

Mobile Integrated Healthcare and Community Paramedicine (MIH-CP)



Insights on the development and characteristics of these innovative healthcare initiatives, based on national survey data

Presented by the National Association of
Emergency Medical Technicians



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¹Meaney PA, et al. *Circulation*. 2013;128:417-35

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on MIH-CP, visit naemt.org

Mobile Integrated Healthcare and Community Paramedicine (MIH-CP): A National Survey

Over the past several years, two new types of patient care offered by EMS agencies have generated tremendous interest within EMS and the wider health care community. Called mobile integrated healthcare and community paramedicine (MIH-CP), many believe these innovations have the potential to transform EMS from a strictly emergency care service to a value-based mobile healthcare provider that is fully integrated with an array of healthcare and social services partners to improve the health of the community.

Though still evolving, MIH and CP programs operating around the nation are providing a range of patient-centered services, including:

- ➊ Sending EMTs, paramedics or community paramedics into the homes of patients to help with chronic disease management and education, or post-hospital discharge follow-up, to prevent hospital admissions or readmissions, and to improve patients' experience of care.
- ➋ Navigating patients to destinations such as primary care, urgent care, mental health or substance abuse treatment centers instead of emergency departments to avoid costly, unnecessary hospital visits.
- ➌ Deploying telemedicine to connect patients in their homes with caregivers elsewhere.
- ➍ Providing telephone advice or other assistance to non-urgent 911 callers instead of sending an ambulance crew.

To add to the EMS profession's understanding of the development, characteristics and status of MIH-CP in the United States, NAEMT conducted a comprehensive survey in late 2014 of the nation's currently operating MIH-CP programs.

This summary analysis reports the results of that survey, and the conclusions

that can be drawn from the data. Analysis was provided by our author team, which includes several of the nation's MIH-CP thought leaders, medical directors and MIH-CP program administrators.

Survey finds much enthusiasm, significant obstacles

The survey identified more than 100 EMS agencies that have worked diligently over the past several years to determine their communities' needs, build partnerships to launch these innovative programs and contribute to solving the key issues facing American healthcare.

The promise of these programs has garnered the attention of a broad spectrum of stakeholders, ranging from hospitals to physicians groups, private insurers and the Centers for Medicare and Medicaid Services (CMS). The interest has enabled some MIH-CP programs to secure grants to cover the initial development and operation of their programs. The largest and most well publicized funding came from the CMS Innovation Center, which awarded grants to several EMS agencies and their partners beginning in 2012 to study the effectiveness of MIH-CP programs in achieving the Institute for Healthcare Improvement's Triple Aim: improving the patient experience of care, improving the health of populations and reducing the per capita cost of healthcare.

Outside of the federal grants, other EMS agencies have been successful in securing grants from foundations, or in negotiating contracts with partners such as hospitals, Medicaid managed care organizations,

home health agencies, hospice agencies and private insurers. Those contracts may include payments for MIH-CP services based on fee-for-service, a per-patient or capitated fee, or other shared savings arrangements.

Yet most EMS agencies launching MIH-CP programs have and continue to fund these programs out of their existing budgets – a sign of their dedication but worrisome from a financial perspective.

Compounding these challenges, the newness of EMTs and paramedics taking on new responsibilities, albeit ones within their scope of practice as defined by state laws and regulations, has also raised concerns among some regulators, nurses and other health professionals who question whether EMS should be permitted to offer MIH-CP.

Data provides a national snapshot

To date, the data collected by this survey and analyzed in this summary represents the only compendium of information from the nation's currently operating MIH-CP programs. Respondents, who included EMS agency directors, medical directors, and MIH-CP program managers and practitioners, represent diverse communities and provider types, from 33 states and the District of Columbia.

NAEMT would like to thank the respondents who took the time to tell us about their programs. We would also like to thank NAEMT's Mobile Integrated Healthcare-Community Paramedicine Committee for developing the survey questionnaire, and our author team for generously providing their time and insights in analyzing the data.

Mobile Integrated Healthcare and Community Paramedicine (MIH-CP): A National Survey



IMAGE PROVIDED BY KEVIN PIEPER/THE BAXTER BULLETIN

Community paramedics from Baxter Regional Medical Center in Arkansas provide post-discharge follow-up visits and connect patients to primary care.

of the NAEMT MIH-CP Committee and included more than 50 questions asking respondents to describe all aspects of their MIH-CP program, including program activities, partners, agency demographics, medical direction, funding, revenue, goals and data collection.

In September and October 2014, the survey was distributed to approximately 150 agencies that were either known or thought to have an MIH-CP program. During that time, NAEMT continued to do outreach to refine the list of agencies with confirmed MIH-CP programs.

As of November 2014, we received a total of 137 responses. Of those, 26 did not have MIH-CP programs; 111 did. Two did not provide any identifying information and were eliminated; two were significantly incomplete and could not be used. Four were duplicate answers from the same agency, so only one from each agency was included, for a total of 103 completed surveys.

