International Association of Fire Chiefs

HANDBOOK ON
MOBILE INTEGRATED HEALTHCARE

Table of Contents

Testimonials for the MIH Handbook 4
Thanks to our Contributors 4
Chief Les Caid 4
Chief Jeff Clark 4
Chief Danny Kistner 5
Chief Steve Koering 5
Chief Pete Lawrence 5
Chief Deputy Mike Metro 5
Chief Porter Welch 5
Mike Ragone 6
Chief Mitch Snyder 6
Chief Tim Whitham 6
Executive Summary 7
Section I: Why Is MIH Important? 9
Chapter One: How Changes in Healthcare are Driving Change in Medicine and EMS 9
Healthcare in America 9
Chapter Two: Setting the Stage for Change 11
What Do Fire and EMS Leaders Need to Know 11
Those with Public Health Insurance Are Higher Users of Emergency Rooms 11
Does Having More People with Health Insurance Result in Higher Reimbursements? 12
Who Will Pay our EMS Billings in the Future? 12
Centers for Medicare and Medicaid Services 13
Value-Based Purchasing 13
The Federally Funded EMS Compass Project 14
Develop the Right Mindset 14
What Happens if the PPACA is Dismantled or Changed because of the New Administration? 15
Chapter Three: Ambulance Transport Reimbursement Changes 16
Chapter Four: Fire Department Relevancy 19
Chapter Five: Improving Organizational Efficiencies 21
Organizational Delivery System Reform 21
Redefining Response Policies 22
Leveraging Fire Department Infrastructure 22
Conclusion 23
Section II: Should I Consider MIH for My Department? 24

Chapter Six: Is MIH Right for You? Eight Questions to Determine if MIH Could Benefit Your Organization. 24

A Familiar Story: Paramedics in the 1970s 24

The Playing Field Has Changed 24

Three Types of MIH Departments 25

Eight Questions to Ask to Determine if MIH is Right for Your Department 25

The Seemingly Elusive MIH Reimbursement Stream 28

Summary 29

Chapter Seven: MIH and the Volunteer or Combination Department 30

Case Study 30

Are you making a difference? 32

A History of Adaptability 32

Section III: Develop Financial Sustainability for MIH Programs and Identify Organizational Benefits ... 33

Chapter Eight: Developing Financial Sustainability 33

1. Design a system with the types of personnel that can bill for services per your state's healthcare billing rules. 33

2. Target a UHU rate that will at least pay for the costs of the MIH unit. 33

3. Establish a billing methodology and fee structure that achieves financial sustainability and provides value to the existing payers of ambulance transports and emergency room interventions. 34

4. Calculate the MIH program costs 34

5. Calculate the value you bring to your payers. 35

6. Calculate the financial impact if you are a transport entity. 36

Chapter Nine: Identifying the Organizational Benefits of an MIH Program 37

Organizational Efficiencies 37

Reimbursement 38

Cost Avoidance 38

Chapter Ten: Integration and Finance 40

EMS Needs to Integrate into the Overall Healthcare System 40

EMS Finance: The Existing Reimbursement Stream 40

Transports versus Nontransports 43

Section IV: Step by Step to Developing an MIH Program 45

Chapter Eleven: Steps to Implement an MIH Program 45

Step One: Is MIH Right for Your Department? 45

Step Two: Identify and analyze your MIH population pools 46

Step Three: Determine the type of medical personnel needed to staff an MIH unit. 47

Step Four: Identify those entities that will benefit and those that will be impacted by your MIH program as well as stakeholders. 47
Step Five: Determine the costs to implement and maintain an MIH program. 48
Step Six: Identify the times and days when your MIH population pool calls 911. 49
Step Seven: Determine a billing rate. 49
Step Eight: Target your Unit Hour Utilization rate and MIH patient interventions. 50
Step Nine: Implement a patient navigation center. 51
Step Ten: Develop agreements with local urgent care facilities to accept treat-and-refer patients. 52
Step Eleven: Implement legal authority to bill for MIH services. 53
Step Twelve: Develop alternative transport methodologies. 53
Step Thirteen: Develop agreements with your local Accountable Care Organizations and health insurance companies. 53
Step Fourteen: Complete the development of the policies and procedures that will provide strong medical control and risk avoidance strategies as well as structure and guidance. 54
Step Fifteen: Develop and implement an effective training program. 54
Chapter Twelve: Developing an MIH Data System 56
Data 56
Chapter Thirteen: Legal Issues and Policy Development 61
State Legislative Issues 61
Local Response Ordinances 62
Organizational Policies 62
Organizational Liability 63
Risk Management 64
Conclusion 65
Section V: Develop Your Knowledge of EMS/MIH to Promote your Innovative Proposals to Mayors, Councils and Boards 66
Chapter Fourteen: Education Component for Elected Officials 66
APA Education Component for Personnel and Elected Officials 66
Chapter Fifteen: Healthy Populations 68
New Fire-based Medical Services 68
Section VI: Appendix 70

Testimonials for the MIH Handbook

Having started my career in the fire service in 1979, I have been fortunate to see some real changes in our profession. However, with the advent of the Patient Protection and Affordable Care Act (PPACA) and the changing landscape of healthcare delivery, the U.S. Fire Service most again take an audit of our service delivery model and ensure we change with the times. This *Mobile Integrated Healthcare Handbook* is the first direct collaboration from the IAFC to help all of us in the fire service better understand the affects, both currently and downstream of the PPACA and the mobile integrated healthcare (MIH) movement that is sweeping our nation. It was my honor to work with Chief Metro and the entire Task Force on this project. It is our wish that you use this handbook as a reference guide. The handbook can be used to help frame your decisions in your community and within your agency, as we all adapt to the new challenges brought about by change.

Chief Les Caid
Fire Chief for the Rio Rico Medical and Fire District

The PPACA brought the fire and emergency service into the new reality of exploring MIH as part of the delivery system. Regardless of its longevity and design, ***we should be integrating MIH into our departments for the customer and for better resource utilization.***

Randy Brugeman, CFO, FIFireE
President
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Thanks to our Contributors

This handbook is the labor of a team of writers who are MIH, Emergency Medical Service (EMS) and fire-service professionals. Each is committed to EMS and its evolution toward better patient care. Without their diligence, this work could never have been done. My profound thanks to each of them.

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2016/2017

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Mike Metro was the chief deputy for the Los Angeles County (California) Fire Department until he retired in 2015. Chief Metro has nearly 40 years of experience in America's fire service, including five years for the city of El Cajon, California. In his last role with the Los Angeles County Fire Department, he provided executive oversight for the emergency operations of the department's 170 fire stations protecting 58 cities and 4.5 million citizens. He was the chief of emergency medical services for LA County Fire for seven years and president of the California Association of Fire Chiefs EMS Section for four years. He currently serves on the executive board of the IAFC EMS Section as treasurer and as chair of the IAFC's ACA Task Force.

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Executive Summary

If we can ever be sure of one thing in EMS, it's change. Be it scope of practice, changing patient conditions, shifting payer mixes or the Patient Protection and Affordable Care Act (PPACA), things are changing. Many compare the potential impact of the PPACA and the developing MIH movement to the paradigm shift that paramedicine brought to EMS in the late 1960s to early 1970s.

Mobile integrated healthcare is an overarching term that captures the concept of a new type of EMS delivery system. MIH is a more cost-effective and more efficient method of providing appropriate care to the ever-growing population of 911 callers who have a medical issue that should be dealt with but doesn't constitute an emergency as well as callers who don't need a quick emergency response.

An MIH program may use EMT's, paramedics, nurse practitioners, physician assistants or a combination of these types of professionals. MIH is not designed to replace the existing EMS system for 911, which will continue to meet patients' needs that are serious and where a quick response is vital. Rather, MIH is a delivery system that will work side by side with the existing EMS delivery system.

Today, MIH is spreading across the United States, and the EMS profession is paying attention and in many places engaging. This handbook is designed to show that EMS *is* changing and how the PPACA is accelerating that change; it's *not* a mandate that MIH must be implemented in all EMS agencies. This handbook also serves as a guide for EMS administrators and fire chiefs to assess whether MIH is right for their departments, how to implement an MIH program and how to make it financially sustainable.

The PPACA has steered the American healthcare system in a new direction. It places greater emphasis on healthcare quality and outcomes rather than the quantity of services provided. As the U.S. Department of Health and Human Services, through Centers for Medicare and Medicaid Services (CMS) as the implementing agency, continues to promulgate PPACA regulations, fire/EMS departments need to stay ahead of the change.

The PPACA *will* affect the field of EMS as the white paper *Death and Disability* did after 1966. Please note that regardless of the future of PPACA, whether it's repealed or modified, the need to change America's healthcare system remains. Many of the changes noted in this handbook are regulations implemented by CMS and will remain in place even if the PPACA is repealed. Therefore, our focus is not on whether the PPACA lives or dies, but on the fact that healthcare needs to change and EMS needs to change as well.

New EMS delivery options are emerging and compelling fire departments to either take advantage of the financial incentives to save the healthcare-system money through a better quality of care or to comply with CMS's mandates. This new EMS delivery option has various names, including community paramedicine, mobile integrated health, mobile integrated healthcare (MIHC) and simply integrated healthcare (IHC). For the purposes of this handbook, *mobile integrated healthcare* and *MIH* will be used.

The National Association of Emergency Medical Technicians (NAEMT) highlighted more than 135 developed and functioning MIH programs across the United States in their report published in May 2015. The National Association of State EMS Officials did a study that found that 29 states, or 60%, had between one and twenty-five agencies within their states offering MIH-type services. MIH is not a fluke but a trend designed to solve the inefficiencies inherent in the ways traditional EMS is delivered.

The chapters of this book leverage the knowledge gained from the implementation strategies and the lessons learned from many developed systems. We share this knowledge to offer innovative and

creative fire chiefs a strategic approach to launch a program tailor-made for their communities. The chapters are organized into sections to help readers understand these key topics:

- Section I: Why Is Mobile Integrated Healthcare Important?
- Section II: Should I Consider MIH for My Department?
- Section III: How to Develop Financial Sustainability for an MIH Program and Identify the Organizational Benefits
- Section IV: Step-by-Step Approach to Developing an MIH Program
- Section V: Developing Your Knowledge of EMS/MIH so You Can Defend Your Innovative Proposals to Your Mayors, Councils and Boards
- Section VI: Appendix
- Section VII: Glossary

History proves that when change is needed, America's fire and emergency service rises to the occasion. For example, when the entire service-delivery model was turned on its head and the singularly focused fire-suppression industry adopted the paramedicine and EMS, the fire industry responded and implemented changes that continue to mark our systems today. For those who witnessed this change, it was a groundbreaking moment in our profession. It didn't come easy and there were many detractors.

MIH will be such a moment in our profession, also ushered in with both praise and criticism. The authors of this handbook hope that through reading it, innovative and courageous fire chiefs will gain support and guidance for change as America's fire and emergency service takes the lead.

This handbook is designed to accomplish the following:

- Provide a method for EMS providers to determine if MIH is appropriate for their communities
- Provide a systematic method of implementing MIH
- Provide an approach to financial sustainability in an MIH system.
- Demonstrate the need for change in our national and state reimbursement models to support MIH systems as a more-efficient method of delivering EMS to non-emergent patients

Section I: Why Is MIH Important?

CHAPTER ONE: HOW CHANGES IN HEALTHCARE ARE DRIVING CHANGE IN MEDICINE AND EMS

Healthcare in America

The Patient Protection and Affordable Care Act

The PPACA, commonly called Obamacare, was enacted into law by President Barack Obama on March 23, 2010. The PPACA has led to some of the most significant healthcare reforms since the 1965 creation of Medicare and Medicaid. The PPACA was enacted with several goals, including:

- Increasing healthcare access by improving the quality and affordability of private health insurance
- Decreasing the uninsured rate by expanding public insurance-eligibility benchmarks
- Reducing the overall costs of healthcare

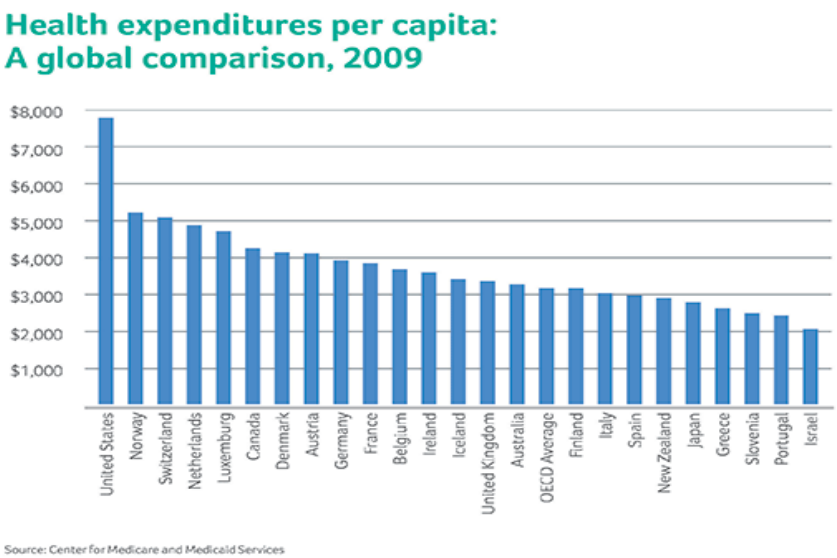
The PPACA sought to achieve these goals by introducing mechanisms like mandates, subsidies and insurance exchanges. Additionally, health-insurance companies were required to provide new minimum benefits to all beneficiaries and offer the same rates regardless of preexisting conditions or gender.

The need to improve healthcare access, quality and cost is underscored by the fact that the U.S. spends more money on healthcare than any other country in the world yet achieves only average results.

The Staggering Increases in the Cost of Providing Healthcare

The basic cost of healthcare continues to rise at a staggering rate. The CMS reports that total healthcare spending in the United States is expected to reach $4.8 trillion in 2021. When compared to the just $75 billion spent in 1970 and the $2.6 trillion spent in 2010, the anticipated costs of 2021 are staggering.

American families are facing an increasingly difficult challenge of balancing their own budgets as these healthcare costs increase. Individuals and families without health insurance aren't the only ones impacted by these costs. Individuals with health insurance coverage experienced a 7.2% increase in their share of healthcare costs between 2011 and 2012.



Furthermore, 26% of American families reported that they or a family member had problems paying medical bills in 2015; 58% of Americans reported

foregoing or delaying medical care in the past year.

It's also interesting to note that the United States has the highest rate of per-capita expenditures for healthcare, compared with 25 of the most developed nations in the world.

Lack of Coordination among Healthcare Providers

Just as the fire service has struggled with internal coordination of themes such as common procedures in incident command, common communication platforms and jurisdictional boundary disputes, networks of nonrelated, unconnected and uncoordinated components equally challenge the healthcare system. The wasted time, duplication of tests and procedures, and other consequences of uncoordinated activities are certainly among the reasons for the rising cost of healthcare in America and the need for coordinated care.

The Numbers of Uninsured

The significant number of Americans without health insurance compounds the cost problem and is responsible for another leg of the PPACA. In 2010, before the PPACA's passage, 16% of the population, or 50 million people, were without health insurance.

The PPACA's creation of insurance marketplaces and a requirement for states to expand Medicaid attempted to address this issue. The U.S. Supreme Court later struck down the Medicaid expansion requirement.

CHAPTER TWO: SETTING THE STAGE FOR CHANGE

What is happening around you? Throughout most of the American fire and emergency service's history, fire suppression has remained a primary mission. In most areas, fighting fires was the only mission for many years. Several departments began to provide supplemental services, such as a respirator in the Phoenix (Ariz.) Fire Department, in 1935.

In 1966, a white paper was written called *Accidental Death and Disability: The Neglected Disease of Modern Society.* This paper presented data showing that seriously wounded soldiers on the battlefields during the Vietnam War had a better survival rate than individuals seriously injured in motor vehicle accidents.

Key factors contributing to victim survival on the battlefield were identified as comprehensive trauma care, rapid transport to designated trauma facilities *and the presence of medical corpsman who were trained to perform certain critical, advanced medical procedures, such as fluid replacement and airway management.*

This realization gave birth to a new mission for the fire and emergency service, which was labeled emergency medical service and paramedicine. This was a significant paradigm shift for this very traditional, singularly focused profession. In many cases, some fire chiefs who would express "no one will put needles in the hands of my firefighters" strongly resisted this change.

The PPACA is a similar watershed event. It was passed in 2010 and ushered in one of the broadest reforms of the American healthcare system. The PPACA is often described as a three-legged stool due to its three main goals of requiring individuals to obtain health insurance, mandating the minimum essential benefits that insurance policies must provide and driving down the costs of healthcare. Though the PPACA itself makes little reference to EMS, it offers immense opportunities as well as challenges for the future of fire-based EMS agencies.

What Do Fire and EMS Leaders Need to Know

When looking at healthcare spending overall, CMS reports that EMS accounts for less than one penny of each dollar spent. This is why the original language of the PPACA didn't address EMS. Though direct spending on EMS represents a small fraction of overall healthcare spending, EMS indirectly generates large costs once patients are transferred to ambulances and then to emergency rooms.

Most EMS systems are required to transport all patients using ambulance services to emergency rooms, regardless of whether they need expensive and specialized care or simply first aid.

The one-size-fits-all process forces EMS systems to drive up the cost of healthcare as other components of the healthcare system (emergency room) are accessed due to no other options for care.

The U.S. Centers for Disease Control and Prevention reports that from 1997 to 2006, the number of ambulance transports grew by 13%. In 2006, there were more than 18.4 million ambulance transports, which accounted for 15.4% of emergency-room admissions. Many of these transports could have been handled by more appropriate levels of service, thus saving the system millions of dollars.

Those with Public Health Insurance Are Higher Users of Emergency Rooms

Research has shown that a patient's number and frequency of emergency room visits is associated with their insurance status. Generally, emergency room usage is higher for patients with public insurance (Medicare or Medicaid) than for patients with either private insurance or no insurance. Publicly insured patients are more likely to visit an emergency room than their privately insured and uninsured

counterparts are, and they're more likely to make multiple emergency room visits each year. The primary reason for this, especially for Medicaid patients, is a lack of access to care due to the shortage of primary-care physicians willing to accept the severely discounted reimbursement rates from Medicaid. This problem leaves many with no option for medical care except 911 and the local emergency room.

Does Having More People with Health Insurance Result in Higher Reimbursements?

This is an important statistic for a fire chief to know, since agencies providing EMS generally do not fully recover their costs when responding to calls involving publicly insured patients. Simply put, the cost of providing the services is more than the reimbursements paid to ambulance companies. The typical ambulance transport cost exceeds $1,500 but the transporting agency is unlikely to see a reimbursement from CMS that is more than 10-30% of that amount.

The paradox is that the PPACA will increase the numbers of those with health insurance, which will increase the number of 911 calls for the reason cited above. Yet the reimbursement rates for Medicaid patients won't compensate for the costs of providing the service. This can lead to a problem where EMS agencies could expect to lose more money as the number of patients with public health insurance rises.

