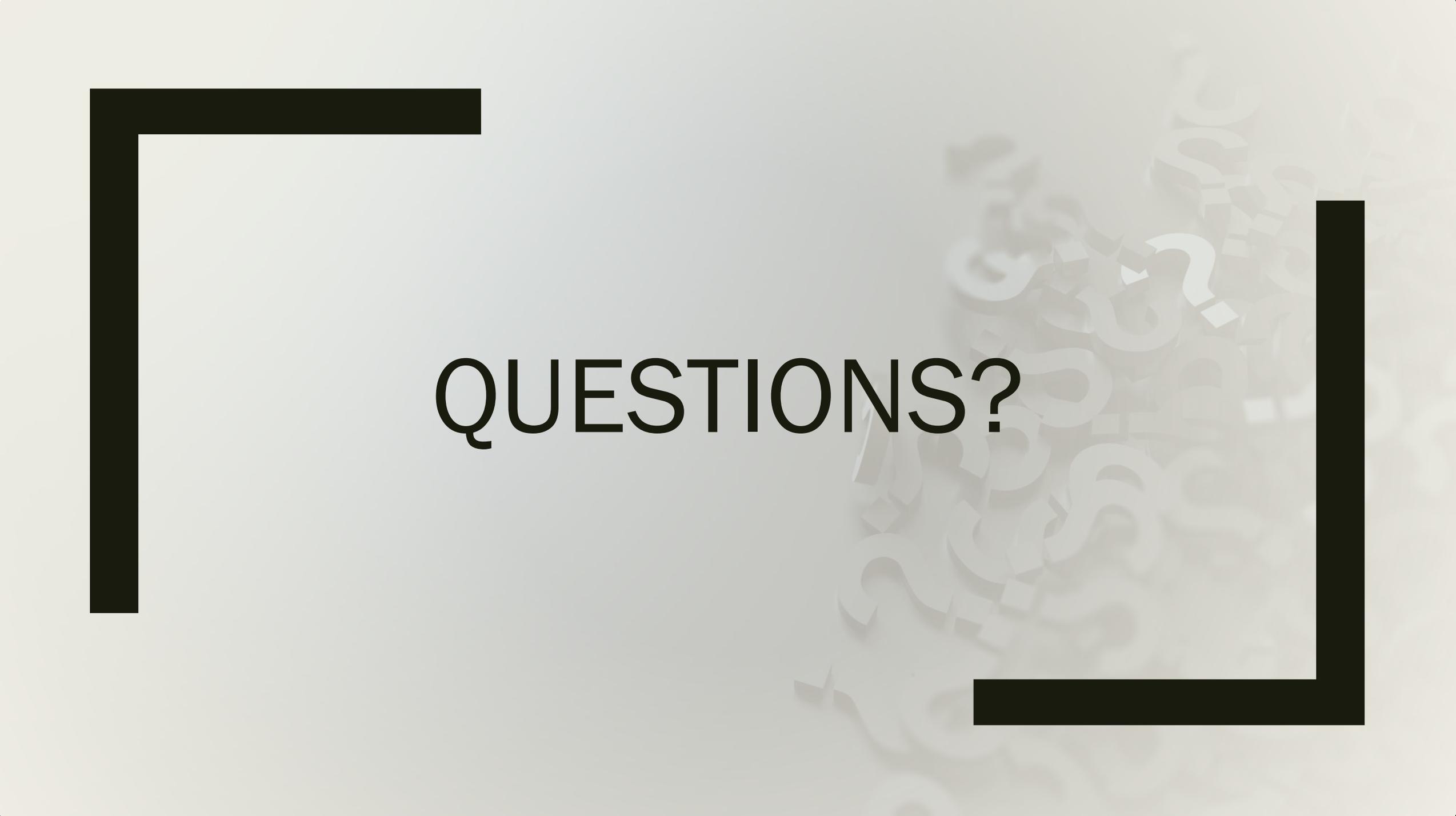
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- Alternative phone numbers (not 911) are beginning to emerge for non-emergent medical issues.
- The Center for Medicare and Medicaid Innovation's (Innovation Center) Emergency Triage, Treat, and Transport (ET3) Model is a voluntary, five-year payment model that will provide greater flexibility to ambulance care teams to address emergency health care needs of Medicare beneficiaries following a 911 call. Under the ET3 model, the Centers for Medicare & Medicaid Services (CMS) will pay participating ambulance suppliers and providers to 1) transport an individual to a hospital emergency department (ED) or other destination covered under the regulations, 2) transport to an alternative destination (such as a primary care doctor's office or an urgent care clinic), or 3) provide treatment in place with a qualified health care practitioner, either on the scene or connected using telehealth.

CONCLUSION

CONCLUSION

- The future of EMS will be vastly different in the next 5-10-15 years.
- Advances in technology, funding sources, community expectations and patient demographics are all helping to shape what the new “EMS” will look like in 15 years.
- Innovation and adaptability are going to be the keys to success.
- Data and analysis will be critical to base medical decisions and the associated economic decisions in the future.
- Diminishing federal and state and local dollars will challenge us to continue to provide quality service.
- Every system has a “sweet spot” that balances patient care, employee well-being and long-term financial sustainability.
- That is the challenge we are currently facing in Alameda – to find the “sweet spot” that is right for our community to provide the best level of quality care for our residents and visitors.

The image features a light beige background with a subtle pattern of question marks. Two thick black L-shaped brackets are positioned on the left and right sides, framing the central text. The text 'QUESTIONS?' is written in a bold, black, sans-serif font, centered horizontally and vertically.

QUESTIONS?