Based on our search, we can say with confidence that this represents the vast majority of MIH-CP programs nationwide at the end of 2014.

However, it should be noted that new programs are coming on board every month, so by now there may be more. Our search also yielded many programs reportedly in the final stages of development or awaiting final grant or regulatory approval, such as the dozen programs that are part of the California pilots slated for launch in the first half of 2015 and six programs slated to launch in Michigan, also this year. These were not included.

Survey Targets

Between April and October 2014, NAEMT conducted a thorough search to identify MIH and CP programs in the United States. Sources included:

- ⊕ An earlier NAEMT MIH-CP survey widely distributed in 2013 by NAEMT and several other national EMS organizations as part of the Joint National EMS Leadership Forum.
- ⊕ Media reports and Google searches.
- ⊕ Other written materials, such as white papers and research studies, that referenced MIH or CP programs.
- ⊕ Interviews with EMS industry contacts.
- ⊕ Information provided by state EMS offices.
- ⊕ Phone calls and emails to individual EMS agencies.

To determine inclusion as an MIH-CP program, we used the definition for MIH-CP contained in the MIH-CP Vision Statement, spearheaded by NAEMT and endorsed by more than a dozen national EMS and emergency physicians' organizations in 2014. The Vision Statement defines MIH-CP as being fully integrated; collaborative; data-

driven; patient-centered and team-based. Examples of MIH-CP activities can include, but are not limited to, providing telephone advice instead of resource dispatch; providing chronic disease management, preventive care or post-discharge follow-up; or transport or referral to care beyond hospital emergency departments.

Because there is no strict definition of MIH-CP, however, we had to make judgment calls about inclusion. For example, one EMS agency in a remote mining area of Alaska indicated they utilized telemedicine to connect patients with physicians in larger cities; this agency was not included because the goal was to provide assistance with acute situations, not education, preventive care or assistance with chronic disease management. We also did not include EMS agencies that described a high level of community involvement, such as providing community education on accident or falls prevention, teaching CPR, or conducting health screenings, but did not include any of the other elements of MIH-CP.

Questionnaire covers all aspects of MIH-CP

The survey was crafted with the input

The Important Role of the Community Needs Assessment

There is broad consensus within EMS that MIH-CP programs are not one-size-fits-all, but should be developed to meet community needs. It's also widely accepted that MIH-CP programs should not duplicate or compete with already existing services, and instead fill gaps in existing services. The way to determine where those gaps are is through a community needs assessment as part of the MIH-CP planning process.

95%

Agree that their MIH-CP program is filling a resource gap in their local community

74%

Agree that their program is based on the defined needs of their community as expressed by local stakeholders

While that premise seems self-evident, "community needs assessment" is a term more familiar to public health professionals than first responders, and may mean many things to many people. The survey sought to describe the nature and source of community needs assessments within operating MIH-CP programs.

According to survey responses, **three in four agencies (77 percent) report conducting a community needs assessment.**

Yet when a question about conducting a community needs assessment was asked in a slightly different way – whether they agree or disagree with the statement, "Your program is based on a formal community needs assessment" – the responses were somewhat different. Only half (51 percent) agreed, 25 percent were neutral, and 21 percent disagreed. This perhaps indicates confusion over what constitutes a "formal" versus an "informal" community needs assessment.

Sources of data, stakeholder input

Of agencies that conducted a community needs assessment, the most commonly used data source is EMS data (87 percent), followed by population demographics (63 percent), hospital discharge data (55 percent), emergency department data (54 percent), public health data (41 percent), other data (12 percent), and law enforcement data (11 percent). Only 2 percent of agencies say they used no external data.

When asked to describe their community assessment, many agencies report having meetings, roundtables and establishing working groups or steering committees involving a variety of stakeholders, including hospitals, social services, mental health, law enforcement, assisted living facilities, public and private payers and public health departments.

MIH-CP programs should strive to reach patients before they become frequent users

Based on this survey, EMS agencies engaged in MIH-CP rely predominantly on data from individuals who utilize EMS services or have been cared for by the hospital system. This focus may hinder the MIH-CP system from gaining a full understanding of the needs of their community, such as individuals who have not accessed the 911 or hospital system but who may have significant care needs. As MIH-CP continues to develop, a long-term goal may be to reach members of the community before their health or psychosocial issues have deteriorated to the point where they become frequent users of hospitals and EMS systems.

Programs in existence for over two years were more likely to use a wider variety of data in assessing community need.

A narrow focus on patients already on the radar of hospitals and EMS may also restrict available payer sources. While focusing on this group of patients offers the opportunity for a "cost savings" source of revenue, it misses other potentially reimbursable patient encounters from the large pool of individuals who have not been hospitalized.

To identify these patients and gain a more complete look at community needs, MIH-CP systems should strive to use as many data sources as possible to identify the needs of a much broader population within the community.