It's important to keep in mind that while more reimbursement may come into an agency, that agency could still see rising amounts of lost money. Roughly 32–34 million Americans are expected to gain either public or private health insurance as a result of the PPACA. If the scenario plays itself out, this will likely cause increasing budgetary losses for EMS agencies as they struggle to put additional EMS units into service to handle the growing call volume. These losses may force local governments to choose between raising taxes, finding alternative reimbursement sources, reducing emergency services or changing the way we deliver EMS.

In 1984, several years after Medicaid was implemented, the federal government realized that public hospitals that were obligated to accept Medicaid patients were losing huge amounts of money because they were being paid pennies on the dollar by the government. To keep those hospitals solvent, the government passed legislation that created the Disproportionate Share Hospital (DSH) program that provided additional compensation to governmentally obligated providers of care to Medicaid patients.

In 2011, the fire and emergency service realized that the DSH program applied to them since fire departments are also obligated healthcare providers. As a result, the Ground Emergency Medical Transport Program (GEMT) was passed into law in California, Washington, Oregon and Missouri. Several other states are following suit. This will be an effort to solve this problem of the negative financial impact due to the rush of newly eligible Medicaid patients.

Who Will Pay our EMS Billings in the Future?

As the PPACA's reforms continue, there will likely be a transition from healthcare providers operating in silos to strategic partnerships and integration of many different stakeholders with a common goal. One such example is accountable care organizations (ACOs). CMS describes ACOs as groups of doctors, hospitals or other healthcare providers who voluntarily coordinate the care they're providing to their Medicare patients. CMS offers incentives for healthcare providers to join an ACO by promising to share cost savings with the ACO. ACOs are continuing to emerge across the nation as CMS is developing more regulatory language to implement the PPACA's reforms. As of October 2014, CMS reported that there were more than 330 ACOs across the United States; the latest studies show more than 600 ACOs.

Increasing numbers of providers and insurers are noticing this trend, which will likely cause the number of ACOs to continue growing. ACOs may become the ambulance provider's payer in the near future, if not already. It must be deduced that if the ACO will receive financial bonuses for saving money, they'll

examine the high cost of transporting minor patients to an emergency room when prudence tells us they don't need it.

Many are also looking at ways to combine ACOs with capitated payments. Rather than CMS or an insurance company paying for each service provided to a patient, capitated payments would be provided to an ACO as a set payment per enrollee to provide the complete continuum of care for a patient's particular health issue. If an ACO spends less for the care of a patient with a fractured hip than they're paid to provide it, the ACO keeps a portion of the savings.

Because of this issue of capitated payments, ACOs will be less and less likely to continue to pay for expensive ambulance rides to expensive emergency rooms for patients who don't require it. This will drive the opportunity to develop more specialized, innovative and cheaper forms of out-of-hospital care. Not only is this opportunity emerging, but our payers are beginning to require it.

Centers for Medicare and Medicaid Services

In addition to supporting the growth of ACOs, CMS has started a grant program to support innovative healthcare-delivery projects. CMS's Innovation Grants will distribute $1 billion per year for 10 years to support these projects. In the field of EMS, CMS has been particularly interested in the cost-saving ability of community paramedicine programs. CMS is particularly interested in the possibility of expanding the traditional EMS/911 response system from a reactionary one to a system that can monitor a patient after their discharge from a hospital and help connect them with other segments of the healthcare system to prevent their return to the hospital. Programs in New York, Arizona, Colorado and other states have all received considerable financial support from CMS. Alternative 911 receiving-facility projects are also being funded by CMS.

Value-Based Purchasing

Value-based purchasing is a program mandated by the PPACA. With this program, CMS has established key performance indicators for the clinical care provided by doctors and hospitals along with patient-satisfaction scoring. The better the healthcare provider performs within these two measurements, the more money they'll be paid in the form of bonuses. If they perform poorly, they'll be financially penalized. This has driven many hospitals to hire chief experience officers, who lead the charge to exceed patients' expectations. This leads to higher patient-satisfaction ratings, which will lead to higher bonus payments. These financial incentives have been in place for a couple of years for Medicare Part A Providers. CMS is mandated by law to implement value-based purchasing for Part B providers, which includes those that provide prehospital care.

Additionally, on April 11, 2016, the Obama administration announced the Comprehensive Primary Care Plus (CPC+) program. This is the largest-ever initiative to transform and improve how primary care is delivered and paid for in America. This model will be implemented in up to 20 regions and can accommodate up to 5,000 practices, which would encompass more than 20,000 doctors and clinicians and the 25 million people they serve. The initiative is designed to provide doctors the freedom to care for their patients in the way they think will deliver the best outcomes and to pay them for achieving results and improving care.

"Strengthening primary care is critical to an effective healthcare system," said Dr. Patrick Conway, CMS deputy administrator and chief medical officer. "By supporting primary care doctors and clinicians to spend time with patients, serve patients' needs outside of the office visit and better coordinate care with specialists, we can continue to build a healthcare system that results in healthier people and

smarter spending of our healthcare dollars. The Comprehensive Primary Care Plus model represents the future of healthcare that we're striving towards."

Building on the Comprehensive Primary Care initiative launched in late 2012, the five-year CPC+ model will benefit patients by helping primary care practices:

- Support patients with serious or chronic diseases to achieve their health goals
- Give patients 24-hour access to care and health information
- Deliver preventive care
- Engage patients and their families in their own care
- Work together with hospitals and other clinicians, including specialists, to provide better coordinated care

Primary care practices will participate in one of two tracks. Both tracks will require practices to perform the functions and meet the criteria listed above. Practices in Track 2 will also provide patients with complex medical and behavioral-health needs services that are more comprehensive. These include, as appropriate, a systematic assessment of their psychosocial needs and an inventory of resources and supports to meet those needs.

The Federally Funded EMS Compass Project

The National Highway Traffic Safety Administration (NHTSA) has been the federal agency responsible to coordinate EMS within the Department of Transportation for several decades. NHTSA provided several million dollars to create key performance indicators for EMS. NASEMSO has been leading the project to created 10 domains for EMS measurement:

- Patient and Family Engagement
- Patient Safety
- Care Coordination
- Population/Public Health
- Efficient Use of Healthcare Resources
- Clinical Process/Effectiveness
- EMS Workforce
- EMS Fleet
- EMS Data
- EMS Finance

Please pay special attention to the domains of Clinical Process/Effectiveness and Efficient Use of Healthcare Resources. If EMS continues to transport all patients in a very expensive ambulance to a very expensive emergency room—regardless of whether the patient needs such expensive and specialized services—will that service be deemed to perform well in those two domains? The answer is no.

The next strategic question to ask is whether the EMS Compass Measurements will be used for the mandated value-based purchasing program for EMS. This author believes there is a very strong possibility they will, but at the present time, there's no intent by NHTSA to use EMS Compass measurements in that way.

Develop the Right Mindset

Developing the right mindset across the field of EMS is important in evaluating responses to the PPACA's challenges and opportunities. Reducing cost in the healthcare system will require examining and reducing waste. The goal of waste reduction illustrates why CMS is considering moving its payment

policies from a fee-for-service-based system to a value-based system. For the field of EMS, this means thinking about how patients are treated and whether the right treatment is provided for the right complaint. When identifying whether your organization needs to consider innovative and more efficient EMS delivery options, ask these critical questions:

- Does every patient need multiple units responding in less than five minutes for the first response component and eight minutes for the ALS component of EMS?
- Could some patients be better served through non-emergent, scheduled visits through the 911 system?
- Does your organization have a one-size-fits-all response to EMS calls regardless of the chief complaint?

What Happens if the PPACA is Dismantled or Changed because of the New Administration?

The election of President Donald Trump in 2016 drastically altered the anticipated future of healthcare in the United States. President Trump and many republicans in Congress campaigned heavily on promises to repeal and replace the PPACA. While legislation to achieve this goal has not yet been enacted (as of this writing in June 2017), healthcare reform continues to be a top priority for President Trump, House Speak Paul Ryan (R-WI) and Senate Majority Leader Mitch McConnell (R-KY).

Also keep in mind that regardless of how one feels about "Repeal and Replace," the American healthcare system must change and adapt. Whether the PPACA is modified or experiences wholesale change, the following will still be true of EMS and solutions must be found:

- Our non-emergent 911 patient populations are continuing to increase.
- It isn't efficient to fund an extremely expensive 911 quick-response delivery system to respond to all non-emergent patients who don't *need* a quick-response system.
- We will still need to have a quick-response delivery system to care for those patients whose medical conditions do need a quick response.
- A delivery system like MIH will be a complement to the existing EMS quick-response delivery system.
- Obamacare repeal and replacement won't change the situations listed above nor change the need to make EMS more efficient and financially effective.

CHAPTER THREE: AMBULANCE TRANSPORT REIMBURSEMENT CHANGES

For years, the only reimbursement available for EMS was ambulance-transport billings. By limiting reimbursement to transport billing only, the entire continuum of EMS care was ignored, or it minimized the receipt of the call and the first-response component that often stabilizes the patient. Only after these components, the transportation can occur. For those in the ambulance-transport service, we know that public insurance such as Medicaid and Medicare pay pennies on the dollar when compared with commercial health insurers.

Over the last 10 years, changes have been occurring that will catch many unprepared. Per-transport reimbursement has been decreasing and per-transport costs have been increasing.

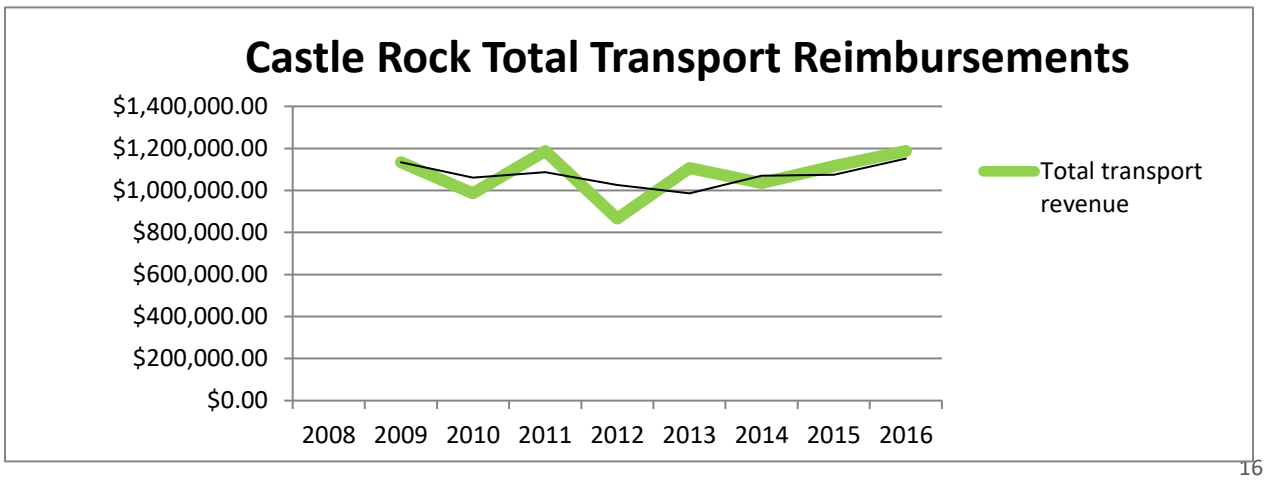
Per-transport reimbursement has decreased because more people are transitioning from commercial health insurance to Medicare when they retire. This can amount to an approximate 70% loss in per-transport reimbursements. (This is based upon the average cost of ambulance transports of $1,500 being reduced to a Medicare rate of $460 which is a 69% loss of revenue.) When transitions from commercial insurance to Medicaid occur due to the PPACA, this loss can up to 92% ($1500 average commercial rate compared to a $125 Medicaid rate in California).

These shifts have been happening under the surface and have been hidden by the fact that our EMS transports have been going up. Due to 5-10% increases in patient transport, our *yearly total* ambulance-transport reimbursement has been either flat or increasing at small percentages. The clue that something is wrong should have been that our reimbursement has not been going up commensurate with the increase in patient transports. In 2016, a project was undertaken by the IAFC's PPACA Task Force to determine if this scenario was playing out across the United States.

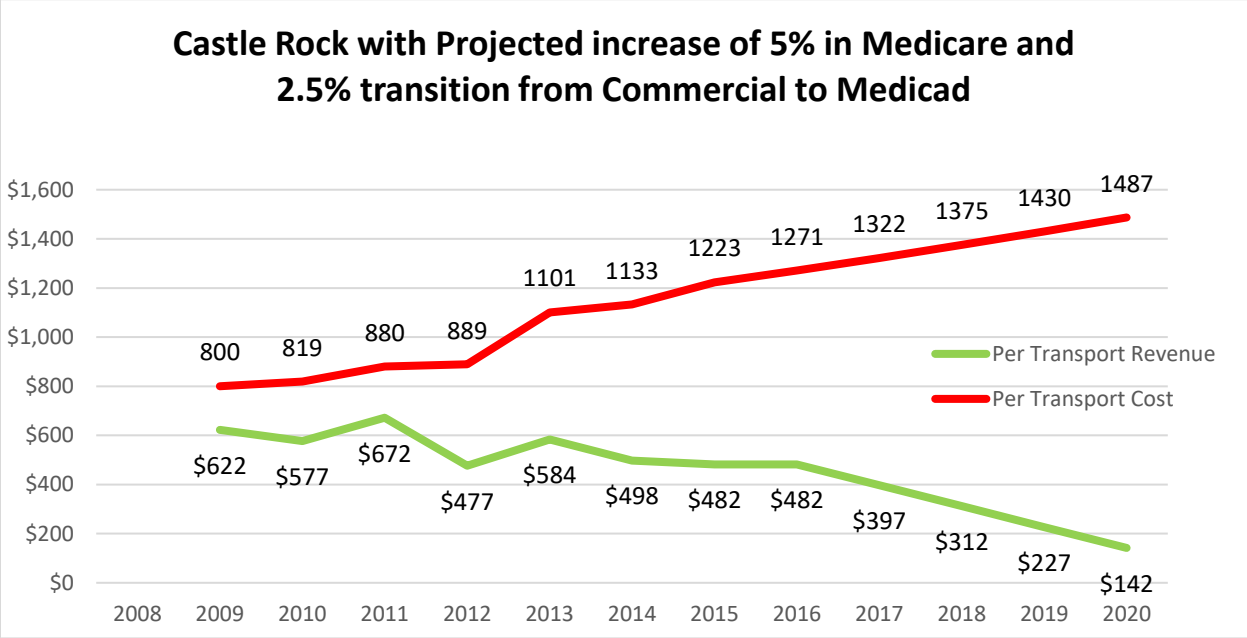
The graphs below of Castle Rock, Colorado, are based on real data over the last eight years and these projected assumptions:

- Patient transports continuing to increase at an annual rate of 6.5%
- 5% increase in transitions from commercial insurance to Medicare as more of the population retires
- A 2.5% increase in transitions from commercial insurance to Medicaid as more of the population qualifies for Medicaid due to changes encouraged by the PPACA
- An annual increase in costs of 4%

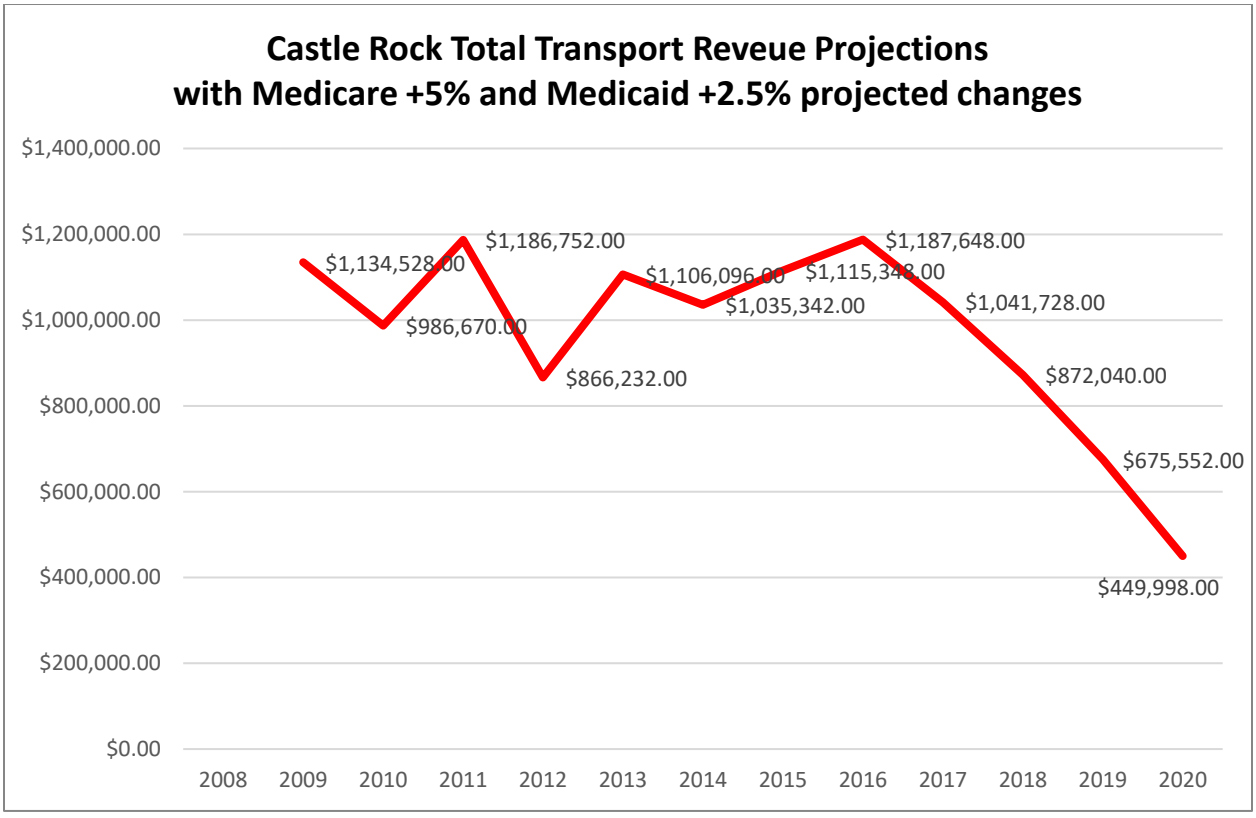
The first graph dramatically illustrates this under-the-surface scenario. In Castle Rock's case, the *yearly total transport* reimbursement has been going up:



However, the second graph with a comparison of per-transport reimbursement versus per-transport costs projected to 2020 shows a highly negative trend:



This under-the-surface scenario will rocket to the surface very soon, as seen in Castle Rock's total projected reimbursement to 2020:



This per-transport-cost versus per-transport-reimbursement loss scenario will be compounded when a department places a new EMS response or transport unit in service to comply with often self-imposed response-time criteria—a criteria that for about 90% of our patients doesn't positively or negatively affect their health outcomes!

Think of most of your call types. Does an eight-minute response time for ALS resources improve their health outcomes? Generally, the answer is no. A short response time will certainly improve the outcomes of a major traumatic injury, CHF, severe asthma, etc., but that only accounts for about 10% of our call load.

CHAPTER FOUR: FIRE DEPARTMENT RELEVANCY

The fire and emergency service has a rich tradition of maintaining its status and relevancy within the communities it serves. One significant area it has struggled to gain relevance in is the healthcare community. The fire and emergency service has delivered EMS programs to its citizens since the early 1970s, a service that encompasses up to 80% of service activities for some communities. However, the professional and industry relevance that should come with an activity that comprises such a large percentage of the industry activity is absent.

Since the PPACA's implementation, gaining relevance within the healthcare industry has never been more important for the fire and emergency service. Why is relevancy important? Without it, the EMS portion of our business can be taken away as the healthcare industry reinvents itself. If we don't have a seat at the table as the reinvention occurs, we'll be left out of the solution.

To be successful in establishing relevance within the healthcare industry, local fire service agencies must target five specific strategic goals:

- Reduce the healthcare-system cost of delivering EMS service
- Improve the healthcare-system quality of care for delivering EMS service
- Demonstrate the value of fire-based EMS
- Measure and adapt service levels based on customer-satisfaction ratings
- Redefine the fire-based EMS delivery system into an agile and nimble organization

Segments of private-sector EMS have already restructured their deployment models and drafted comprehensive changes to their operation plans and are simply waiting on healthcare-market timing to implement their plans (in some cases nationwide). Fire departments need a roadmap to move forward on possible fire-based EMS restructuring opportunities, and fire service leaders need to lead and advocate at the *local level to guide their systems to the future successfully.*

As with all federal changes that affect the fire service, you may be asking yourself, "How does the PPACA affect my fire department?"

Again, this is answered at the local level. A number of regional and local healthcare markets exist within the national framework of healthcare systems. The changes coming to those systems locally are what matter most to individual fire departments. We won't all be faced with the same threats or opportunities. The changes you need to address will have more to do with specific healthcare challenges facing the citizens you protect, not an aggregate of the national healthcare picture.

The fire service will face significant threats because of the PPACA, and it's the responsibility of fire service leaders to protect their communities from these threats. The best way is to improve the relevance of the fire service in the healthcare industry at the local level. Five strategies can be used by local fire service leaders to improve their relevance:

- *Reduce the healthcare-system cost of delivering EMS (or someone else will)* – Reducing the cost of EMS service delivery should be measured by the total cost of the intervention, not just the cost of the fire service delivering the service. Variables such as ambulance transport, emergency-room fees and hospital admittance should be added to the equation. Additionally, cost-avoidance strategies and frequent-user data should be included.

- *Improve the healthcare-system quality of care for delivering EMS service* – Fire-based EMS must establish consistent methods for demonstrating and measuring quality. The healthcare system

has created and implemented many quality measurements as baseline standards. Fire-based EMS must first catch up and then surpass the healthcare-industry quality standards to establish some form of relevance.

- *Demonstrate the value of fire-based EMS* – Demonstrating value is the most effective way to gain relevance. Implementing and measuring the effectiveness of our efforts to reduce cost and improve the quality of our healthcare-delivery programs is the most effective way to demonstrate the value we bring. This effort must entail a factual demonstration of value that is inherently evident to the healthcare community. Fire-service organizations must develop strategies to build the data needed to support value statements we assume to be true. Once we develop and track the data to support our assumptions, the assumptions become facts that the healthcare industry will recognize and pay for. Financial incentive is the only true way to measure value.

- *Measure and adapt service levels based on customer-satisfaction rating* – The healthcare industry is mandated to measure customer-satisfaction ratings. Very few fire-based EMS systems measure customer satisfaction of EMS service delivery, and even fewer utilize the information to address system change. It's essential that service delivery be measured and driven through customer-satisfaction strategies.

- *Redefine the fire-based EMS delivery system into an agile and nimble organization* – The healthcare industry is a highly adaptive, ever-changing environment. Transforming the fire-based EMS system into a similar environment is perhaps the largest challenge we face. Strategies must include training and equipment that allow for rapid implementation of new patient treatment and destination options driven by quality improvement and customer-satisfaction measures. Change implementation must be measured in months rather than years.

CHAPTER FIVE: IMPROVING ORGANIZATIONAL EFFICIENCIES

Continuous quality improvement is the cornerstone of professional organizations. Systems and processes should be evaluated for areas in need of improvement in organizational and operational efficiencies. EMS has largely remained unchanged for decades and existing models may not be the best method for service delivery. Cookie-cutter templates for service delivery must be reevaluated to improve efficiency and effectiveness.

Perpetuating a model that requires little innovation is a disservice to community expectations. Overall, healthcare is experiencing a renaissance of innovation. EMS providers must reinvent delivery methods to remain relevant.

The predominant role of most fire-service agencies is providing EMS in some manner. The preferred model is emergency-service activation through a medium such as 911, emergency response from the closest available resource and transportation to an approved receiving facility. Through this traditional model, the public and providers alike have been conditioned to over-utilize emergency services.

Faced with a burden of growing service demand, reduction in reimbursements and more-complete implementation of the PPACA, providers are compelled to evaluate existing models to improve organizational efficiencies.

The continuum of patient care is evolving to be more outcome-based and includes data analysis and prevention, service activation, appropriate response and treatment, transportation or referral to an approved healthcare facility, follow up and rehabilitation. Reimbursement will be based on best practice, customer satisfaction and patient outcome. ICMA (2010) states, “EMS systems need to incorporate a series of outcome, process and balancing measures that can be viewed over time to aid in process improvement and reduction in variability.”

Organizational Delivery System Reform

EMS providers should evaluate systems for providing the right service at the right time for the right reason. Each community demographic and patient population is different; therefore, cookie-cutter systems are no longer efficient nor financially viable.

Step 1: Conduct a needs assessment.

- Conduct a needs assessment, develop a plan of action and execute the plan.
- Review the data. What is your EMS problem?
- Review your educational component. Is it commensurate with the level of service provided?
- Review the research. Become educated on the PPACA and related trending. Understand state and local laws related to EMS.

Step 2: Develop a plan of action

- Convene a steering committee of diverse stakeholders. Include multidisciplinary participants in cross-functional teams to provide a pluralistic viewpoint towards problem solving. Also include community representation.
- Discuss major findings from Step 1. Develop strategic plans to address findings.
- Assign timelines for benchmarking and deliverables.
- Present to the local authority, community leaders, civic groups, etc.

Step 3: Execute the plan

- Inform and educate the public on the plan.

- Implement and evaluate. Customer feedback instruments are imperative. Customer satisfaction influences reimbursement models.
- Adjust as necessary.

Redefining Response Policies

The American fire and emergency service is predominantly response oriented. Response policies should be amended to include proactive actions to reduce the need for system access. The fire and emergency service is well versed in fire-prevention strategies; the same concept should carry over to EMS.

Specific patient populations may be better served through proactive visitation, education or connection with social services. Consider high users due to chronic medical conditions exacerbated by limited access to healthcare, anxiety or poor living conditions. Detailed history and evaluations may identify unmet needs that could limit or eliminate the need to access emergency services.

All high-risk activities should be evaluated. Emergent responses are high risk, though it's the generally accepted response mode for any 911 activation. What little time may be saved driving lights and siren has little, if any, clinical significance with low-acuity calls. Consider priority dispatch and non-emergent response for low-acuity calls.

Emergency medical dispatching enhances the continuum of care by delivering prearrival instructions to those accessing emergency services. No doubt, morbidity and mortality is reduced. Emergency communication systems should evaluate the benefit of third-party referral for low-acuity or medical-advice calls. Poison centers have been doing this for decades with great success.

Leveraging Fire Department Infrastructure

Fire-service agencies are poised to deliver premier EMS services. Personnel, strategically located fire stations, apparatus, communication systems and high favorability with public opinion make the fire service the optimal EMS provider.

Personnel

The level of vetting that firefighter candidates receive, along with their training and community relationships, makes firefighters ideal candidates for EMS providers. These same characteristics can be capitalized on and adapted to complete comprehensive healthcare-delivery strategies. Firefighters cross-trained to the paramedic level are ideal candidates for more comprehensive training as advanced-practice paramedics, critical-care paramedics or community paramedics.

Most firefighters are familiar with high users located within their response areas. Through these patient contacts, many can be identified as candidates for referral into MIH programs.

Stations

Many fire-service agencies are innovative in the use of existing resources to improve service delivery. Fire stations or attached community rooms may be repurposed to double as minor medical clinics. Paramedics, advanced practice paramedics or mid-level practitioners can staff these facilities.

Apparatus

Fire apparatus and ambulances are traditionally used to provide EMS. Lightweight vehicles should be evaluated for appropriateness for medical responses. Squads are maneuverable, lightweight and more appropriate for frequent use than traditional fire apparatus.

Communication Systems

Fire agencies utilize a central communication or 911 receiving facility. Emergency medical dispatching is becoming commonplace. EMD should be evaluated for expanding responsibility to include priority dispatching and third-party referral.

Conclusion

EMS delivery models have been largely unchanged for decades and focused almost exclusively on the acute condition. Single response solutions are not in the best interest for all. Providers must continuously evaluate services and determine if the most appropriate care is being delivered at the right time. The fire service is at the cusp of affecting significant positive change in the delivery of healthcare in the prehospital environment for the benefit of those we serve.

Section II: Should I Consider MIH for My Department?

CHAPTER SIX: IS MIH RIGHT FOR YOU? EIGHT QUESTIONS TO DETERMINE IF MIH COULD BENEFIT YOUR ORGANIZATION.

Is MIH in its varied forms right for all fire departments? The answer is easy: No! There are eight questions that when answered determine if MIH is right for your department now or in the future. The answers to the questions will also show the affect MIH could have on ambulance-transport reimbursements as they compare to the costs of providing services. The real-life scenarios of departments facing this decision may shock you. Let's begin by reviewing the history of MIH.

A Familiar Story: Paramedics in the 1970s

When paramedics were introduced in the 1970s, many asked why we should do this. EMS and certainly paramedicine was a major departure from the traditional role of the fire service. Questions were being tossed about, such as:

- What is the educational standard?
- Are firefighters qualified and capable to perform these complex tasks?
- What about the inherent risk in field medical procedures?
- Who will pay for it?
- Why us?

In the 1970s, these were good questions that needed good answers. Early adopters answered many of those questions as the program matured.

It's noteworthy that many fire departments implemented paramedics with no expectation of payment. For them, it was the right thing to do. When reimbursement for ALS transports developed in the late 1980s, many more organizations followed suit.

Today, MIH is causing a similar stir within the fire and emergency service. It's interesting to note that the same questions that were asked about implementing paramedics in the 1970s are being asked today regarding MIH, and rightfully so. Talk of MIH has sparked differing opinions and erupted in aggressive dialog. This isn't necessarily a bad thing.

The Playing Field Has Changed

When paramedics were first implemented, the majority of 911 calls for EMS service required paramedic intervention. It's estimated that 75% of EMS calls required the skills of a paramedic.

Some 45 years later, the playing field has certainly changed. In many busy systems, only 25% of the total EMS calls require the skills of a paramedic. The remainder requires some sort of medical intervention below the scope of practice of a paramedic. In fact, many of the 911 calls for service are not emergent at all. It's problematic that many departments engage paramedics when that skill level isn't needed or necessary. Innovative solutions are being developed to care for patients who don't have emergent medical conditions yet still call 911. Therefore, the playing field has changed for many fire departments, which has laid the ground to develop MIH programs.

Three Types of MIH Departments.

Type One: Many departments have entered into the various forms of MIH service delivery with no expectation of being compensated for their service. To them, it was the right thing to do for their citizens and their communities. Reimbursement would eventually be nice, but it clearly wasn't a qualifier for them to start their programs. This characterizes not only those Type One departments of today, but most fire-service agencies that implemented paramedics in the 1970s and 1980s.

For example, the Rio Rico (Arizona) Medical and Fire District is this type of organization. Serving a rural area along the United States-Mexico border, the district identified gaps and worked with stakeholders to create a program. Since their start in 2014, they have garnered widespread community and state support through mulitlevel outreach efforts.

Type Two: These departments have implemented MIH programs as a proof of concept and started from the beginning with the expectation that eventually the reimbursement to fund the program would come. To them, the need for MIH was evident in their communities. For many, it was evident in their own departments as well. They failed to see the logic in continuing to throw very expensive emergency response resources with a 6- to 10-minute response-time expectation at a problem that didn't require the traditional 911-EMS delivery system.

In some systems, such as the Kent (Washington) Fire Department, an MIH program saved them money. Kent Fire's MIH program helped them reestablish a 90% reliability factor in their response times without adding additional 911 units. In other words, Kent Fire's units were now available to handle a response 90% of the time as opposed to lower reliability measures before implementing their MIH programs.

Type Three: These departments will wait until the reimbursement programs are well-established and then decide to move. By this time, however, the profitability of MIH will have been well-established and a private entity may have entered this department's market and taken the profitable components. This is what happened during the evolution of the paramedic program. For those fire departments that were late adaptors, private ambulance companies came into their jurisdictions and took the profitable component of paramedicine, which was the transport piece, leaving fire departments to take what was left, which had no reimbursement potential at all.

Eight Questions to Ask to Determine if MIH is Right for Your Department

#1. What is your ambulance transport reimbursement per call?

Ambulance reimbursement per transport can be easily calculated by taking the total transport reimbursement received in a year and dividing that by the total number of transports per year for each of the last eight years and graphing the results and observing the trend. You'll likely see a significant downward trend.

#2. What is the cost per transport of providing ambulance service?

The cost per transport can be calculated as follows:

1. Calculate the total yearly salary and benefit costs to staff all ambulances.
2. Add the yearly costs for all ambulance EMS equipment, including depreciation for major items such as defibrillators.
3. Add the yearly EMS supply costs.
4. Add the yearly vehicle depreciation costs for your ambulance fleet.
5. Add the yearly vehicle maintenance costs, including fuel.
6. Divide this total by the total number of ambulance transports in a year.

Calculate this for each of the last eight years, graph the results and observe the trend. You'll likely see a significant upward trend.

#3. Is the cost of maintaining an ambulance transport program running away from your reimbursements?

On a single graph, compare the per-transport cost against per-transport reimbursement. Using the same percentage of increase and decrease in your eight-year retrospective study, project your per-transport reimbursement and costs for the next five years. There will likely come a time when a death cross—where your costs exceed your reimbursements—occurs if it hasn't already.

This scenario may be masked by the fact your EMS-transport call load has been increasing each year, thus allowing you to collect more money. Ask yourself the question: if my call-transport volume increases 8% each year, why isn't my total ambulance transport reimbursement also increasing 8% per year?

Doing this calculation will show why this is occurring and where you'll be in a few years or the drastic change that will occur overnight if you add another ambulance to your fleet to maintain response-time commitments.

#4. What percentage of your population is moving into Medicaid?

It's true that most members of our communities moving into Medicaid didn't have commercial health insurance. Depending upon how your state has handled Medicaid expansion, there may also be some low-wage workers who had had employer-sponsored commercial insurance but now qualify for Medicaid. Each time this occurs, your reimbursement for an ambulance transport of these types of patient's decreases by up to 92%, depending upon your Medicaid transport rates.

#5. What percentage of patients in your service area are aged 60 or older?

This is a critical issue due to the Baby Boomers who are turning 65 at a rate of 10,000 per day. As Baby Boomers retire, most will transition from commercial health insurance that almost completely reimburses the full ambulance transport cost, to Medicare, which reimburses approximately $460 for a transport. In a system with an average ambulance transportation cost of $1,500, this second scenario will result in a 69% reduction in reimbursements for each person who transitions to Medicare.

Compounding this problem is that those who are 65 and older will likely require more of your agency's ambulance service. The more people in your jurisdiction who transition to Medicare, the more significant the downward pressure will be on your reimbursements.

#6: What is your EMS-unit cueing rate, or percent busy?

This measurement will help you determine how an MIH program will financially benefit your department, even if no reimbursements are available. To determine this measurement, calculate the percentage of EMS calls where your individual units are unavailable to respond in their first-due area, thus requiring a response from a second- or third-due unit. For those calls, also identify the response-time cost. In other words, every time a first-due unit is unavailable, there will be a longer response time from the second- or third-due unit.

Many fire chiefs strive for a 90% reliability rate or a 10% cueing rate. The higher the cueing rate and response time cost, the greater the impact on your department's overall response-time commitment.

Explained differently, if you have a 25% cueing rate that costs an additional three minutes of response time for those calls, it will negatively affect your overall response-time commitment for your entire organization. These delays potentially produce negative outcomes and drive you closer to adding

additional units to decrease your overall response time. Calculate your cueing percentage trend over the last few years. Calculate each EMS unit's 90% yearly response time over the past eight years.

If the trend is upward and more than your response-time standard or commitment to your community, you're closer to needing to add an additional response unit. Adding additional 911 resources is very expensive. If a fire chief must add an additional response unit, which may be the tipping point that drives a department overnight from a break-even position on ambulance transport reimbursements to a significant loss. If an MIH unit could take enough non-emergent calls out of the 911 emergency system, it could result in a decrease in the cueing rate and an increase in unit reliability. It may eliminate the need for the addition of another EMS unit; that alone may save your department $500,000 to $1,000,000. This is more than enough money to pay for an MIH unit.

#7: What is the size of your MIH patient pool or the percentage of ALS interventions versus BLS interventions?

If an MIH program is going to be worth the effort and be financially sustainable, you must have a sufficient pool of patients who need this program. MIH is not designed to replace paramedic interventions. It's designed for those who call 911 for non-emergent needs. If you have a BLS call rate that is above 50%, there may be enough patients to establish an MIH patient pool. The higher the BLS call percentage is above 50%, the better your chances are for financial sustainability.

If a department has priority dispatch, the volume of alpha calls may be an indicator of how many MIH patients are in your 911 caller profile. As we'll discuss later, financial sustainability will be driven by a financially sustainable unit-hour utilization (UHU) rate and sufficient number of reimbursable calls. This will depend to a great degree upon the size of your MIH patient pool.

#8: What will your MIH business model look like?

There are several types of MIH programs or MIH program add-ons. These add-ons should be driven by the needs of your MIH population pool. They should also be driven by the idea of developing a sufficient UHU rate for your MIH units.

Let's take an example of a typical ambulance transport program. Let's say that total costs to operate one ambulance is $2,600 per 24-hour shift, which includes salary costs, benefits and vehicle costs (such as depreciation, equipment and supplies). The ambulance transport rate is $1,500 per transport. After the write-offs of Medicare, Medicaid and non-reimbursements are factored in, the collection rate is 48% or an average of $720 per transport. It would take 3.6 transports to pay for your costs or to reach breakeven.