It's worth noting that programs in existence were more likely to use data other than EMS data – 86 percent used population demographics, 62 percent used public health data, 62 percent used emergency department data, 19 percent used law enforcement data, and 19 percent used other data – suggesting that longer-duration programs use a broader set of community health data when evaluating healthcare gaps in their community.

Medical Direction Involves **Multidisciplinary Collaboration**

In emergency response, the role of the physician medical director is to ensure quality patient care. Responsibilities include involvement with the design, operation, evaluation and quality improvement of the EMS system. The medical director has authority over patient care, and develops and implements medical protocols, policies and procedures.

The role of medical direction in MIH-CP is in some ways similar, with protocol development (88 percent) topping the list of responsibilities. However, because MIH-CP focuses on coordinating care over a longer period than the typical EMS call, medical direction in the MIH-CP context may include additional responsibilities, often done in collaboration with primary care or other healthcare providers outside of the EMS agency. That can include the development and approval of care plans (62 percent), phone consultations (64 percent) and telemedicine consultation (18 percent).

EMS Medical Director Role

- 88%** Protocol development/ approval
- 64%** Phone consultation
- 62%** Development/approval of care plans
- 42%** Guidance on alternative destinations
- 18%** Live online telemedicine consultations

Hours of medical direction/ oversight provided per week

- Less than 10..... **79%**
- 10 to 20 **16%**
- More than 20..... **4%**

Others who provide medical direction and advice to MIH-CP programs

Primary care physicians (52 percent), on-call emergency physicians (29 percent) and specialty physicians (32 percent) are also called upon to provide medical direction or advice regarding MIH-CP patient care. Other sources of medical direction named by one or more respondents included other hospital physicians, physician assistants, surgical nurse practitioners, RN case managers and psychiatrists.



This collaboration is evident in the more than half (51 percent) of respondents who say that they obtained approval from partner organizations for their clinical protocols.

Breaking down silos: MIH-CP is team-based

From medical homes to care teams to accountable care organizations, the concept of collaborative, integrated, patient-centered care is a major theme of healthcare reform – and MIH-CP.

77% Agree that their program is a multidisciplinary practice of medicine overseen by physicians and other healthcare practitioners

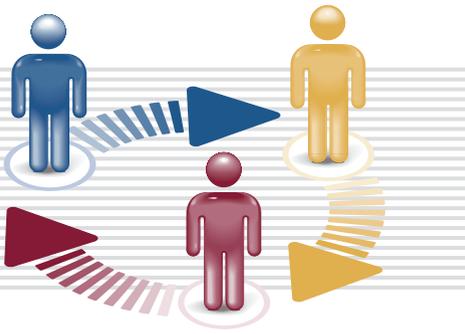
70% Agree that their program is team-based and incorporates multiple providers, both clinical and non-clinical

96% Agree that their program is patient-centric and focused on the improvement of patient outcomes

1 in 4 agencies

report using telemedicine in their MIH-CP programs. It was not specified whether that involves specific telemedicine applications or more commonplace EMS activities, such as ECG transmission.

Mobile Integrated Healthcare and Community Paramedicine (MIH-CP):
A National Survey



MIH-CP Programs Partner With an Array of Healthcare, Social Services Agencies

Mobile integrated healthcare by definition integrates with all entities that impact patient care and wellness. This integration is necessary for multiple reasons.

Patients who have frequent contact with EMS and hospitals often have multiple medical problems, comorbidities and complex psychosocial circumstances. These health issues cannot be solved by a single entity, but instead require the expertise of a variety of healthcare providers, social services agencies and community resources. For EMS, these partnerships enable MIH-CP

programs to match each patient's needs with the right resource.

Referrals go both ways

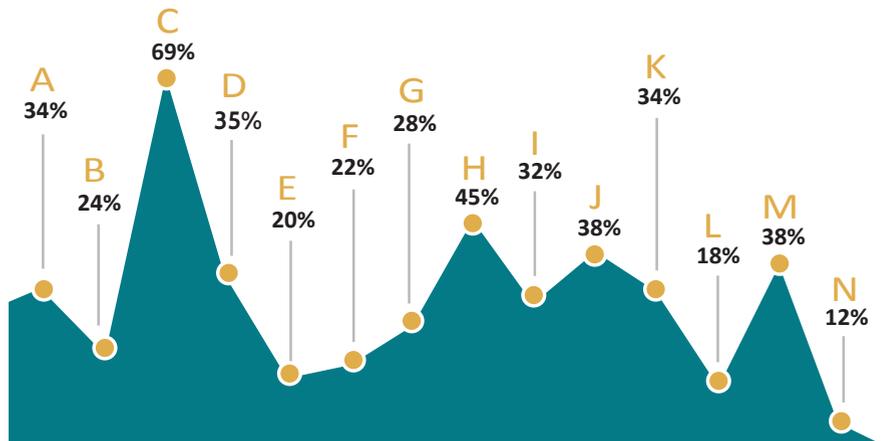
Partnering works in two directions: the MIH-CP program can receive referrals from the partner agency, or the MIH-CP program can refer patients to the partner agency.