If a transport takes 60 minutes from dispatch to availability, that would be a UHU of .15. (3.6 hours divided by a 24-hour shift). If that ambulance ran less than 3.6 calls per shift, or less than a .15 UHU, then that transport entity would be losing money. If a UHU rate was above .15, the entity would be making money. Many would say that to maintain system reliability, an ambulance UHU rate should not exceed approximately .35. If an MIH unit for that same entity costs $866 per eight-hour shift (the cost of a 24-hour ambulance divided by three) and the commercial collection rate for that MIH intervention is $200, then that unit would need to run 4.3 calls per 8-hour shift to break even or a UHU rate of .53, assuming each MIH intervention is one hour. This is also assuming an MIH collection rate of $200.

Under the Arizona Healthcare Cost Containment System (AHCCCS), when the state Medicaid provider begins to pay Arizona fire departments for their MIH treat-and-release interventions, that rate will likely be a little over $203.80. Commercial insurance rates should be higher. Keep in mind that if the MIH unit runs scheduled appointments, the UHU can be much, much higher.

The key point to this question is what MIH add-ons you can implement into your MIH plan to maintain a profitable UHU. Examples of MIH add-ons are:

- Non-emergency 911 patient interventions that avoid an ambulance-transport cost and emergency-room admittance; this is commonly referred to as *treat-and-refer* or *treat-and-release*
- Hospital discharge interventions that will hopefully avoid a hospital readmission
- Frequent-flyer interventions that will hopefully avoid a 911 call
- Mental-health MIH component

There's no doubt that running an ambulance transport component is expensive. Three factors make such a system very expensive:

- When a system can only collect 48% to 65% for every dollar billed
- When, in order to maintain system reliability, it can only use an emergency response unit 35% of the time
- When reimbursement per call is decreasing due to shifting payer mixes

Suffice it to say that the future of 911 ambulance-transport reimbursements are bleak.

As you answer these eight questions, you'll determine:

- Whether your costs are running away from your reimbursements and when you'll experience the death cross if your system continues to operate as it does. (Questions 1-3)

- What external pressures exist that will accelerate the downward pressures on your ambulance transport reimbursements. (*Question 4 and 5*) The higher the percentages for questions 4 and 5, the more your future projections of reimbursements will be forced downward below the trend line of your eight-year retrospective reimbursement study.

- *Question 6* will help you identify existing or future pressures on your response-time commitment and the pressures the fire chief will experience to add another emergency-response unit. If this is a dilemma you're currently facing, add the additional costs of a new unit to the per-transport cost. You'll be amazed at what this does to the reimbursement and loss scenario and how your transport reimbursement and loss situation will be drastically changed for the worse.

- *Question 7* will help you determine if your local scenario can possibly support an MIH unit.

- *Question 8* will help you determine if you can financially maintain an MIH UHU through carefully designing an MIH business model. The model's design must be carefully considered and calculated, understanding that each MIH intervention that avoids an ambulance transport (the goal) will reduce the reimbursement for that same ambulance provider. A carefully designed MIH business model can actually financially profit a fire-based ambulance provider when that agency can avoid placing a new unit in service due to a high cueing factor (*Question 6*)

The Seemingly Elusive MIH Reimbursement Stream

It's a fact that an MIH intervention that accomplishes treat-and-refer or treat-and-release will save an insurance company approximately $2,500 per intervention. A 911 ambulance-transport cost of $1,500 plus the average cost of an emergency room visit of $1,423 equals $2,923.

Let's establish the cost of an MIH intervention that avoids such a 911 transport as $350. That's a savings of $2,573 to the insurance company. This is an appealing number to an insurance company. In January 2017, CMS started paying Arizona MIH providers more than $200 for every treat-and-refer Medicaid intervention. Many other MIH providers are charging for their service and others are close to doing so.

Summary

In most ambulance-transport agencies, an insidious condition is developing below the surface. In most fire departments that provide ambulance transportation, overall ambulance-transport reimbursements for a year may be flat or increasing slightly because EMS transports are trending up. However, the system may be on the verge of losing money. This can be seen by comparing the cost-per-transport to the reimbursement-per-transport over a period of eight years and seeing if a death cross has occurred or soon will.

A properly designed MIH deployment strategy will have a much lower cost per intervention compared with the cost of an emergency transport. A projection study should be done that will predict when a "golden cross" will occur—when a graph showing the reimbursement of a single intervention, either a 911 transport or MIH intervention, upwardly crosses the line graph of the individual cost of providing each of those interventions.

CHAPTER SEVEN: MIH AND THE VOLUNTEER OR COMBINATION DEPARTMENT

Many volunteer agencies and combination departments wonder if MIH is a fit, considering their limited provision of transport services. The delivery of transport services is *not* required for the implementation of an MIH program. This misunderstanding keeps some fire departments from exploring all potential opportunities to deliver a different type of service while reinforcing their relevancy within their communities. Consider the following information:

> **Fact:** Most fire departments are volunteer or combination departments and need a source of additional income.
> **Opportunity:** MIH may provide a source of income.
>
> **Fact:** Fire departments are geographically deployed throughout the community to reduce response times.
> **Opportunity:** Fire departments are more efficiently placed and can become the most effective resource to address the ongoing needs of a patient by reducing patient wait times and improving the customer experience.
>
> **Fact:** Personnel costs are the most expensive component of delivering healthcare in the field.
> **Opportunity:** Fire departments of all types represent a standing army available for all responses and can be a cost-effective way to managing the non-emergent aspects of mobile integrated healthcare.

None of these assertions is contingent on transport capability. What is suggested, however, is that the strengths of these agencies and departments align well with potential transport partners to better meet the needs of the patient by placing the right resource on scene to assess patient needs and minimize the need for transport.

Case Study

In a suburban Minnesota community, the fire chief of a -non- transport department approached the local transporting hospital system to discuss ways to improve outcomes for recently discharged patients. The chief met with the hospital's leadership to explore where those gaps might exist.

During discussions, it was discovered that both the fire department's and the hospital's concerns were almost identical. Until this meeting, there had been no attempts to reach out from either side. Common goals facilitated immediate action and the idea of a pilot project.

As discussions progressed with the hospital, it was important to show that the fire service can work together across borders to assist when demand requires it and deescalate as demand returns to normal. What fire departments refer to as mutual aid is a strength of fire departments because our scalable staffing models is cheaper than that of a hospital system maintaining fulltime staff to meet unpredictable demands. Thus, the pilot included five metro and suburban fire departments that received the majority of the discharges from this hospital.

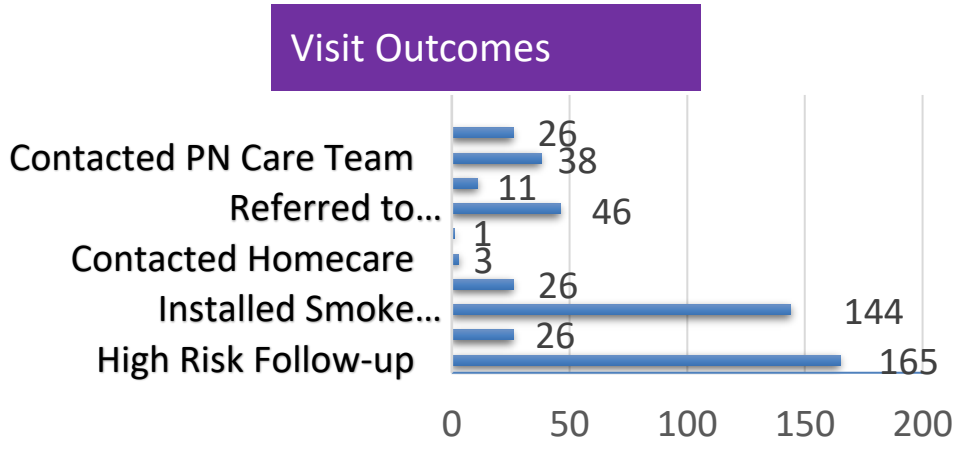
The concept was simple: create a system that alerts the fire departments in these cities when a patient is discharged and the fire department will check in on the patient. The process that was created through a joint exercise involving hospital and fire department staff created a set of products, such as a patient checklist, the review process for discharge paperwork, a safety assessment for the home and a

collection of resources, including food shelves that could be connected to in order to ensure optimum transition of the patient. The tenets of the program follow Dr. Eric Coleman's Safe Transitions model and are aligned with the PPACA's Triple Aim priorities.

This pilot, which is now completing its second year, has created exceptional outcomes for the community and the hospital system without any EMS transport intervention.

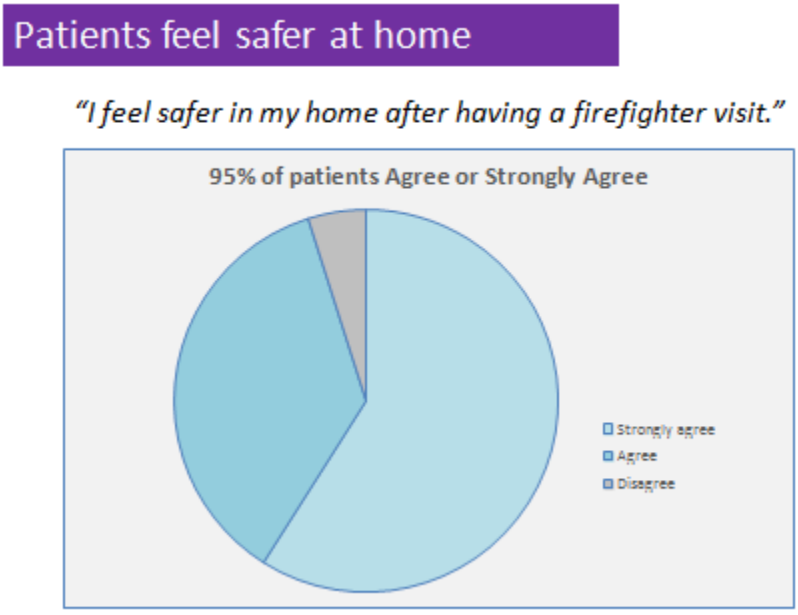
Detailed below is an example of a process to follow for these types of visits and approach to mobile integrated healthcare.

Below are the results achieved after two years of the pilot. They show how a program can have a recognizable impact on the safety and resiliency of its residents.



Are you making a difference?

Being able to measure customer satisfaction of the work you do is an important criterion of MIH. Unless you're measuring your effectiveness, you really don't know where you stand.



This pilot is just one example of how considering a different approach can create opportunities. The success of this pilot proves that when the patient's outcomes are prioritized, the ability for collaboration, partnerships and new potential reimbursement streams also become part of the equation. Once you remove the barrier of transportation, you're only limited by your creativity to become part of this exciting opportunity called MIH. Seek out departments that have created solutions that aren't transportation-reliant for ideas on how to build a model that works for you.

A History of Adaptability

An important strength of the fire service is our adaptability. Finding ways to add value when we're limited by budgets is something fire departments have doing for a long time.

What we must not do is limit our innovation and passion for doing what's right for the patient. Approaching MIH when you don't transport can be a great example of that. A critical analysis of where the gaps exist in service allows you to develop a service that isn't redundant, doesn't require transportation and in many cases can be implemented without increased staffing.

Section III: Develop Financial Sustainability for MIH Programs and Identify Organizational Benefits

CHAPTER EIGHT: DEVELOPING FINANCIAL SUSTAINABILITY

This chapter offers ideas that will lead to financial sustainability for an MIH system. It builds on the ideas from ***Chapter Six: Is MIH Right for You? Eight Questions to Determine if MIH Could Benefit Your Organization*****.** The following is an outline of this concept.

1. Design a system with the types of personnel that can bill for services per your state's healthcare billing rules.

It's essential for a potential MIH provider to have a thorough understanding of federal, state and local statutes and regulations regarding billing for EMS/MIH services before a staffing model can be designed.

In many states, paramedic providers can only bill for services if the patient is transported to an approved emergency facility. Unfortunately, this is an archaic system and not conducive to obtaining reimbursement for an MIH service.

While it will be necessary for an MIH provider to work towards changing these statues and regulations to create the most financially viable system, there are work-a-rounds if your state has placed billing roadblocks in your strategic path. A nurse practitioner can bill for services and has an enhanced scope of practice to provide certain medications and allow a patient to stay at home and is able to treat and release and treat and refer in many states.

The major requirement is to design the staffing plans with personnel that have the type of medical licenses and certifications that provide the greatest flexibility for billing and scope of practice. This includes the ability to treat and release or treat and refer patients to an alternative facility such as an urgent care clinic.

2. Target a UHU rate that will at least pay for the costs of the MIH unit.

As was identified in a previous chapter, there are several types of MIH program add-ons. These add-ons should be driven by the needs of your MIH population pool and by the idea of developing a sufficient UHU rate for your MIH unit(s), which will also drive your reimbursements to support the program.

Take an example of a typical ambulance transport program where the total costs to operate one ambulance is $2,600 per 24-hour shift, including salary costs, benefits, vehicle costs including depreciation, equipment and supplies. Assume the ambulance transport charge is $1,500 per transport and, after the write offs of Medicare, Medicaid and non-reimbursements are factored in, the collection rate is 48%, leaving an average of $720 in reimbursement per transport.

With this reimbursement per transport figure, it would take 3.6 transports per 24-hour shift to recover your costs or to reach breakeven. If a transport takes 60 minutes from dispatch to availability, that would be a UHU of .15. (24-hour shift divided by 3.6 hours.) If that ambulance ran less than 3.6 calls per shift or less than a .15 UHU, then that transport entity would be operating at a net loss. If a UHU rate were above .15, the entity would be operating at a net profit.

If an MIH unit for that same entity costs $866 per eight-hour shift and the commercial collection rate for that MIH intervention is $200, then that unit would need to run 4.3 calls per 8-hour shift to break even. This would be a UHU rate of .53, assuming each MIH intervention is one hour. Remember that MIH units are not paid to transport patients and can handle more responses per shift since they're not subjected to the potential time and UHU killing metric of hospital wait times.

When AHCCCS begins to pay Arizona fire departments for their Medicaid MIH treat-and-release and treat-and-refer interventions in 2017, the proposed rate is $203.80. Commercial insurance rates should be higher. (Note: $200 is only used as an example and not a suggestion of what an MIH agency would bill for such a service. Refer to item three within this chapter for a discussion on setting MIH intervention rates.)

Keep in mind that if the MIH unit also runs scheduled appointments, the UHU can be higher than an ambulance transport unit can. Therefore, the key point to this question is what MIH add-ons you can implement into your MIH business plan that will result in a profitable UHU. An indicator of your MIH population pool is in your BLS transport numbers. Since MIH is for non-emergency patients and most of your BLS transports are for non-emergent conditions, this will give an indicator of your MIH pool of patients.

A more conservative estimate of your MIH pool is your Alpha calls if your organization uses Priority Dispatch or a similar program whereby you classify your calls from Alpha to Echo, Alpha being the least serious. (Refer to ***Chapter Eleven: Steps to Implement an MIH Program*** for more details on this subject.)

Calculate your Alpha calls and their distribution over a 24-hour period. By choosing the period that has the most Alpha calls, you can design a 40-hour unit working schedule that is either eight- or ten-hour shifts. Calculate the number of calls an MIH unit would be used for during the in-service periods. You should target a UHU of 50% early in the program, which should pay your costs. When the program matures and proper risk-management protocols and quality assurance (QA) and quality improvement (QI) thresholds have been tested, consider increasing the UHU to 75–80% since you can schedule these calls.

3. Establish a billing methodology and fee structure that achieves financial sustainability and provides value to the existing payers of ambulance transports and emergency room interventions.

The establishment of a billing rate will be mainly determined by, but not limited to, the following factors:

- Your cost of sustaining the MIH program
- The value you bring to the payers
- The services you offer
- The targeted UHU rate

4. Calculate the MIH program costs.

Use the following methodology to establish your costs for the MIH program.

- Calculate the total yearly salary and benefit costs to staff the MIH units. Also include administrative overhead charges to manage and supervise the program.
- Add the yearly costs for all EMS equipment, including depreciation for such major items as defibrillators.
- Add the yearly EMS supply costs.

- Add the yearly vehicle-depreciation costs for your MIH unit fleet.
- Add the yearly vehicle-maintenance costs, including fuel.
- Add the cost to implement and maintain a patient navigation center. (step Eight)
- Add the costs to implement and maintain medical control, including physician oversight and QA-QI processes.
- Add costs to implement or modify existing electronic patient-care reporting systems to adapt to an MIH program.
- Add costs to provide administrative oversight not included in medical control.

Identifying these individual program costs will provide you with an estimate of total yearly costs to support your MIH program. Using this number, divide by the expected calls established in the topic "Targeting a UHU." This will be your breakeven MIH-billing charge. This example is an approximation and only for purposes of comparison. Using the methodology above, this example provides an MIH unit yearly cost $350,000:

- Target UHU of .5
- 4/10 schedule for a single MIH unit would equate to 208 working shifts per year.
- Using a UHU of .5, each shift would need to run 5 billable calls per 10-hour shift.
- This would equal a target annual run load of 1,040 calls per year.
- Annual cost of $350,000 divided by 1,040 would equal a *breakeven collectable* billing rate of $336. This number would not necessarily be your billable rate since providers rarely collect 100% of their billing rate due to Medicaid or Medicare write offs.

5. Calculate the value you bring to your payers.

This is an important concept and must be calculated carefully. For every 911 call where an MIH unit intervenes and eliminates the need to transport a patient by ambulance to an emergency room, there's cost avoidance to the payer. Additionally, given the emphasis on reducing the number of hospital readmissions and the financial penalties associated with them, hospitals themselves have financial incentives to keep discharged patients from returning to their facility unnecessarily. Clearly, the billing cost for an MIH intervention can't be near the overall transport cost to establish value to the payer or hospital. Calculate the following:

- What is the average BLS ambulance-transport bill?
- What is the average emergency-room billable cost for the type of patients who would be part of an MIH program?
- Combine these two numbers for the billable charges for such an intervention.
- Calculate what each payer type actually pays for these services.

The following example is an approximation and is only provided for purposes of comparison. These rates will vary significantly from state to state. Using the methodology above,

- Average BLS ambulance transport bill = $1,500 commercial, $426 for Medicare and $125 for Medicaid in California.
- Average emergency room cost for strains and sprains is $1,498 for commercial insurance. Although difficult to compute, for the purposes of comparison only, let's assume Medicare will pay $750 for the emergency room visit and Medicaid will pay $375.
- Total costs to the following payers:
    - Commercial insurance= $2,998

- Medicare = $1176
- Medicaid = $500

The value proposition will be the MIH billing rate plus the assumption that half of your MIH patients won't be treated at home and will need to be transported to a contracted primary-care facility. We'll assume an average primary care visit to be $189. If half of the MIH patients will need a primary care facility, this is $94.50 (half of $189) plus the MIH breakeven cost of $336, for a total MIH per-call breakeven cost of $430.50.

Consider where your point of value is compared to what each of the payers currently pay. *The breakeven cost is not necessarily a value proposition for Medicaid; it's of value to Medicare and of great value to commercial health insurance payers.*

6. Calculate the financial impact if you are a transport entity.

If a fire department is a transportation provider, you must calculate the potential financial impact for a transport that was avoided. Referring to ***Chapter Six: Is MIH Right for You? Eight Questions to Determine if MIH Could Benefit Your Organization***. will help determine this important factor. Consider the calculations for your own department and the projections for your costs per transport and the reimbursement per transport over the next five years. Most fire departments are experiencing significant downward pressure on their reimbursements. Many are experiencing actual loss when per-transport reimbursements and costs are compared.

Consider Castle Rock Fire Department, whose data was illustrated in the graph in ***Chapter Three: Ambulance Transport Reimbursement Changes***. Castle Rock has an average reimbursement per transport (RPT) of $482. Since the cost of that transport is $1,271, this equates to a net loss of $789 per transport. This loss per transport is expected to increase over the next several years as their Medicaid and Medicare population continues to increase.

The interesting question is that if Castle Rock were to implement an MIH program, would they be losing $482 for each MIH intervention that results in a non-transport or avoiding a loss of $789? Remember that the number of non-transports needs to be included in the equation. Therefore, not every MIH reimbursement is causing a reduction in transport reimbursement.

This subject will be explained in more detail in ***Chapter Nine: Identifying the Organizational Benefits of an MIH Program***.

CHAPTER NINE: IDENTIFYING THE ORGANIZATIONAL BENEFITS OF AN MIH PROGRAM

In today's environment of outcomes-based budgeting and increased scrutiny by a tax-conscious public, this question of what's in it for us can't be ignored. This question will be addressed in three different domains:

- Organizational efficiencies
- Reimbursement
- Cost avoidance

Organizational Efficiencies

Many fire chiefs and EMS administrators are frequently asked why is a fire engine, ambulance, and often a law enforcement unit dispatched to nearly every EMS call. To the public, this appears to be a waste of resources and taxpayer dollars. The International Association of City and County Managers published a document titled *Asking Your Police and Fire Chiefs the Right Questions to Get the Right Answers.* Efficiencies were the main topic of these questions. The following are five of the 20 questions:

- How many response resources is the right amount for fire calls? For medical calls? What determines the correct amount?
- What is an acceptable productivity level to expect from EMS personnel?
- What is an evidence-based and legally defensible response-time goal for the community, and how often does the fire department reach critical response levels (i.e., too few units)?
- Many communities use a 90th-percentile response time as a standard for first-arriving units. What is the fire department's response-time standard?
- Does the fire department need to send large apparatus to all calls for service, including all medical requests from 911?

A Santa Clara County grand jury in California initiated a study to evaluate the efficiency of the local county fire departments. A question asked of local fire chiefs was, "Why are firefighting apparatus and crews sent out on 100% of calls when as many as 96% of these calls do not require firefighting equipment?"

Some of the answers they received were unnerving:

- To ensure that the equipment is operational.
- To exercise the crew.
- To ensure the crew is intact.
- Always over respond.
- They would otherwise just be standing by.

The issue of efficiencies within our EMS delivery system can no longer be avoided. Sending too many resources for 911 EMS calls may have been precipitated by the fact that the number of our non-emergent calls are increasing significantly. As our percentages of non-emergent patients increase, most often our 911 EMS delivery model has not. The fire service still sends a first-response unit—often a fire truck—a paramedic unit and a transport ambulance to all calls when neither the patient's condition nor their chief complaint warrants it. Additionally, most communities have committed to response time goals for a first responding unit and a paramedic resource.

The National Fire Protection Association (NFPA) in their document, *NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* recommends a travel-time goal of four minutes for a first-response unit and eight minutes for the first paramedic unit. The challenge to the justification of funding such a robust deployment standard is that such a quick response time for most EMS patients doesn't impact their outcome. Such a commitment by a fire department will drive the implementation of additional 911 EMS resources as call loads increase to chase a response-time standard that may be unnecessary for most patients.

Summary

The EMS response model of dispatching a first-response unit and an ambulance to every EMS call isn't efficient in all cases, medically beneficial, nor financially sustainable. Many departments have implemented MIH units to be more efficient by sending the right unit with the right people, trained for the type of call within the right time. For the Kent Fire Department, their MIH units have increased their engine company reliability by 4,500 minutes or 75 hours per month. This has certainly achieved organizational efficiencies.

Reimbursement

As discussed in ***Chapter Eight: Developing Financial Sustainability,*** a department's MIH program must be designed with reimbursement in mind. The goal should be to break even. The authors of this handbook readily admit that reimbursement for many MIH programs has been somewhat allusive. The same authors believe this will soon change. Nonetheless, an MIH program must be carefully and purposely designed and staffed to allow the correct scope of practice to meet your local needs and to enable the program to bill for services. Therefore, a sustainable reimbursement source will be the second element of organizational benefit.

Cost Avoidance

A critical question to address is what defines cost avoidance? If a department's MIH program reduces their ambulance transport volume by 20% each month, is that cost avoidance? The answer is no, unless fewer ambulance units are staffed due to the reduction. True cost avoidance should result in additional money in your budget because of the MIH program.

A cost-avoidance pathway was addressed in detail in ***Chapter Six: Is MIH Right for You? Eight Questions to Determine if MIH Could Benefit Your Organization.,*** Question 8. As a department's EMS transport load continues to increase at a rate of 4–10% each year and if it has made a commitment to a quick response time, whether NFPA 1710 or not, it's only a matter of time due to a unit's busyness that a new EMS first-response or transport unit will need to be placed in service. That cost is $500,000 to $1,000,000. If a correctly designed MIH program avoids transports to the extent that a new EMS first response unit or paramedic unit is no longer needed, that is cost avoidance that's *repeatable* each year. If an MIH unit reduces emergent call load on the system to the point that an EMS first-response unit or transport unit can be taken out of service, that is also real cost avoidance.

If a department is to the point of adding a new ambulance unit due to response-time commitments and if an MIH program can avoid the need to staff a new 911 unit, then that cost avoidance should pay for the staffing of one or two MIH units, depending on the type of staffing used. This is a critical strategy to funding an MIH unit when billing reimbursement isn't yet possible. This tactic must be carefully planned because it depends on a real reduction in ambulance transports to the point that a new unit is truly not needed.

Remember, under commit and over deliver in a situation such as this. Also remember that every ambulance transport avoided is a potential loss of reimbursement. Be ready to answer that question with real data. The methodology to compute this loss was discussed in ***Chapter Eight: Developing Financial Sustainability***.

Summary

Assessing the benefits that an MIH program will provide should be organized into three categories: increased organizational efficiencies, breakeven MIH-billing reimbursement stream and true cost avoidance. Each of these issues must be assessed and objectively measured as an MIH program is considered.

CHAPTER TEN: INTEGRATION AND FINANCE

EMS Needs to Integrate into the Overall Healthcare System

Local healthcare systems can be owned by and consist of hospitals, insurance carriers, urgent cares, primary-care practices, transport agencies, dialysis centers, nursing homes and other healthcare specialty services.

Rather than remaining responsive to healthcare systems, fire chiefs should coordinate with local healthcare systems to identify needs and service areas where the fire service can help the healthcare system meet its goals. In so doing, the fire department is increasing the value of the service it provides to the healthcare system and its citizens. Demonstrating value leads to long-term security for services provided. Additionally, any proactive service the department effectively coordinates with the healthcare system will have a positive impact on service demand through the reactive 911 system.

Healthcare systems are regional and so any reimbursement agreements established by departments will be successfully negotiated at the local level. In order to be successful in establishing reimbursement streams from local healthcare systems, fire departments must establish relationships at the local level to identify joint service-delivery objectives. When successful, a fire department will be considered an integral piece of the regional healthcare-delivery system.

EMS Finance: The Existing Reimbursement Stream

In the EMS field, there are four primary payers. The first three categories are Medicare, Medicaid and commercial insurance. Medicare and Medicaid are sometimes referred to as *public payers* because those programs are government-sponsored insurance programs. Commercial insurance typically refers to private insurance companies, such as AETNA or Blue Cross Blue Shield. If the EMS service is unable to identify a public or insurance-company payer for a patient's transport, it typically bills that transport to the patient. These transports are called *self-pay.*

Medicare

Medicare is the federal health-insurance program for people who are 65 or older, certain younger people with disabilities and people with End-Stage Renal Disease (ESRD). Medicare patients are those who are enrolled in either the original Medicare or one of the Medicare Advantage plans (HMO/PPO/ACO). This includes beneficiaries who qualify for both Medicare and Medicaid (Medi-Medi). Out of hospital EMS services (e.g., private companies, fire service, volunteer, etc.) are considered suppliers in Medicare regulations, while hospital-based services are considered providers.

Reimbursement to ambulance suppliers for Medicare patients is based on the Ambulance Fee Schedule regulations and is limited to the base rate and mileage. Separate charges for supplies and medications are not reimbursable. CMS oversees the Ambulance Fee Schedule and updates the ambulance regulations on a continual basis. Failure to bill Medicare transports in accordance with these regulations can open a service up to investigations, audits and lawsuits.

The Medicare reimbursement rate for each transport depends on the level of service provided. There are three levels of emergency ambulance service for Medicare and Medicaid claims:

- Basic Life Support (BLS-Emergency)
- Advanced Life Support 1 (ALS1)
- Advanced Life Support 2 (ALS2)

For non-emergency claims, there are two levels of service:

- BLS (BLS-Non-emergency)
- ALS (ALS-Non-emergency)

The highest level of service is called Specialty Care Transport (SCT) and is reserved for transports where the level of service exceeds what can be provided by a paramedic.

Finally, Paramedic Intercept (PI) refers to a system whereby the ambulance service is prohibited from billing by statue and the ALS service is provided by a separate service. Currently PI is only reimbursable in certain jurisdictions New York. Efforts to expand the PI reimbursement program throughout the country have been unsuccessful.

Each level of service is identified by a Healthcare Common Procedure Coding System (HCPCS) billing code that must be identified on the claim submission. There are also modifiers adopted by Medicare to identify specific iterations of response or transport, such as multi-patient transports when a patient has died before transport or where a service isn't covered by Medicare and can be billed directly to the patient.

The reimbursement rate for Medicare claims is based on several factors:

- a relative value unit (RVU) assigned to each service level
- a geographic practice cost index (GPCI) that takes into account regional differences in costs
- the zip code of the point of pick-up

The RVUs assign a value to each level of service, using the BLS non-emergency (BLS-NE) service level as the baseline or floor. Each level of service is then valued based on the cost to provide the service beyond that of a BLS-NE transport. The RVU accounts for the different costs expended to provide each level of service and accounts for increased level of care provided, as well as if the service is providing emergency or non-emergency responses (accounts for the cost of readiness).

For example, the ALS1 emergency reimbursement is higher than the rate for BLS claims, and the reimbursement rate for ALS2 claims is higher than for ALS1 claims.

This table shows the RVUs for each level of service:

Relative Value Units	
Service Level	RVU
BLS	1.00
BLS-Emergency	1.60
ALS1 (Non-emergency)	1.20
ALS1 (Emergency)	1.90
ALS2	2.75
SCT	3.25
PI	1.75

The GPCI is a method of accounting for differences in the cost of operating an EMS program across the country. Since costs in San Francisco are significantly higher than the cost of providing service in rural Iowa, the GPCI is used to increase the reimbursement for the ambulance service in San Francisco. Based on physician reimbursement, the GPCI is multiplied against 70% of the base rate to provide the locality specific reimbursement formula. In the majority of the United States, the GPCI is either neutral (e.g., 1.0) or a positive number (e.g., >1.0).

While the GPCI is used to account for the increased costs associated with providing EMS in a high-cost locale like San Francisco, the zip code is used to identify those areas where the volume of transports is so low that the average number of transports completed in a day doesn't cover the cost of providing the staff and equipment (e.g., rural Iowa). The zip codes in the U.S. are broken into areas deemed urban, rural and super-rural, and the zip code associated with the point of pickup is used to determine if an extender, or additional payment, will be applied to the base rate and mileage.

On Medicare claims, the combination of the level of service, GPCI and zip code establishes the allowed amount of reimbursement that will be provided for the transport. For Medicare claims, the beneficiary (or their secondary insurance) is normally responsible for only 20% of the approved/allowable amount and Medicare or the Medicare carrier reimburses for 80% of the allowed amount. Beneficiaries can't be billed for any amounts above the allowed/approved amount (no-balance billing). Some agencies will classify any federal health program (e.g., Tri-Care) that uses the Ambulance Fee Schedule as the basis for their reimbursement decisions as a Medicare claim. However, while many of these programs use the Medicare regulations for billing guidance, they also often reimburse at a higher amount than Medicare by using a fee schedule plus percentage basis (e.g., 125% of the Medicare allowable).

Medicaid

Medicaid beneficiaries are those who are enrolled in either federally or state-managed insurance programs based on income limitations. Medicaid is a state/federal cost-share program where the state and federal governments each pay a percentage of the cost for healthcare. Reimbursement amounts for the transportation of Medicaid beneficiaries are not required to mirror the Ambulance Fee Schedule and can vary based on age of the patient transported (e.g., Children's Health Insurance Program, or CHIP) or if they're enrolled in a managed-care program (e.g., an HMO). Reimbursement will include a base rate and possibly mileage, supplies and other itemized costs.

The state covering the patient is normally the entity establishing the reimbursement amounts and criteria. In the case of many Medicaid programs, the state guidance requires ambulance providers operate according to the laws, regulations and guidelines governing ambulance services under Medicare Part B. In some states, the level of service—BLS, ALS or ALS2—determines the reimbursement rate for each Medicaid claim. However, in other states, the reimbursement for the transport is the same, regardless of the level of service, and the ALS services are reimbursed by a series of add-on charges such as for ECG or medications. Additionally, regulations universally prohibit balance billing for Medicaid claims; therefore, the supplier may not bill the patient for any amounts above the allowed/approved amount.

Private Insurance

Individuals covered under nongovernmental or group health plans (GHP) are considered private insurance claims. With exceptions for contractual agreements entered into by the ambulance service and the health plan, private insurance companies normally pay claims at 100% of the billed charges by either the insurance plan or a combination of the insurance plan and a copay. Some states have enacted legislation allowing reimbursement at less than the full amount of the claim if it isn't possible to bill the patient for any amounts not paid for by the insurance company. In other states, insurance companies may send the payment for the ambulance transport directly to the patient if the EMS agency doesn't have a contract with the health plan. This is used as a method to force the EMS agencies to enter agreements whereby they accept a reduced amount for each transport in order to receive direct payment.

Most insurance plans accept the use of the standardized HCPCS billing codes and may accept the older itemized charge codes in use by Medicare before the adoption of the Ambulance Fee Schedule in 2002.

Self-Pay

Self-pay claims are individuals who don't have any health-insurance coverage, bill their health plan directly or refuse to provide authorization to bill their insurance plan. Unless a state legislature has enacted legislation restricting the items billable by ambulance services, there are no restrictions on the amounts or items that can be billed to a self-pay patient. There also are no limitations on collecting the full amount of the claim, other than the applicable regulations covering debt-collection practices. This category is the lowest paying category of all ambulance claims.

Transports versus Non-transports

Although reimbursement for EMS is typically limited to situations where the patient is transported to an area hospital, private insurance, Medicare and Medicaid allow for reimbursement in some situations that don't result in a transport. Both Medicare and Medicaid specifically allow an ambulance supplier to bill for services when a patient is pronounced dead after the ambulance was dispatched to the scene. In these cases, the EMS provider may bill for a base rate (sometimes non-emergency BLS) and no mileage for Medicare and the base rate and mileage (some states) to the point of pickup for Medicaid. For instances where a patient is treated at the scene and not transported, Medicare will provide no reimbursement while many Medicaid plans allow for reimbursement of the base rate and mileage to the point of pickup. Private insurance plans, including auto-insurance policies with medical coverage, may provide reimbursement for treat-and-release, evaluation or other non-transport situations.

Reimbursement Streams Relating to MIH

With MIH in its infancy, there are limited numbers of agencies receiving reimbursement for non-transport outcomes. Other than some demonstration projects, Medicare and Medicaid frequently are paying for these services. However, the Medicaid program in Arizona implemented a treat-and-refer model in 2016 for certain providers who meet statistical and oversight benchmarks. Additionally, some private insurance plans, hospitals, ACOs and regional EMS programs have started providing funding for programs that don't involve transporting a patient to a hospital. These include:

- *Post Discharge Evaluations/Readmission Reduction* – Situations where a hospital or ACO would pay an EMS provider to visit a patient recently discharged from a hospital to address issues such as pain management, wound care, compliance with discharge instructions and fall safety. The goal of these programs is to reduce hospital readmissions, a situation for which Medicare and some insurance companies won't reimburse the hospital. Therefore, there is a financial incentive for the hospital to ensure the patient doesn't return the ER.

- *Screening* – Situations where a mobile provider evaluates patients in their home or similar setting. The goal of these programs is to provide advanced screening, sometimes called telemedicine, where diagnostic equipment is utilized on the patient by the field provider and evaluated remotely by a higher-level medical provider.

- *Low Acuity Response* – Situations where a patient calls 911 with a low acuity complaint and is triaged to a non-emergent response unit. Often these units are staffed by a physician's assistant or nurse practitioner working alongside a paramedic. These programs aim to evaluate patients in the field and either resolve their issues or determine the direction they need to proceed. The financial incentive to insurance companies with these programs is that they reduce ER visits for patients without emergent issues.

- *Treat and Refer* – Situations where an EMS provider responds to a 911 call and determines where a patient is best directed. Referrals could be to an ER, a primary care provider's office, an urgent-care facility or even a telephone consultation. Like the low acuity responses, the goal of these programs and the financial incentive for insurance companies and ACOs is to reduce ER visits by patients without emergent chief complaints.

- *Chronic Callers* – Situations where a patient accesses the 911 system on a routine or frequent basis. The goal of these programs is to determine how to resolve a patient's issues to reduce the number of 911 responses. Generally, the financial incentive of these programs benefits solely the EMS agency by freeing up units for other responses. Often times, chronic 911 reduction programs will be found in EMS agencies in large urban settings and are seen as cost savings as opposed to a reimbursement program.

- *Patient Population Directed Programs* – Situations where an identified patient population within a community is targeted to reduce the future utilization of emergency healthcare. This may include populations with health issues revolving around COPD, diabetes, obesity and substance abuse. These programs may involve combinations of many of the programs listed above. The goal of these programs is to reduce future use of healthcare, especially emergency healthcare, by patient populations with chronic conditions. Field providers may be reimbursed for visiting patients to ensure compliance with medications or to perform other screening or behavior-modification programs. The financial incentive to all payers, especially government payers like Medicare and Medicaid, is to identify and interface with selected populations with a high risk of becoming future users of both the 911 system, emergency rooms and hospitals.

Section IV: Step by Step to Developing an MIH Program

CHAPTER ELEVEN: STEPS TO IMPLEMENT AN MIH PROGRAM

This chapter will address a practical approach to implementing an MIH program in your department. This is designed to only provide the broad strokes for implementation since policies and practices and local needs drive many of the specifics. Depending upon the MIH program add-ons, local regulatory framework and other considerations, your plan may contain more steps than those listed here. However, the 15 steps listed below are most likely the minimum steps needed.