According to survey responses, **hospitals are the most commonly cited source of referrals to MIH-CP programs**, with 69 percent of MIH-CP programs reporting receiving referrals from hospitals, followed by

69%
of MIH-CP programs receive referrals from hospitals

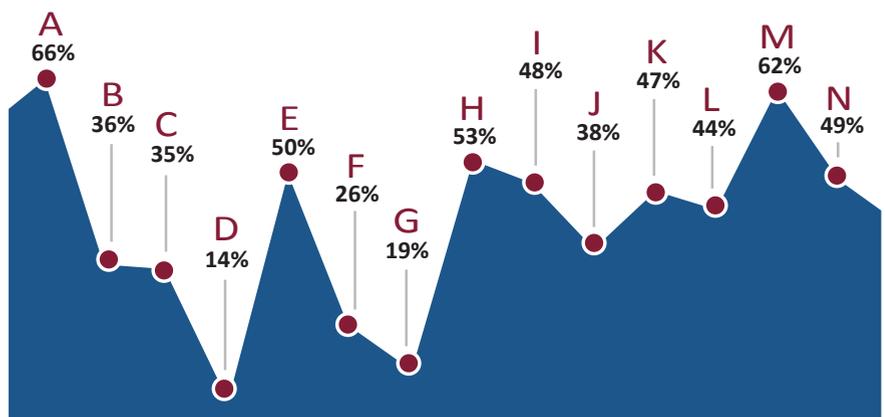
Organization Key

- A. Home Health Organizations
- B. Hospices
- C. Hospitals
- D. Law Enforcement Agencies
- E. Mental Health Care Facilities
- F. Nursing Homes
- G. Other EMS Agencies
- H. Primary Care Facilities
- I. Public Health Agencies
- J. Physician Groups
- K. Community Health Clinics
- L. Urgent Care Facilities
- M. Social Service Agencies
- N. Addiction Treatment Centers



[REFERRALS]

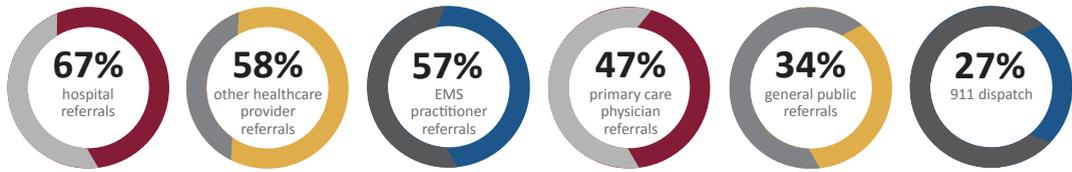
The partner organization refers patients to the MIH-CP program



[REFERRALS]

The MIH-CP program refers patients to the partner organization

[SOURCES]
of MIH-CP program enrollment



primary care facilities (45 percent), physicians groups (38 percent), social services agencies (38 percent), law enforcement (35 percent), home health (34 percent) and community health clinics (34 percent).

66%
of MIH-CP programs refer patients to home health

In seeking solutions for their patients, **MIH-CP programs are most likely to refer their patients to home health** (66 percent), followed by social service agencies (62 percent), primary care (53 percent), mental health facilities (50 percent), addiction treatment centers (49 percent), public health agencies (48 percent) and community health clinics (47 percent).

How patients come to the attention of MIH-CP programs

MIH-CP programs are made aware of prospective patients from a variety of sources. Hospital referrals are the primary portal to MIH-CP programs (67 percent), followed by referrals from other healthcare entities (hospices, home health care, mental health care and others) at 58 percent and primary care physicians (46 percent).

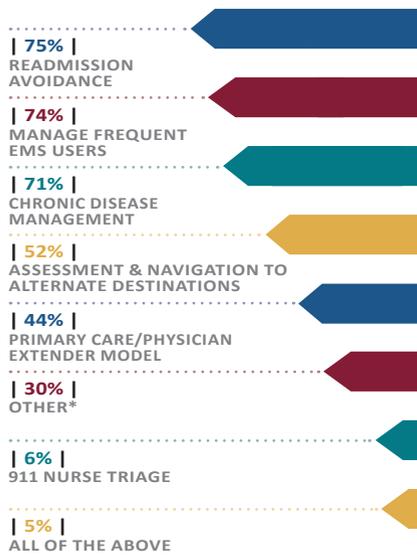
EMS sources, including referrals from fellow EMS practitioners (57 percent) and dispatch (27 percent) are also important in making MIH-CP programs aware of potential patients.