As each step is developed, draw out issues that need to be included in a policy-and-procedures document or medical patient-care guidelines document. This outline will feed into step 14, *Complete the development of the policies and procedures that will provide strong medical control and risk avoidance strategies as well as structure and guidance*.

This implementation plan is based on the more-detailed descriptions of these concepts covered throughout this handbook.

Step One: Is MIH Right for Your Department?

Since not all departments will benefit from an MIH program, the first step is to determine if an MIH program is right for your organization. This step was discussed in ***Chapter Six: Is MIH Right for You? Eight Questions to Determine if MIH Could Benefit Your Organization***. and the significance of ambulance reimbursement was covered in ***Chapter Three: Ambulance Transport Reimbursement Changes***. These questions must be thoroughly answered to identify the potential success of such a program.

1. Determine your ambulance-transport reimbursements per transport over the last eight years and project the probable trend for the next five years.
2. Determine the cost of providing ambulance service per transport over the last eight years and project the probable trend for the next five years.
3. Determine whether the cost of maintaining an ambulance transport program is running away from your reimbursements by comparing the cost per transport against the reimbursements per transport. This study will determine whether your department has already experienced or will soon experience a death cross.
4. Determine the percentage of your population who are moving into Medicaid and where they're coming from. It's important to understand if your Medicaid population is increasing because your uninsured percentage is getting coverage or if it's increasing at the expense of patients who used to have commercial insurance coverage.
5. Compute the percentage of patients in your service area who are 60 years of age or older.
6. Determine your EMS unit's engagement rate or percent busy.
7. Determine the size of your MIH patient pool (percentage of ALS vs. BLS interventions).
8. Decide what your MIH business model will look like.

As you answer these eight questions, you'll determine:

- Whether your costs are running away from your reimbursements and when you'll experience the death cross if your system continues to operate without changes. (Questions 1-3)
- What external pressures exist that will accelerate the future downward pressure on your ambulance transport reimbursements. The higher the percentages for questions 4 and 5, the more your future projections of reimbursements will be forced downward below the trend line of your eight-year retrospective reimbursement study.
- Question 6 will help you identify existing or future pressures on your response time commitment and the pressures the fire chief will experience to add another emergency response unit. If this is a dilemma you're currently facing, add the additional costs of a new unit to your per-transport cost. You'll be amazed at what this does to your overall transportation costs.
- Question 7 will help you determine if your local scenario can possibly support an MIH unit.
- Question 8 will help you determine if you can maintain a sustainable MIH UHU through carefully designing a wise MIH business model. The design of a business model must be carefully considered given that each MIH intervention that avoids an ambulance transport will also reduce the reimbursements for that same ambulance provider. An MIH model can financially benefit a fire-based EMS agency when that agency can avoid placing a new 911 EMS response unit in service. (Question 6)

After conducting an analysis of these eight questions, proceed to step two if you determine that your department might benefit from an MIH program.

Step Two: Identify and analyze your MIH population pools.

This step is critical as it helps identify the type of MIH program that may benefit your department. If your department can't develop a sufficient MIH population pool, there's little probability of this program providing significant operational benefits and developing sustainable reimbursements. This step is essentially a deeper dive into questions 7 and 8 of Step One.

- Work with your medical director to analyze the types of non-emergent BLS interventions. In other words, which call types of EMS responses don't benefit from a standard response time and don't require an emergency room? If your department uses some sort of priority dispatch, this pool may be your Alpha calls and a portion of your Bravo calls. This question isn't designed to determine which patients will be diverted into an MIH protocol; it determines the first pool of patients you'll further divide into MIH potential patients.
- Still working with your medical director, further divide this patient group by call types and identify the following:
    - Call types that could be treated by an EMT and released
    - Call types that could be treated by a paramedic and released
    - Call types that could be treated by a nurse practitioner and released
    - Call types that could be treated by any of these practitioners but will need to be transported to a clinic for further treatment or testing
    - Call types that could be treated by a nurse practitioner if basic mobile lab testing is available on scene

You'll likely find that your call types aren't specific enough to make these determinations. If that's the case, you'll need to do chart reviews or mine data to make these determinations. While engaging in this analysis, list future new call types that may be beneficial and will provide the specificity to identify patients who would fit into one of the categories above.

- Determine how many patients would benefit from an MIH program providing treat-and-release and treat-and-refer options. Your medical director's risk tolerance may also influence this number. The number of potential 911 callers who would benefit from an MIH intervention is a critical number and is needed to measure the potential success of an MIH program internally by reducing the need for additional 911 resources or potential billing for services.
- After analyzing your potential MIH population pool, you may find an insufficient number of MIH patients to make your MIH program beneficial or financially feasible. If this is because your department is too small, consider partnering with adjacent departments and sharing an MIH unit.

Step Three: Determine the type of medical personnel needed to staff an MIH unit.

Step Two, Item 2 will provide good insight into what types of medical personnel your system may need to accomplish the objectives of treat-and-release, treat-and-refer, hospital follow-ups or other MIH add-ons. By examining the types of patients and using the table below, you'll uncover the types of personnel you may need to staff your MIH unit.

Patient Types	Potentially released.	Potentially referred to an alternative receiving facility such as a clinic or urgent care.
Number of patients that could be treated by an EMT and:		
Number of patients that could be treated by a paramedic and:		
Number of patients that could be treated by a nurse practitioner and:		
Number of patients that could be treated by a nurse practitioner if basic mobile lab testing was available at scene.		

This step helps identify the types of personnel who will be able to treat-and-refer and treat-and-release in sufficient numbers to allow the MIH unit to be busy enough to provide offsetting operational benefit. These benefits could include eliminating the need for additional EMS units or at least billing for reimbursements. The findings from this step will be needed to address steps four through seven. Most likely, the personnel needed will be a paramedic teamed with a nurse practitioner. In fact, a paramedic captain and a nurse practitioner is a common model in many MIH systems.

Step Four: Identify those entities that will benefit and those that will be impacted by your MIH program as well as stakeholders.

After performing steps one through four, your MIH program is taking shape. Now is the time to identify those who may be helped or hurt by your program and stakeholders who are needed to support it. For each of these entities, buy-in should be the goal. A great book to assist in the process of negotiating with your stakeholders and those impacted by your MIH program is "*Getting to Yes: Negotiating Agreement Without Giving In*."

This book discusses the concept of positional versus interest-based negotiations. Many times, we start with and camp out on the concept of *what* we want (positional negotiations) instead of *why* we want it (interest-based negotiations). Using the book's principles, seemingly impossible negotiations can be solved by concentrating on why a program is needed.

The following may provide a start to listing beneficiaries of your program, those potentially hurt by it and stakeholders.

Entities that may benefit from an MIH program:

- ACOs that will save money by reducing costs.
- Insurance companies that will save money by reducing costs.
- Hospitals that are facing huge costs in expanding their emergency rooms due to overcrowding or excessive wait times.
- In MIH programs with a hospital-discharge MIH add-on, a hospital that has a large Medicare population and an excessive patient readmission rate.
- Urgent-care and medical clinics that would receive the treat-and-refer patients from the MIH program.
- Your own fire department if you are facing the addition of more 911 units.
- Alternative transport agencies that receive a contract with the MIH program (see step eleven).

Entities that may be hurt by an MIH program:

- 911 ambulance transport entities that will have a reduction in transports. This may be your own fire department.
- Hospital emergency rooms that will see a reduction in patient loads and hence reimbursement. Note: the ER can also be a beneficiary of an MIH program but only if that hospital is facing huge costs to expand their facility due to overcrowding.
- A local home-nurse program that views an MIH program doing house calls as an intrusion into their business.
- The nurses' unions that views this as a risk to nurse's jobs or scope of practice. Keep in mind that the doctors' and nurses' groups opposed paramedicine in the late 1960s and early 1970s.
- The local EMS regulatory agency that isn't innovative or interested in developing new systems.
- The state EMS regulatory agency that isn't innovative or interested in developing new systems.
- Local urgent-care or clinic facilities that don't receive a contract with the MIH provider.
- Alternative transport agencies who don't receive a contract with the MIH program.
- Urgent-care and medical clinics that don't receive the patients from the MIH program.

Stakeholders

- The local EMS regulatory agency
- The state EMS regulatory agency
- The local labor union
- Local clinics that enter a contract to receive MIH treat and refer patients
- Alternative transport agencies that contract with the MIH program
- Local hospitals

Step Five: Determine the costs to implement and maintain an MIH program.

This should include all costs, including salary and benefits, vehicle costs, supplies, medications, administrative overhead, etc. This calculation can be listed in the following manner:

Cost types	Costs
Costs per year (developed from Chapter Eight, Financial Sustainability)	
Costs per shift based on a 10-hour shift, 4-day-per-week schedule	
Costs per shift based upon an 8-hour shift, 5-shifts-per-week schedule	

Step Six: Identify the times and days when your MIH population pool calls 911.

This step will help identify the work schedule of an MIH unit that will provide the *most patient contacts per shift,* thus increasing the UHU of the MIH unit, the number of MIH patient interventions and its benefits to the organization. The result may be an untraditional schedule, such as Wednesday through Saturday from 12 noon to 10 PM or Tuesday through Sunday from 2 PM to 10 PM.

Step Seven: Determine a billing rate.

Determining your MIH billing rate isn't as easy as it seems. Each department will have its own hard costs of personnel and support. Other considerations include:

- The lost reimbursement of a 911 ambulance transport. The lost reimbursement is not the billed amount but rather the collected reimbursement per transport that is lost when an MIH intervention avoids a transport. This was computed as part of question one, reimbursement per transport. It's optimal that your MIH-billed amount equals the lost collected reimbursement per transport for a 911 ambulance. This is unlikely, but possible. ***Chapter Three: Ambulance Transport Reimbursement Changes*** brought out an interesting scenario regarding the actual amount of lost reimbursement due to the implementation of an MIH program and its impact on reduced 911 ambulance transport reimbursement. Using Castle Rock as an example, the interesting question is if Castle Rock were to implement an MIH program, would they be losing $482 for each MIH intervention that results in a non-transport or avoiding a loss of $789? Nonetheless, any lost 911 transport reimbursement must be identified and calculated into the overall scenario.

- Determine the cost to the payer (insurance company) of a 911 ambulance transport and the emergency-room charges for a typical patient type identified in step three. The MIH billed charge should provide obvious value to the payer. In other words, an MIH treat-and-refer or treat-and-release must be significantly less than what the payer would be compelled to pay if not for the MIH unit's intervention. Your local hospitals should be able to help you with their charges for each of these MIH identified patient types. Understanding that Medicaid, Medicare and commercial insurance pays at vastly different rates. A cost target for an MIH intervention likely will be an outstanding value to a commercial insurance company, a great value to the Medicare payer and little value to the Medicaid payer. For instance, a typical ambulance billing rate in California may be $2,000, yet Medi-Cal (California's Medicaid) will only pay approximately $125. However, Medicare may pay $460. The table below may be of help.

MIH Patient Type	Ambulance Reimbursement Rate	Hospital ER Reimbursement Rate	Total Cost for Patient's Medical Episode
Example, pt. type 1 Medicaid	$117	$200	$517
Example, pt. type 1, Medicare	$460	$560	$1,000
Example, pt. type 1, commercial payer	$1,800	$1,233	$3,033

The billing target also will depend upon the UHU rate and the total MIH interventions per shift. An example would be if the total cost of staffing an MIH unit is $2,000 per shift and the MIH unit only intervened twice during that shift, the billing per call would need to be $1,000 per call in order to break even.

As the chart above shows, there would be very little value to either the Medicaid or Medicare payer, which constitutes up to 60% of our patients. If a properly designed system with a significant MIH patient pool and an MIH unit that was staffed at a time when the most MIH patient types called 911, the number of calls per shift would be higher. If a target of 6 MIH interventions per shift was designed into a system and if the billing number was $500 per MIH call, the billable amount would be $3,000. Of course, this may not be the actual reimbursed amount due to Medicaid and Medicare write downs. The actual dollars received would be a function of the payer mix. Actual reimbursed amounts may be 40–75% of that amount. The higher collectable percentage may be for a community with a high percentage of commercial payers where the lower percentage may be a community with a high percentage of Medicaid patients. Keep this dynamic in mind as you set your gross billing rate.

The MIH units' billing rates must be included in your jurisdiction's ordinances to provide legal standing when billing the patient's insurance company.

Step Eight: Target your Unit Hour Utilization rate and MIH patient interventions.

The more MIH interventions a unit handles per shift, the higher the potential reimbursement opportunities. This is why the UHU must be carefully targeted and managed along with the number of MIH patient interventions. The UHU will be function of the number of MIH calls in a shift and the time on task for each call. If the chosen MIH shift is a 4/10 schedule and the MIH responds to two calls per shift and each call is 45 minutes in length, then the UHU is .15. (45 min x 2 calls = 1.50 hours. 1.50 divided by 10 hours per shift = .15.) A .15 UHU isn't high enough to develop offsetting reimbursements. Most ambulance managers would agree that a 911 ambulance should not have more than a .35 UHU in order to maintain response time reliability. However, an MIH unit doesn't have such a UHU limit because it isn't committed to a response time standard. In other words, an MIH response can be scheduled because all calls that the MIH unit responds to are non-emergent calls.

A response time for an MIH unit can be 10 minutes if that unit is available at the time the call comes to the 911 dispatch center or two hours if calls are stacked up. Theoretically, while not practical, an MIH unit can have an UHU of 1.0 by being committed on calls 100% of the time. An MIH unit can be looked at like a doctor's office: the staff schedules patients to see the physician during the entire time the doctor is scheduled to be in the office, except for when the doctor is having lunch or doing paperwork.

Managing the MIH unit's UHU is a function of the number of patients in the MIH pool, how well the MIH's shifts have been designed to line up with the times of potential MIH interventions and the time on task. If an MIH patient requires a transport to a medical urgent care or clinic, would the MIH unit transport that patient to that alternative receiving facility? If it did, that would drive up the time on task and reduce the number of calls the MIH could handle in a shift. Therefore, the MIH manager should consider alternative transport options if a clinic transport is needed so the MIH unit can get back in service. This is especially true if the clinic is a distance away. Additionally, the time it takes to treat a patient must be carefully managed as well.

In conclusion, not only must the MIH unit's UHU rate be carefully planned, targeted and managed, but so also must the number of MIH interventions that are completed. If the targeted time on task is one hour or less and the UHU is below .5, there is a good chance the MIH unit won't be profitable or

operationally beneficial. If the UHU is well above .5 and has a time on task of one hour or less, there is a better chance the unit will be profitable depending upon how well the manager sets their MIH intervention price points and collection percentages and manages costs. A UHU above .5 will have a better chance of pulling sufficient 911 calls out of the system to reduce the response burden from the 911 operations and either eliminate the need to add an additional 911 unit or reduce the number of 911 units needed in the system. The 911 EMS response-time trends should also be carefully monitored after an MIH unit is placed in service to identify whether call loads are reduced, cueing percentages are being driven down and 911-system reliability is being strengthened.

Step Nine: Implement a patient navigation center.

One of the many keys of implementing a successful MIH program is implementing a patient navigation center. This will be part of your 911 dispatching service. When a person calls 911, it must be quickly determined whether the caller's condition is emergent or not. Most 911 call centers use some sort of priority dispatching or Emergency Medical Dispatching protocols. This concept of sorting emergent from non-emergent callers would be part of that protocol. With as few questions as possible, determine if the patient's chief complaint constitutes an emergency or non-emergency. If the chief complaint is non-emergent, that caller would be transferred to either an in-house medical professional such as a nurse practitioner or a contracted service that is linked to your dispatch center. Once a non-emergent call is transferred to the nurse practitioner or contracted service center and it's determined the patient's condition is an emergency, that call will be transferred back to the 911 dispatcher. It's an important consideration that once a non-emergent caller is transferred, the 911 call-processing clock is stopped. The types and amounts of questioning that the medical professional will ask will likely take some time and will severely skew 911 emergent call processing time if that clock isn't stopped.

Your medical director will be primarily responsible for developing the questions used by the medical professional in the patient navigation center.

Considerations to developing an effective patient navigation center is the analysis of the caller's condition and a pick list of interventions that are available to the medical professional determining the patient's condition. Examples on a pick list might include:

- BLS unit immediate response only
- BLS unit scheduled response only
- MIH unit quick response
- MIH unit scheduled response
- ALS unit immediate response only
- ALS unit scheduled response only
- Contracted alternative transport provider to provide transport to a contracted clinic with or without any of the above interventions
- Online medical advice and release

These are examples only. One or more may make your risk manager or medical director very nervous. Ways to mitigate that risk is with well-trained medical professionals in your patient navigation center, solid medically based questioning protocols, strong medical control and integrated quality assurance and a robust quality-improvement process. Another method to reduce risk is with telemedicine tools, such as a Life Bot. These devices are web-enabled transmitting devices that can be used for those who access 911 often. These devices can be left for the patient during a previous MIH visit. These transmitters can be positioned and activated by a patient while on line with the medical professional at your MIH patient navigation center and the readings analyzed on line. These are basic readings, such as

pulse, skin temperature, etc., but important information for your patient-navigation professional making decisions as to how to navigate a patient through their protocols.

Step Ten: Develop agreements with local urgent care facilities to accept treat-and-refer patients.

Some MIH patients will require a higher level of care or higher level of testing facilities than the MIH intervention crew can provide, but still may not require the services of an emergency room. Considerations for identifying these clinics are:

- Closest to the MIH unit's service area; however, don't limit clinics that are only in your jurisdiction. To create value, focus on clinics that are part of your MIH population's healthcare system.
- Clinics that are part of the patients' insurance network or ACO's network of providers. Considering this fact will increase the value of your program to the insurance companies.
- Clinics that are part of the patients Medicaid HMO network.
- Clinics that have the staff and equipment to resolve the medical issues of your MIH population.
- Adequate hours of operation that support the MIH unit's hours of operation. Keep in mind that if both the MIH unit's shift and the clinic's shift ends at 10 PM and a patient is transported to that clinic near their 10 PM closing, this may encourage patient dumping—a situation where the clinic calls 911 to take them to an emergency room to save them from staying open late.

The importance of developing contracts with these alternative receiving facilities is to develop an efficient and smooth pathway of treatment for your MIH patients. Considerations to developing such contracts may be:

- Guaranteed hours of operation.
- Guaranteed engagement of the MIH patient within an agreed-upon time from arrival at the facility and what that engagement looks like.
- No patient dumping.
- Telecommunications capabilities that allow preceding notification of an MIH patient's arrival. This may also allow preplanning if the clinic is too busy to accept patients, allowing another facility to be identified.
- Acceptance of insurance payments as 100% payment or within the already established copays with the payers. This will help to sell the MIH program to your patients.
- Establishment and benchmarking of a QA and QI plan and process. This should include an assessment of every transport of an MIH patient from the clinic to an emergency room.
- Establishment of a customer-satisfaction assessment process by a third party.
- Establishment of a method of transportation for the patient back to their home after treatment.
- Guarantee of the type and level of medical staffing.
- Linkage of the MIH unit's electronic patient-care report to the clinic. In other words, the MIH unit's EPCR must seamlessly transfer from the field to the clinic and be incorporated into the clinic's medical-records system.
- Guarantee of providing the discharge diagnosis back to the MIH unit's patient-specific EPCR, which will allow better QI processes.
- Guarantee of providing the clinic's total costs of treating an MIH patient back to the MIH provider's patient specific EPCR. This billing information must include the HCPCS codes. This will provide the data to establish cost savings when compared to the previous alternative of transporting the patient via ambulance to the emergency room.