Awareness of the value of MIH-CP programs appears to grow over time

When isolating the data for programs with two or more years of experience, fellow EMS practitioners become the most likely to refer to MIH-CP programs (81 percent). While hospital referrals remain strong at 67 percent, referrals from other healthcare providers now come in at 71 percent, followed by dispatch and primary care, both at 52 percent. **The increased percentage of referrals from nearly all sources may indicate that over time, EMS practitioners and other healthcare providers accept MIH-CP and see the value it can bring.**



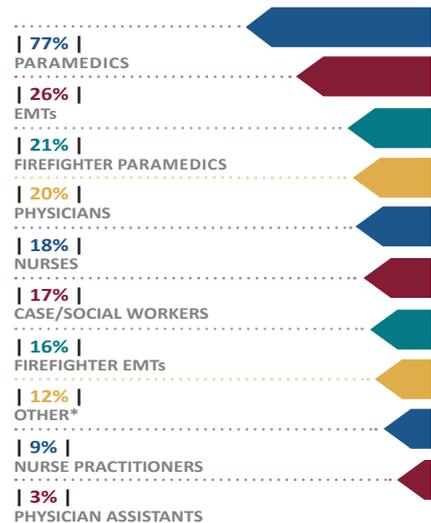
[CHARACTERISTICS OF MIH-CP PROGRAMS]



* mental health, hospice support, fall prevention

[STAFFING]

Respondents report employing or contracting with many types of practitioners for MIH-CP programs



* pharmacists, crisis counselors, patient navigators, residents, physical and occupational therapists



[MIH-CP CLINICAL STAFFING MODEL]

Some MIH-CP practitioners are dedicated full-time to MIH-CP; others split their time between MIH-CP and emergency response or other duties.

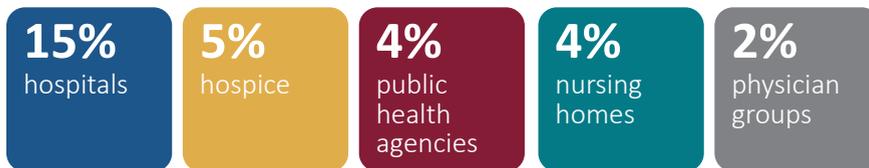
Partnerships Are About More Than Referrals

Partnering with stakeholders is not only about referrals. Some partners provide financial support, which may include direct payments for services, but can also include

assistance with staffing, supplies or other resources, while others provide oversight and direction to MIH-CP programs.

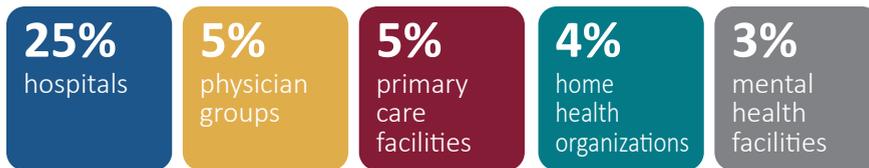
[DIRECT FINANCIAL SUPPORT]

Who provides direct payments for MIH-CP services?



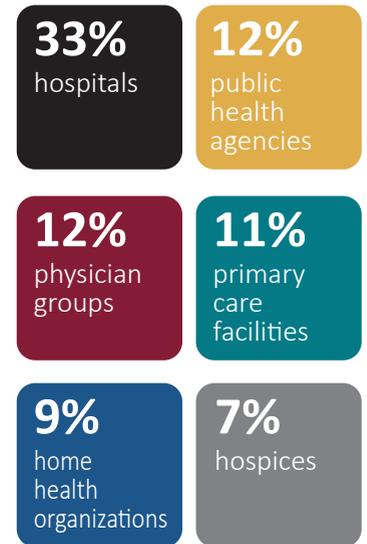
[OTHER FINANCIAL SUPPORT]

Who provides other financial support for MIH-CP services?



[OVERSIGHT/DIRECTION]

Who provides direction and oversight?



Is EMS doing everything it can to develop partnerships?

With more than half (54 percent) of respondents reporting that their programs are a year old or less, it is understandable that some may not have fully developed the necessary partners within their communities.

Still, more than half (58 percent) of respondents view their MIH-CP program as fully integrated into the healthcare system. Among programs in operation for two or more years, 66 percent agree that their program is fully integrated.

EMS agencies report challenges establishing partnerships for a variety of reasons, including:

- other healthcare providers not understanding the EMS role in an MIH-CP program
- fears among home health agencies that EMS participation in providing services in the home outside of answering 911 calls represents competition
- potential partners not seeing a clear financial incentive for partnering with EMS.

Though 34 percent of respondents agree that “opposition from other healthcare providers such as physicians, nurses or home health is a significant obstacle to sustaining or growing their MIH-CP programs,” an almost equal number (32 percent) disagree that opposition is a barrier.

And there is reason for optimism.

87% Agree that support for MIH-CP programs is growing among partners such as hospitals and other healthcare providers

96% Agree that the number of patients served by their MIH-CP program will grow in the next five years.

Experience Tops Qualifications Sought in MIH-CP Practitioners

61%
Developed internally

20%
College-based

13%
Used another MIH-CP program's training

5%
Outside contractor

[TRAINING PROGRAM DEVELOPMENT]

While the medical skills performed by EMS personnel participating in MIH-CP tend to be consistent with their emergency response training and experience, the *focus* and *context* of their clinical roles are very different. The practice of EMS is focused on rapid assessment, provision of resuscitative or supportive care within a narrow set of protocols, and transport to a hospital-based emergency department. In contrast, the practice of MIH-CP is focused on longitudinal assessment, participation in an existing, multidisciplinary, interprofessional treatment plan, and communication with and referral to other members of the treatment team based on changing patient needs. Contextually, care shifts from episodic evaluation and care of patients independent of their existing medical care plan to longitudinal monitoring and adjustment of care as a part of a medical care plan.

Asked what specific training or experience qualifications are required of MIH or CP employees, field experience was most often mentioned, with about one in four respondents specifying that MIH-CP practitioners had to have between one and 10 years of field work experience (usually paramedic).

Smaller numbers mentioned communications skills, positive attitude and a customer service focus as specific candidate competencies. As for specific credentials, several stated that critical care transport paramedic training was required or preferred, while several stated other certifications were required, including EMT, registered nurse, nurse practitioner and social work.

A few require some college or a college-based community paramedic certification. About one in four answered there were no special requirements.

“Borrowed” training programs include: Eagle County Paramedic Services, Wake County EMS, MedStar Mobile Healthcare, Mesa Fire Department and FD CARES.

Training topics

Nearly all respondents require some type of additional training for their MIH-CP practitioners. Clinical topics (67 percent), patient relations/communications (66 percent), accessing community programs and social services (63 percent) and patient navigation (59 percent) topped the list.

Length of training

The length of training varied widely, as did the inclusion of clinical rotations or field training hours.

[CLASSROOM HOURS REQUIRED]

43%
Less than 40 hours

18%
40-80 hours

18%
80-120 hours

11%
120-140 hours

4%
More than 240 hours

6%
Don't know

[CLINICAL ROTATIONS/FIELD TRAINING HOURS REQUIRED]

49%
Less than 40 hours

16%
40-80 hours

10%
80-120 hours

16%
120-140 hours

4%
More than 240 hours

6%
Don't know

Wide variations in training, education and certification requirements may jeopardize reimbursement opportunities

Overall, the survey data suggests that the majority of programs select experienced EMS practitioners for MIH-CP programs, and that they require additional training to perform these roles. However, the nature, duration and content of that training is widely variable, suggesting that the preparation, knowledge base and level of skill of EMS personnel who currently practice within MIH-CP systems is inconsistent.

This inconsistency could raise concerns among potential partners or payers about patient safety, clinical results or patient experience, and may reduce opportunities for reimbursement from payers who are more accustomed to well-defined and seemingly more clinically predictable providers of care.

EMS must continue to work toward creating consensus among stakeholders to define what MIH-CP clinical practice is, and from there create standards for skills, training, education and proof of competency.

Hennepin Technical College in Brooklyn Park, Minn. and Colorado Mountain College are the two most-often mentioned college-based training programs.

Clinical Services Seek To Avoid Unnecessary Emergency Department Visits, Hospital Stays While Improving Patient Quality of Life

The clinical services provided by MIH-CP practitioners can be broadly grouped into three categories that may be part of an ongoing health maintenance program, or as part of a goal directed therapy or lifestyle modification.

- 1 **Assessment and evaluation**
- 2 **Post-discharge follow-up**
- 3 **Prevention and education**

Common to all is that the MIH-CP program facilitates this without the requirement for a hospital or clinic visit, although the assessment may result in a recommendation to visit a clinic or other healthcare provider. The goal is always to direct patients to the most appropriate, convenient, least costly type of healthcare or social services provider qualified to take care of their needs.

1 Assessment and evaluation

While the vast majority of MIH-CP programs indicate they assess patients, the survey does not make clear what is being done with the information gathered, including whether clinical decision-making is autonomous, based on an algorithmic process or in consultation with the EMS medical director or other healthcare provider.

Assessment and evaluation encompasses multiple service lines, including general assessment, which most often includes history and physical (89 percent) and medication reconciliation (82 percent); along with laboratory tests and disease-specific care.