Step Eleven: Implement legal authority to bill for MIH services.

Most EMS 911 transport entities will have local ordinances that provide the legal authority to bill for such services and establish those billing rates. It will be important that the developing MIH department either implements such legal authority or modifies the existing authority to bill for MIH services.

Step Twelve: Develop alternative transport methodologies.

An important point to remember when designing your MIH program is to establishing value for the payers. A major way to do that is keeping MIH patients within their medical system. That saves the payer a significant amount of money. The MIH program should identify their targeted MIH population pool's insurance provider and where their medical facilities are located. Some may be in an adjacent city or jurisdiction. If those facilities are a distance away, the MIH program manager may not want to use the MIH unit to perform such transports. This will increase the time on task and reduce the number of MIH patient interventions, which will significantly reduce the potential operational benefit to such a program and the potential reimbursement. Consider contracting with a commercial non-emergent medical transport entity or even a car shuttle service.

Step Thirteen: Develop agreements with your local Accountable Care Organizations and health insurance companies.

Keep in mind that in most cases, the ACO and the insurance companies are your financial partners. These are the entities that are responsible for payment and will benefit from your MIH program if you have set your price points in such a way as to provide value. History with other MIH programs who have attempted to establish partnerships with their local ACOs and insurance companies have found that those entities demanded the MIH program be implemented for two or more years and then bring the data back to the payers that proves the concept works. This is a false assumption by the payers that they need to have large amounts of data as proof that an MIH program will save them money. The answer to this question is intuitive and doesn't require massive amounts of data. The fact is that a properly designed MIH program's intervention billing rate is cheaper than the alternative of a 911 transport and the cost of an emergency room visit. The challenge will come from a program that isn't designed correctly and causes MIH patients originally transported to a clinic to then be emergently transported to the hospital due to a misdiagnosis by the MIH unit. This will happen from time to time even in a well-designed system, but each of these occurrences must be reviewed by the MIH program's medical director to identify causes and implement additional training or policy changes as needed. When negotiating with the ACO or insurance company, it may be a good negotiating point for the MIH department to write off that bill and accept the risk themselves.

The following are important points to consider when negotiating with your local ACOs and health insurance companies:

1. Typically, EMS is only one percent of a health insurance company's or ACO's total expenditures. Initially, they may not be interested in talking to you. You must bring to the forefront the fact that EMS drives huge downstream costs based upon what we do with our patients.
2. Your staffing model supports billing for services as per your guiding regulations and statutes. In other words, you don't want to staff an MIH unit with paramedics if your state only allows a paramedic to bill if a patient is transported to an emergency room.
3. Discuss that you are negotiating with the ACOs and health insurers (their competitors) that serve your MIH population pool. This may be a marketing tool for each of those entities.
4. Discuss the expected savings for the ACO and health insurers Keep in mind these savings are the difference from the combined 911 ambulance transport and ER costs compared to the MIH intervention bill and the treat and refer clinic costs for the patients who cannot be treated at home. Discuss the targeted MIH patient pool that you expect to reach with your MIH staffing model. If possible, compute these savings for each of your area ACOs and insurers. Remember to under commit and over deliver.
5. Discuss the fact that your jurisdictional authority has implemented local ordinances and regulations that articulates the legal authority to bill for such services.
6. Discuss your willingness to transport their patients to urgent care medical facilities or clinics that are part of their system. That will save the ACO or insurer a significant amount of money. Consider developing the means to use alternative transport methodologies if those "in system alternative receiving facilities" are a distance away.

Step Fourteen: Complete the development of the policies and procedures that will provide strong medical control and risk avoidance strategies as well as structure and guidance.

At the beginning of this chapter, it was suggested that policies and procedures would be identified through each of the steps recommended to implement an MIH program. Therefore, this process is somewhat evolutionary as the MIH administer travels the road to implement their implementation strategy. The team that develops such policies must be a robust team of EMS centered professionals. This means a medical director that knows EMS and is progressive; legal counsel that specializes in EMS, selected stakeholders that will share a degree of risk such as your clinic administrators, alternative transportation providers, etc. Labor must be heavily involved in this process as well.

Some of these stakeholders won't be needed through the entire process but will be valuable none the less. This document must be fluid. After the MIH program is implemented and the QA and QI processes are producing data, there may well be changes in this document. For instance, if it's found that certain types of patients are being transported to a contracted clinic and subsequently result in a 911 transport to the emergency room, there may be processes that need changing either with the clinic or the MIH unit protocols. Those on your team who are risk sensitive likely will want to implement the MIH patient protocols for various types of MIH patients in stages, with less risky patient categories first, so as to test the program and adjust as more is learned.

Step Fifteen: Develop and implement an effective training program.

Another key consideration to implementing an effective MIH program is the initial training and continuing education program. This is a critical step that the medical director must be involved in. Each participant must have a degree of responsibility to develop and implement this program, with the medical director leading the effort. The training effort should be directed at the following personnel:

- MIH providers who will staff the unit.
- Dispatchers and patient navigation professionals.

- Contracted clinic staff.
- Alternative transport providers.
- QA and QI professionals
- Medical billers.
- MIH program administrators.

The specifics of this training effort will be dependent upon the individual MIH program. There may be a national standard for MIH providers and patient navigation specialists in the future, but at the time of this writing, no national program exists. The individual needs of the MIH system as well as the system's design will drive this educational program.

CHAPTER TWELVE: DEVELOPING AN MIH DATA SYSTEM

Data

The issue of data can strike concern in the minds of many fire chiefs. Unfortunately, much of the fire service has not done a good job of capturing, analyzing and eventually doing something with data. This problem is magnified when it comes to EMS data as there are tremendous amounts of individual data elements recorded in each medical report. The major challenge is that most fire and emergency service data systems are not patient centric, they're operationally centric. That means that most fire departments do an adequate job at counting calls and measuring time, but aren't very good at analyzing patient-health information. This chapter is designed to convince the reader that their existing data system most likely will answer the question of whether they should even pursue MIH. The data required to implement an MIH system may require more sophistication, but there may be work-arounds that can be applied to existing fire service data systems as opposed to purchasing a new data system. This chapter is divided into four sections:

- The data required to answer the eight questions covered in detail in ***Chapter Six: Is MIH Right for You? Eight Questions to Determine if MIH Could Benefit Your Organization***.
- The data required to progress from steps one through eight in ***Chapter Eleven: Steps to Implement an MIH Program Chapter Eleven: Steps to Implement an MIH Program.***
- The data required to fully implement and operate an MIH program.
- The data required to establish maximum value.

The reason for this approach is that while working through ***Chapter Six***, some may find that an MIH program isn't right for them so little investment is needed in a data system. Additionally, while a department is working through the 15 implementation steps, they may determine that there isn't a large enough MIH population pool to provide sufficient operational and or financial return to make the program work. Therefore, enhancing their data system may not be warranted.

Section One: Data required to answer the eight questions, will an MIH program be potentially beneficial.

Data is clearly critical in developing an MIH program, but the initial questions we all must ask are; **does my community need an MIH program and will my community and the healthcare system benefit from such a program**? It's this author's opinion that basic data collected by most 911 providers can provide the answer to this critical question before too much effort and money is expended.

Chapter Six: Is MIH Right for You? Eight Questions to Determine if MIH Could Benefit Your Organization. provides a list of questions that each entity considering MIH should ask before significant effort and money is spent. Each of these questions can be answered with most fundamental CAD and or dispatch data management programs. Refer to ***Chapter Six:*** Is MIH Right for You? Eight Questions to Determine if MIH Could Benefit Your Organization.for additional details on each question listed below.

Each of the seven questions can be researched using the following method:

1. What is your reimbursement per transport for each of the last eight years? Your budget documents should provide this. You may have to perform some simple calculations if you do not already report this metric.

2. What is your cost per transport for each of the past eight years? Again, these numbers come from past budget documents.
3. Determining if the cost of your ambulance program is running away from your reimbursements.
4. What is the percentage of your patients moving into Medicaid over the last eight years? Look for trends to determine if they're coming from your uninsured patients or from another segment of your payer mix. These numbers should be easy to determine by merely going to your ambulance transport biller. If you do not transport, your transporting ambulance company should provide this or your local county health or EMS agency.
5. What is the percentage of your population who are 60 years of age or older? Your local city planners should have this number. This demographic provides a significant source of potential MIH visits.
6. EMS cueing rate. This figure should be an easy one to determine from your CAD or Records Management System. This refers to the number of calls that are placed in queue for a unit to come available and handle or a second or third due unit must handle.
7. What is the potential MIH population pool? This question is also an easy one if there is a priority dispatch system in place. It may be the total number of Alpha calls or those calls that require only BLS intervention.

Section Two: The data required to progress through steps one through eight in *Chapter Eleven: Steps to Implement an MIH Program*

If your organization determines that an MIH program could be beneficial, advanced questions will require systems that are more advanced or initially a manual search of patient records.

One of the keys to developing a successful MIH program is identifying potential patients. This is where our data systems likely will show their weaknesses. Case in point is the implementation step of identifying the types of patients who may benefit from an MIH program and, of those, which your medical director will agree to divert into your MIH program. This process begins with identifying the patients who do not require paramedic intervention. This likely is an easy question of most data systems. Theoretically, all these patients are non-emergent by nature of the fact they don't require paramedic intervention. An MIH program is designed to provide alternative treatment methods and alternative transport methodology to alternative receiving facilities such as clinics for these patients.

However, your medical director may not be willing to allow all BLS patients to be diverted. Therefore, the process to data mine for appropriate MIH patients will get down to analyzing CAD call types. However, you likely will find that your CAD call types are not specific enough to provide all the answers you'll need.

For instance, most abdominal pain calls may be transported to emergency rooms by BLS providers, but your medical director may not want all those call types diverted into your MIH program. This may be especially true for elderly patients with abdominal pain. Minor injuries and general sick call types are often used as a catch all for many call types, but your medical director may not want these patients diverted either. Since CAD call types are most likely not specific enough, a review of patient care reports may be warranted. As your medical director makes the determination of which types of patients can be

diverted with an acceptable level of risk, the need likely will be apparent that your CAD system will need additional call types.

Another weakness you likely will identify in your data is patient naming. If your organization wants an MIH add-on addressing a frequent flyer issue, your data system will need to identify those callers who use the system frequently. In order to identify such patients, the name must be entered into your data system the same exact way every time. For instance, for James Smith, entering James for one response and then Jim for another will cause your data system to produce two lists for two patients. Correlating an address may be useful to solve this problem if the person isn't homeless. Correlating a birthdate may be useful if your crews capture birthdays. A three-component verification system is best that mines for these three components, hopefully capturing at least two of them. The Kent Fire Department has found a solution by overlaying a software program on top of their RMS system.

As your data system matures and links a patient's name to their medical history, a patient naming convention will become critical.

Step Three: The data required to fully implement and operate an MIH program.

Make an MIH program functional takes a different level of data system than the type that will be required to make it an excellent MIH program outlined in step four below.

- A functional MIH program requires an electronic patient care reporting system (EPCR). This is needed so information can easily flow between your partners, contracted clinics, ACOs and insurance companies. This EPCR system must have the following requirements:
    - HL-7 computer language. This is a federally mandated insurance computer language so the information can flow between each medical provider.
    - Coordination with your state's Health Information Exchange so best practices developed by your state can be incorporated into your EPCR design.
    - Seamless transfer of information from provider to provider. This can be more difficult than it seems due to vendor proprietary constraints. Some vendors may require a clinic to purchase its own software from that vendor before information can be transferred. This can be difficult and very expensive. The design of your EPCR system must be non-proprietary in as far as sharing of information is concerned. Focus on value and what the receiver of your MIH information requires.
    - Selected information from the EPCR record must seamlessly transfer to the alternative receiving facility wirelessly and remotely.
    - Very selective information should transfer to the transport provider for destination information and billing specifics remotely and wirelessly.
    - Selected information should transfer to the insurance company for billing purposes remotely and wirelessly.
    - It must be designed to function well for the MIH professional. This electronic solution must not make the user's job more difficult. Unfortunately, it's often the case when the paper solution is easier to use than the electronic solution. That must NEVER be.
    - HIPAA compliant.
    - Patient focused instead of incident focused. Incident focused patient records are what is typically used in today's 911 systems. These systems often focus on operational data instead of patient focused data. In other words, systems may include a previous response to the

address but not the patient medical information from that previous response. MIH needs patient focused data systems.

- The EPCR and associated data system must measure those elements that your MIH program is designed to address. Examples are:
  - If your MIH program is designed to reduce frequent flyers, then the system must capture each patient that uses your 911 system over a set threshold and then measure those MIH interventions and 911 calls from each of those patients so as to measure reductions.
  - If your MIH program is designed to improve the operational effectiveness of your 911 system, then the data system must benchmark and measure improvements in cueing and 911-unit response times as well as system response times.
  - If your system is designed to avoid ambulance transports and emergency room admissions, then the data system must be able to measure such avoidances against pre-MIH implementation measures.
  - If your MIH program is designed to reduce hospital readmissions, then the MIH program's data system must measure the re-admittance occurrences before and after the implementation of the MIH program. This will measure success.
- The goals of your MIH program must be carefully identified so your data system can be designed to measure progress and successes as well as comparing your MIH program to existing benchmarks.

Step Four: The data required to establish maximum value.

The more a program's data can interact with other components of the healthcare system with meaningful and actionable data, the more value your MIH program brings to the system. Remember that engineering value into your MIH program is the name of the game.

In 1996, the National Highway Traffic and Safety Administration (NHTSA) published a document titled *The EMS Agenda for the Future.* In the introduction, the story was told of an EMS call of the future. Back then, the future was in 2009!

> *Joe S is a 60-year-old male who emigrated from Russia in 1995 to work for a software company. He does not speak English very well. He has several cardiac risk factors…… for the past two days, he has had mild, intermittent chest discomfort unrelated to exercise. However, at 1100 pm, the discomfort suddenly becomes more severe. Jo's wife, worried and anxious, instructs their computerized habitat monitor or CHM to summon medical help. Through voice recognition technology, the CHM analyzes the command, interprets it as urgent and establishes a linkage with the appropriate public safety answering center or PSAC. At the PSAC, a "Smart Map" identifies and displays the location of the call. Richard Petrillo, the emergency medical communicator or EMC notes the type of linkage that has been established. He also knows what sort of query can be conducted through this linkage. Petrillo commands the PSAC computer to instruct Joe's CHM to identify the potential patient, report his chief complaint and provide his medical database identifiers. In the meantime, the "Smart Map" has identified the closet acute care response vehicle and Petrillo instructs the computer to dispatch it. The CHM provides the requested information and responding personnel are automatically updated via their personal digital assistants or PDAs. Petrillo accesses the patient's health database, obtaining Joe's current*

health problem list, most recent electrocardiogram, current medications, allergies and primary care physician data. This information is automatically copied to the responding personnel's PDAs and to the medical command center computer. The PSAC computer also downloads pre-arrival instructions to the CHM which provides them to Joe' wife.

It's fascinating to see that much of the technology just dreamed about in the mid 1990s when the Agenda was being written is available today. A doctor no longer relies on thick files of paper to provide a patient's health record but rather electronic data files. No longer is a paper file copied and sent to a new physician or to a hospital if a patient is admitted but is accessed within seconds through secured internet data pathways. This information includes recent lab results, EKGs, x-rays and other tests. The problem is this valuable information is not yet available to EMS.

For a data system and the MIH program to provide maximum value, it must talk with all appropriate components of the healthcare system, including EMS. Having access to this type of data would be truly valuable; to be with a patient with a history of congestive heart failure, to know that patient didn't make their last doctor's appointment and to access the patient's personal cardiac physician's staff, schedule an appointment in 60 minutes and facilitate transport provides real value.

This scenario would avoid an ambulance transport and an expensive emergency room visit that would have no doubt told the patient to see their cardiologist, thus providing a degree of treatment that would have been done at the cardiologist' office anyway. This true connection of a patient's health data with each component of their health system, including EMS, provides seamless patient care without the duplication that often occurs when a patient is seen by a medical professional with no access to that patients' medical history.

As an MIH provider designs their data system, this type of interconnectivity must either be incorporated into the design itself or the data system must be constructed to easily adapt to this level of interconnectivity in the future. During the implementation phase of an MIH program, these data design elements must be considered and discussed with those partners that will be integral components of your MIH program, such as your contracted clinics, alternative transport providers, insurance companies, accountable care organizations and others. The local health information exchange (HIE) must also be consulted. The concept of HIE is "mobilization of healthcare information electronically across organizations within a region, community or hospital system." This is a federally supported effort and is active in most states. Your local or state HIE may have already developed connectivity with your healthcare partners.

In summary, varying levels of data system capabilities are needed by an agency looking to implement an MIH program. The most basic only has to answer the main question: Is MIH a good idea for my department? A slightly higher level of data-system complexity may be required during the initial phases of implementation with the more advanced levels of data management needed only if MIH is implemented. The most advanced data system described in the *EMS Agenda for the Future* isn't required but will provide the most value to your partners and the most operational and financial benefit, along with the highest value to the healthcare system and your patients.

CHAPTER THIRTEEN: LEGAL ISSUES AND POLICY DEVELOPMENT

As healthcare professionals, our profession is a creature of statute. Generally, each state has adopted legislation creating a system of and authorizing the provision of pre-hospital healthcare. In addition, there are state agencies that are charged with developing and adopting rules regarding scope of practice, certification, continuing education and other related issues.

State Legislative Issues

The advent of MIH has presented new ideas and challenges to the provider on the street, department administrators, medical directors, and even the state offices responsible for regulating EMTs and paramedics and the prehospital environment. One of the most significant challenges that have evolved out of MIH is whether MIH is permitted under current state law and if so, to what extent? NASEMSO's CP-MIH Committee published a study in May 2015 that examined many aspects of MIH, one of those issues being the statutory status of MIH in the United States.

The following questions (and the corresponding results) related to legal authority and MIH were asked of respondents as part of the larger study:

- Have you interpreted your EMS enabling statute as allowing community paramedicine (within your scope of EMS practice for those individuals) to be provided in the state?
    - 25 states interpreted their statute as allowing community paramedicine
    - 14 states do not interpret their statute as allowing the practice of community paramedicine

Nine states interpret their enabling legislation as prohibiting the practice of community paramedicine in their state. Eight of these states, though, anticipate a legislative change to permit community paramedicine within the next three years.