In-home lab services key to MIH-CP assessment and evaluation services

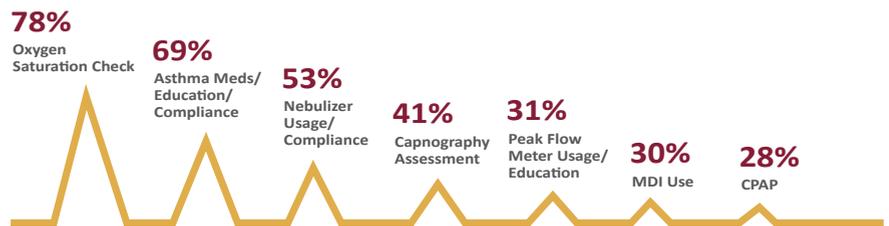
As with disease-specific care,

respondents were most likely to offer services that were already within the scope of practice of typical EMS agencies such as blood glucose measurement (70 percent) and blood draw services (41 percent). About one in five (19 percent) agencies report the addition of iSTAT (blood analysis) point of care testing. A surprising number of agencies had expanded their services to include urine collection (26 percent) stool collection (13 percent) and throat swab cultures (12 percent).

Disease-specific care relies on standard EMS equipment, skills

Disease-specific care offered by MIH-CP is most often targeted at common cardiovascular and pulmonary diseases such as congestive heart failure (CHF), chronic obstructive pulmonary disorder (COPD) and asthma. Most of these services utilize equipment and training readily available to EMS providers, such as blood pressure (85 percent), 12 lead EKG (70 percent) and oxygen saturation measurement (78 percent).

[RESPIRATORY SERVICES]



[CARDIOVASCULAR SERVICES]



[ASSESSMENT AND EVALUATION SERVICES]



[LABORATORY SERVICES]



The important role of patient navigation

While many of the clinical MIH-CP services provided seem directed at managing patients at home, the number of patients that can be meaningfully impacted and the cost effectiveness of this approach remain to be proved. Another area where MIH-CP may have significant impact on patient outcomes and costs is through improved patient navigation, or the direction of patients to the appropriate resource.

59% provide practitioners with training in patient navigation

EMS agencies should make effective use of their unique role in the healthcare system. EMS is often patients' initial contact with healthcare. Patients may not know the optimal resource for their current clinical need. Yet they do know that they can call 911 when they need help and EMS practitioners will come to their aid, quickly. These patients represent an opportunity for EMS to have meaningful impact on healthcare costs by navigating each patient to the correct resource at their initial contact with the healthcare system.

That said, it's important to note that the ultimate goal of MIH-CP is not merely to move the burden of caring for patients to other parts of the healthcare system, but to help patients get on the road to self-management, and better health and quality of life so that they need fewer healthcare resources overall.

63% of MIH-CP programs provide practitioners with training in accessing community programs and social services

Some MIH-CP programs, however, have significantly expanded their assessment and management of these disease processes beyond what EMS would typically do. For example, at least one program indicated that they offered in-home diuresis of CHF patients. For pulmonary disease, more than half of respondents indicated they offered education related to asthma medication compliance (69 percent), nebulizer use (52 percent) and peak flow meters (31 percent).

2 Post-discharge follow-up

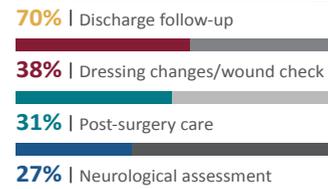
Given the financial ramifications of extended hospital stays for non-acute care and the financial penalties assessed on hospitals with high rates of readmissions, follow-up visits in the home in the hours or days after hospital discharge is a potentially important way for MIH-CP programs to show value. Still, the data suggests some uncertainty about the specifics of the services delivered – for example, 44 percent of respondents say they do stroke assessment and follow-up, while only 27 percent said they do neurological assessments.

3 Prevention and education

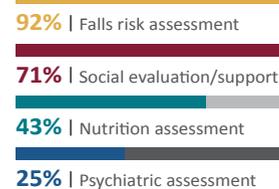
Prevention and education play an important role in preventing the next unscheduled acute care event or 911

call. MIH-CP practitioners are highly involved in providing these services to their communities.

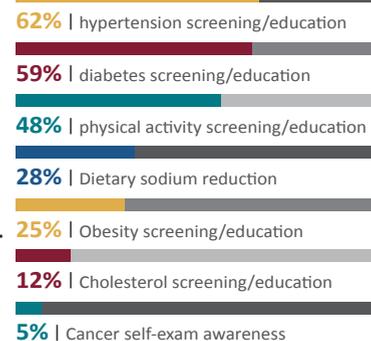
[POST-DISCHARGE FOLLOW-UP SERVICES]



[PREVENTION SERVICES]



[PATIENT EDUCATION SERVICES]



How long do patients stay enrolled in MIH-CP programs?

The goal of MIH-CP programs is typically to “graduate” patients out of the program, which is often the point where they no longer rely on frequent contact with the 911 or hospital system. Often, getting patients ready for graduation first means getting them connected with primary care, mental healthcare providers and other services best equipped to take care of complex medical and psychosocial issues.

The average time patients are seen by MIH-CP practitioners is highly individual, with respondents reporting a range of less than 30 days (41 percent), 31 to 90 days (36 percent), 91 to 180 days (14 percent) and greater than 180 days (8 percent).