- Do you now or do you expect to formally certify/license:
    - CP-MIH Provider – 18 of 20 responding states answered in the affirmative
    - CP-MIH Provider Agencies – 10 of 20 responding states answered in the affirmative
- Do you have regulations or a scope of practice for community paramedicine practitioners that is different from the scope of practice for other EMS providers in your state?
    - 3 of 49 responding states answered in the affirmative
    - 46 of 49 responding states answered in the negative

The results of the NASEMSO study are interesting in that:

- 50% of the states believe MIH is permitted under current state law
- 16% of the states anticipate a change in their respective laws to allow MIH
- 36% of the states formally certify MIH providers
- 6% of the states have an advanced scope of practice for MIH providers

The results are based on the respondent's interpretation of their respective state's legislation and do not provide an in-depth legal analysis of each statute. The study shows that most states believe the practice of MIH is permitted (or soon will be permitted) in their state. Less than half the states, though, certify MIH providers or agencies and only a handful have an expanded scope of practice.

If your organization is developing an MIH system, it's imperative that you involve your organization's legal counsel at the outset to ensure that your system is compliant with your state's regulations. From a practical standpoint, your MIH system development must consider the limitations of your scope of practice and provider certifications. Many organizations that are faced with state regulations prohibiting community paramedicine or that do not have an advanced scope of practice are addressing this issue by partnering a paramedic with a nurse practitioner or similar higher-level professional. This resolves the scope of practice issue and permits treat-and-release and treat-and-refer (including the ability to write prescriptions). While legal issues can be significant hurdles, they can be addressed with creativity and strategic partnerships.

Local Response Ordinances

In general, local jurisdictions have the authority to establish their own response policies, procedures and ordinances as they see fit. State law typically doesn't address how an organization responds to the needs of its community. The community's expectations and national standards do play an important part in determining how a jurisdiction will respond to calls for assistance, their standards of coverage and response times.

As a jurisdiction reviews its local response ordinances in contemplation of an MIH system, they should consider:

- What criteria are used for determining if a call for assistance or patient referral qualifies to be routed through the jurisdiction's MIH system? Who is making this determination and how are they making the determination?
- Once that call or referral is entered into the MIH system, what follow-up mechanism is in place to ensure patient contact is made and the appropriate care is provided? How quickly is contact made once the patient is entered into the MIH system?
- Who is going to staff the MIH system? What is required in terms of training and continuing education for MIH staff? Who provides medical direction and what are their qualifications? Are allied health professionals involved?
- Can the jurisdiction provide MIH without falling outside of their statutory immunities?
- Are there collective bargaining issues that must be addressed with employees?

Organizational Policies

The implementation of MIH requires a thorough analysis of the legal considerations and issues involved with creating a new discipline or service delivery model. In response to the legal analysis, a structured policy development must occur. After implementation of the policies, it's important to conduct a periodic review of the legal considerations and implemented policies considering developments over time. The following list is meant to highlight the legal issues that are involved with various portions of an MIH system:

- *Needs Analysis* – An organization should utilize tools and stakeholder input to determine whether an MIH system is necessary in their community. If a system is needed, what should that system look like? There should be a policy/process for consistently reviewing the community's needs and whether the MIH system is addressing those needs.

- *Personnel Selection*

- Policies should address which personnel are going to be involved with the MIH system, both internally and externally. Involving the right people are key to ensuring the success of the system.
- As part of creating a new system, consideration must be given to staff in terms of qualifications, wages and collective bargaining issues.

- *Training* – Personnel need to be trained to operate within the MIH system—again, both inside and outside of your organization. Patient care is of the utmost importance and staff must be trained specifically to address the types of situations they will encounter. Interaction with patients, other health professionals, social service agencies and even Medicare, Medicaid and insurance carriers will also require additional training outside the typical scope of emergency response.

- *Continuing Education* – Once initial training occurs, continuing education will be a constant need for all facets of the MIH system.

- *Medical Direction* – Depending upon the needs identified, the organization's medical director may not be familiar with or qualified to guide care providers. Additional medical direction and staffing may be necessary.

- *Certification and Scope of Practice*

  - If your state has implemented a separate certification or training requirement to provide MIH, then your system and providers must meet these state requirements.
  - Providers must remain within their scope of practice.

- *Documentation/Data Collection and Quality Assurance*

  - How will your patient interactions be documented? Who has access to that documentation and how will it be shared, both within the organization and with outside partner?
  - HIPAA.
  - How is your quality assurance or case review process occurring? The PPACA and CMS may play a significant role in this process, especially with respect to data collection.

- *Patient Management* – What qualifies an individual to be treated through your MIH system? Is it voluntary or mandatory? Can a patient be referred into your system by another healthcare provider or social services agency? Can you refer a patient out of your system to another professional? What happens when the patient exceeds the scope of your MIH system?

- *Reimbursement* – How are you going to pay for your MIH system? What expenses will Medicare, Medicaid and third-party payers cover? Is your cost-recovery system set up to manage collections for an MIH system? Is your cost-recovery system PPACA- and HIPAA-compliant?

Organizational Liability

Every facet of fire and emergency medical operations has some degree of liability. The implementation of an MIH system is no different. Many of the issues that were identified in the section above are the same regardless of whether the incident is a structure fire, automobile accident or chest-pain call. MIH, though, introduces two significant concerns for liability based on the structure of your MIH system.

Your MIH system may be developed to provide consistent, long-term, in-home care for patients. The liability within this type of system occurs in terms of communication and follow-up between the patient,

the MIH-provider and other healthcare professionals involved with the patient's care plan. Failing to communicate or inadequately communicating an issue, concern or development in the patient's condition or treatment to the correct healthcare professional in a timely manner could give rise to significant liability if the patient is negatively impacted because of the MIH provider's misfeasance, malfeasance or nonfeasance.

If your MIH system is designed to allow treat-and-release or treat-and-refer, these alternatives to treating and transporting patients to emergency departments involve different liability issues. Treat-and-release processes allows EMS personnel to treat a patient in the field without transporting to a higher level of care for diagnosis by a physician and follow-up observation. The obvious liability issues arise when an EMS provider misdiagnoses a patient's condition or a patient's condition deteriorates after the patient is released and EMS personnel leave the scene. The option to treat and release a patient eliminates the assurance that the patient will receive definitive, follow-up care from a physician.

Treat-and-refer differs from treat-and-release in that the patient is referred to a social service agency or other healthcare professional after initial contact and assessment by EMS personnel. Just as treat-and-release, the opportunity for misdiagnosis and deterioration in patient condition applies to treat-and-refer systems.

Additional liability arises when gaps, miscommunication or failures in communication occur between EMS personnel who make initial contact with a patient and the follow-up care or attention received by providers to whom the patient has been referred.

Ultimately, organizational liability for MIH is similar to our current exposure in providing EMS. Additional liability arises, though, from misdiagnoses, communication gaps and potential problems in follow-up care or services for patients entered into the MIH system. There are means, though, to mitigate these risk factors. For example, an accredited call center/dispatch center staffed with appropriate and certified personnel is essential to assisting in managing patient care. In addition, with the advent of telemedicine, field providers can have immediate contact with a physician for a consult and guidance on how to manage the patient's condition. Risk and liability are inherent in our profession, but are manageable with thoughtful application of policies, procedures and risk-management tools used in other disciplines of our profession.

Risk Management

A successful MIH system requires a proactive, robust, thorough and dedicated risk management system. With the implementation of MIH, fire and EMS agencies are entering a healthcare delivery system that is like and interconnected with hospitals and physician-based healthcare delivery systems. The MIH provider in a sense becomes a definitive care provider akin to a physician—quite unlike the current EMS model wherein the typical EMS provider spends less than an hour with their patient and transfers care to a physician in an emergency department.

Hospitals and larger physician practices have staff (including attorneys) dedicated to risk management. Emphasis is placed on risk management because the risks involved in providing patient care are generally predictable or identifiable and can be mitigated with proper analysis, policy development, training, follow-up and feedback. Fire and EMS agencies that implement MIH systems would be wise to follow this practice. The following are several considerations that should be given to creating a risk management system within your agency's MIH system:

- Retain competent legal counsel to advise your MIH system. Many agencies are served by their city attorney, the prosecutor or some other type of in-house legal counsel. These offices,

though, are typically not familiar with medical-legal issues and risk management. Your MIH system will be well-served by involving competent legal counsel from the beginning steps of establishing your MIH system.

- Dedicate the required staff and resources to create, maintain and support your risk management system. MIH will require constant attention and follow-up.
- Implement thorough, written agreements between your agency and other social service and healthcare professionals that are part of your MIH system. These agreements should detail each party's duties and responsibilities. In addition, to ensure HIPAA compliance, execute Business Associate Agreements with your partnering providers.
- Draft written policies for all personnel within your MIH system and ensure personnel are constantly educated on these policies.
- When a negative patient outcome occurs or personnel violate a policy, ensure that the situation is thoroughly analyzed to determine if policies or procedures need to be revised or if additional training or education should occur so the incident doesn't occur again.

Conclusion

MIH will play a significant role in the future of fire-based EMS in the United States. Just as the introduction of EMS transformed the fire service, MIH will present new challenges and opportunities to organizations that are forward-thinking and responsive to the needs of their communities. Agencies must give due consideration to the legal issues involved with this new service delivery model to ensure the success of their program and the safety and well-being of their patients.

Section V: Develop Your Knowledge of EMS/MIH to Promote your Innovative Proposals to Mayors, Councils and Boards

If it's found that implementing an MIH program is the right thing for your community's needs, then the fire chief will need to educate their boards, city managers, mayors and other elected officials regarding MIH. Different elected bodies may have different focus areas. Some may want to implement MIH because they feel they have the responsibility to be innovative and progressive. Others may want to look at a new program from a business perspective. ***Section IV*** is designed to provide such perspective but must be used with the other sections of this handbook for a well-rounded knowledge base that will be required so the fire chief can provide the right argument for the right elected officials.

CHAPTER FOURTEEN: EDUCATION COMPONENT FOR ELECTED OFFICIALS

APA Education Component for Personnel and Elected Officials

Implementation of the PPACA has led many in traditional and social media to launch accusations and half-truths concerning its impact. Because of the misinformation, many supervisory and line personnel are uncertain how the PPACA will affect agencies and their employees. The overriding goal of the PPACA's implementation and a major focal point, besides the access to health insurance, is the fact that the PPACA is quality driven. The underlying Triple Aim encourages focus on improving healthcare, both the experience and the quality, while achieving a greater value or cost per capita.

The United States spends more than any other country in the world, yet is ranked 37th by the World Health Organization (WHO) in health systems. Put another way: we spend a lot of money to get average results. One tactic is to reimburse agencies based upon quality care—not flat rate fees—supporting programs that curb rising costs of healthcare and reducing fraud, waste and abuse.

This change will force our deployment model to evolve or become obsolete. While we might initially lose reimbursement, as the model today will only pay for the traditional transport negotiated prices, in the future, we'll be provided reimbursement for treatment and procedures without an associated transport. One recent example is the state of Arizona and reimbursement for providers to treat and refer patients beginning in January 2017. Departments may have to change deployment and delivery models, which can be even more challenging than usual given the complexities and unknowns with the PPACA.

The good news is that we may receive reimbursement for essential services to patients such as the treat, release and refer to an appropriate level-of-care approach. This may potentially reduce the number of transports we perform, which will decrease our costs for services that wouldn't traditionally been reimbursed. The goal of receiving accurate reimbursement for necessary procedures and transports is in line with reducing the costs of healthcare services, similar to how the remaining healthcare field has been focused for the last few years.

Understanding the scope of practice in your state is key to determining how to navigate your program and insuring it will fit within your organization's mission and is aligned with other healthcare providers as needed. If not already implemented, working with dispatchers to implement priority dispatching will enable organizations to determine the types and needs of 911 callers. Once a solid understanding of the

nature and types of calls is understood, different process can be utilized to manage less urgent calls that are unrelated to a traumatic event, such as a 911 call for sore feet.

These non-urgent calls are overloading our 911 system and the emergency departments of many hospitals. As a result, across the nation hospital offload times are extended and the impact to our EMS system creates increasing challenges. Our traditional response to these increased demands would be to increase the number of 911 ALS units in the system. Another way to address these ever-increasing demands on our systems is to implement an MIH solution that meets the lower acuity call demand allowing the 911 system units to remain available for truly life-threatening injuries and illnesses.

First, these types of calls may be routed to more appropriate health solutions such as a nurse hotline or medical command center, instead of dispatching an engine or ambulance crew to make a scene response. Utilizing this process may allow departments to develop response solutions to meet the local needs other than sending first due units to low acuity calls. This would include utilizing a smaller crew and unit to deliver care to the patient and refer them to a destination that doesn't include an emergency room.

Second, to do this, agencies must increase skills-based triage, transport knowledge and decision-making processes based upon protocols aligned with CMS guidelines. State EMS boards and local medical directors will need to modify the methodology that all patients must be transported to the emergency department regardless of the injury or illness. This shift in approach will likely result in an increased workload for EMS crews as predetermined protocols will be replaced by treatment options, justified by the crew members and annotated in the report for successful reimbursement. This will also cause a reduction in wasted medical supplies for actions and treatments that may not be necessary but are in place according to protocol or covered in a base fee.

Third, documentation education for EMS crews will need to expand and crews will experience increased time requirements to gather accurate medical history of a patient, to consult with medical command centers and to include the next steps in the patient's care plan. EMS crews will be required to make determinations on what can be treated in the field and what must be seen by a physician or other healthcare provider through normal office appointments, urgent care centers, chronic pain centers, alcohol and drug rehab centers and more facility-based care options.

In many areas, community paramedics are already performing actions to reduce abuse of ambulance transports and emergency department crowding by responding to and treating patients in a coordinated effort with physicians and healthcare services. CMS will drive and push more interactive managed healthcare throughout all levels of the healthcare system.

CHAPTER FIFTEEN: HEALTHY POPULATIONS

CMS defines it destination as follows:

OUR DESTINATION

CMS will continue to leverage our internal resources and external partnerships to fulfill our mission – ***as an effective steward of public funds, CMS is committed to strengthening and modernizing the nation's healthcare system to provide access to high quality care and improved health at lower cost.***

In our effort to fulfill this charge, our vision of future success is ***a high-quality healthcare system that ensures better care, access to coverage and improved health***. We are focused on measurably improving care and population health by transforming the U.S. healthcare system into an integrated and accountable delivery system that continuously improves care, reduces unnecessary costs, prevents illness and disease progression, and promotes health. We will find better ways to ensure that the right care is accessible and delivered to the right person at the right time, every time.

As the largest payer of healthcare service in the country, CMS has begun to provide the funding variances needed to move from a sick care system to an actual healthcare system. Improved health is a cornerstone as well as access to care. The fire service is well positioned to be a major player in providing both access and in-home care.

New Fire-based Medical Services

The fire service offers many distinct advantages to providers and payers of healthcare services. The geographical coverage provided by the almost 31,000 fire departments in the United States makes the fire service one of the best-positioned organizations to meet the needs of the nation's 314 million people. Local knowledge and trust, complimented by a structured approach to tasks, aligns well with the future of healthcare under the PPACA.

The continuum of prehospital to hospital to post-hospital care is being scrutinized like never before. Minimizing in-hospital stays for patients is a major goal of many health plans, with treat, release and refer programs becoming a preferred approach. Keeping patients within their care plans is both desirable and good patient care. Once a patient is committed to the 911 process and transported to the local hospital, the care plan can become disrupted and additional cost and testing can occur.

Community risk reduction is a vital part of the fire service mission. Similar to implementing successful pre-plans for fire prevention in high-risk target hazard occupancies, conducting a community needs assessment to determine at-risk populations is one way the local fire service can work with their healthcare system to improve the overall health of the community.

The fire service also can play a significant role in reducing transports into the emergency department in both the prehospital and post-hospital environments by keeping patients within their care plans. Acting as connectors to other community healthcare resources will help care coordination and fill gaps in the continuum of care, both of which are important community-based engagement activities, which the fire service can promote through their program efforts.

Fire-service programs that can help facilitate this goal are highly sought after by payers of healthcare. These programs can include the following areas of focus:

- General physical exams or assessments
- History and physical exam related to the diagnosed condition
- Medication compliance review and reconciliation
- Daily/weekly weight checks
- Oxygen saturation check
- End tidal carbon dioxide check
- Blood pressure checks
- Blood draw
- Urine collection
- Immunizations
- Obtain 12-lead ECG and transmit to PCP
- Place or remove peripheral intravenous lines
- Dressing change
- Diabetic follow up, show how to use CBG monitor, etc.
- Post-injury or -illness follow up
- Metered dose inhaler use
- Peak flow meter education and usage
- Neurological assessment
- Social support evaluation (could partner with community agencies as needed if needs arise)
- Caregiver support identification
- Teleconference with patient, medic and PCP or midlevel provider as needed.
- Coordination with in-home health services
- Referral of out-of-scope issues to PCP
- Fluid intake and nutrition assessment
- Environmental assessment (identification/removal of trip-fall hazards, replacement of lights, food-supply inventory, nutrition support, leaking water sources that could create mold, identification of respiratory triggers, etc.)
- chronic disease education
- Delivery of a patient's medication from the pharmacy to prevent nonadherence

After the appropriate programs are evaluated based on the community risk assessment, it's time to decide if an MIH is needed in the community your department serves. These services are not just being offered to large population areas. As of January 1, 2016, many fire departments throughout the United States have joined the effort to improve healthcare services to its citizens.

If your department has the capability to implement non-emergency prehospital or posthospital care, then research other like-sized departments with similar demographics to help create the ideal model program for your organization. This will also provide statistical information to help determine the estimated cost for implementation and annual operating costs. If funding is limited, then start small with the services provided and a reduced target audience until the required number of personnel are in place to support the type of program needed in your community. New funding sources are evolving from CMS reimbursing EMS providers in Arizona for treat-and-release and treat-and-refer, to signed contracts with hospitals, nursing homes, hospice, home health and managed care organizations as they realize the benefits of MIH to reduce cost and increase quality and efficiency.

Section VI: Appendix

Additional information and report on MIH programs and organizations can be found via the websites listed below.

- Anaheim Fire's MIH Program, Community Care Response Unit

  http://local.anaheim.net/administration/PIO/news.asp?id=1843

  http://www.jems.com/articles/2015/07/anaheim-community-paramedicine-pilot-program-shows-promise.html

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- Population Health Advisor, *Community Paramedicine: Case Profiles of Successful Care Models*, May 2015

  https://www.advisory.com/research/population-health-advisor/white-papers/2016/how-to-develop-a-community-paramedicine-program

- *Principles for Establishing a Mobile Integrated Healthcare Practice*, Presented by The Mobile Integrated Healthcare Practice Collaborative Supported by Medtronic Philanthropy

  http://www.allmh.com/sites/default/files/assets/MIHP_Guide.pdf

- Mobile Integrated Healthcare. Population Health Management, American Medical Response (AMR)

  https://www.evolution.net/resources/brochures/mih_brochure.pdf

  https://www.evolution.net/resources/articles-case-studies-white-papers/evh_mih_whitepaper_final.pdf

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