22% say their MIH or CP practitioners have an advanced scope of practice

77% say their MIH or CP practitioners do not

Tri-County Health Care EMS

Rural, hospital-based ambulance provider takes referrals from physicians to reduce readmissions, improve access to care

In 2012, Minnesota became the first (and still only) state to pass legislation authorizing Medicaid reimbursement of EMS-based community paramedics.

The rate is 80 percent of a physician assistant's office visit charge, or \$17.25 per 15-minutes of patient interaction. There is no payment for drive time, fuel or supplies.

To be seen by a community paramedic, a physician has to give an order, and it must be part of a care plan established by the physician. In December 2013, community paramedics at Tri-County Health Care EMS, based in rural Wadena, Minn., began



receiving referrals from hospital physicians and primary care physicians at the hospital's five rural clinics.

"We provide post-hospital discharge visits for patients at high-risk of readmission," says Allen Smith, Tri-County Health Care emergency response manager. "We also work with primary care physicians to help prevent unnecessary ambulance trips and emergency department visits and to ensure patients are accessing all of the health resources available to them in the community."

Tri-County community paramedics also work closely with the hospital's nurse care coordinator, and function as part of the hospital's "medical home" clinical team.

Help from grants

Funding for the program came from a Minnesota Department of Health grant, which sent five paramedics to the community paramedic course at Hennepin Technical College. A three-year, \$300,000 grant from the South Country Health Alliance, a Medicaid managed care organization that serves a four-county area, covers the cost of data analysis and staffing a community paramedic 24 hours a week. The hospital also funds community paramedic staffing for 24

hours, while the remainder comes out of the EMS budget.

To achieve 24-7 community paramedicine coverage, five community paramedics also answer 911 calls during their shift.

Starting small to prove safety, effectiveness

Prior to launch, Tri-County sought input from community partners, including public health, mental health, home health and members of the public. Wanting to proceed cautiously and build confidence in their program among physicians who they rely on for referrals, they started with a limited number of patients, Smith says.

The Tri-County team also worked with the hospital's electronic medical records software experts to enable community paramedics to access and input information into patients' medical records.

"Without that connection to the electronic medical record, the information would not get back to the physician. At our rural hospital, we use almost no paper charts," says Dr. John Pate, EMS medical director and a family practice physician.

Community paramedics aim to see patients within 24 hours of referral. Enrolled patients receive a home visit and



IMAGES PROVIDED BY TRI-COUNTY



“We have to show that what we do is making an improvement in patients’ health, their ability to have a good quality of life and that they are satisfied with the care received.”

– Allen Smith, Emergency Response Manager, Tri-County Health Care EMS

While EMS agencies in other states have reported conflicts with home health, this is not an issue in Minnesota, he says. “We are not home health. For patients to receive home health, they must have a payer source that covers it, and they must be homebound,” Smith says. “We see patients who don’t qualify for home health. We are also affiliated with a licensed home health agency, and we also refer patients there.”

Getting on a path to financial sustainability

Even though the only available reimbursement is for the 15 percent of patients who have Medicaid, Tri-County’s community paramedics see patients regardless of their insurance status. In 2014, reimbursements from Medicaid totaled about \$10,000 – not enough to cover costs. They hope to eventually have data to share with commercial insurers so that they can negotiate shared savings arrangements.

One challenge, however, has been deciding what data to collect and what outcomes to measure. Unlike urban areas, frequent users are not a big problem for the Wadena area. They do have a few though, and estimate that their community paramedic program saved \$100,000 in ambulance transport and

emergency department charges in 2014.

“A lot of the activities our community paramedics do involve checking up on patients. They might go out and see if an oxygen generator is working properly, or if they know how to use a nebulizer machine, or whether the medicine they have is what they were supposed to get,” Pate says. “In one case a gentleman was sitting there trying to use a nebulizer but he hadn’t turned on the machine. He would have ended up back in the ER. But how do you measure the impact of that? What is the true benefit?”

One strategy they plan to try is having patients fill out a quality of life questionnaire before and after enrollment. They will have their first results in the next six months.

“Part of our hospital’s mission statement is to achieve the Triple Aim, which is improving patient health, improving the patient experience of care, and reducing costs,” Smith says. “So how do I make sure my EMS agency is of value to my hospital? How do I ensure my people have jobs in the future? It’s no longer, ‘You call, and we haul.’ We have to show that what we do is making an improvement in patients’ health, their ability to have a good quality of life and that they are satisfied with the care received.”

assessment; a review of their care plan and education about managing chronic diseases; medication reconciliation; and any tests or treatments ordered on the care plan, such as blood draws, wound care or injections.

Patients are seen as often as daily for two to four weeks. The first visit is typically 60 to 90 minutes; subsequent visits last 30 minutes. Every two weeks, a multidisciplinary team, which includes a community paramedic, social worker and nurse care coordinator, evaluates each patient’s progress and determines if the patient is ready to graduate or needs additional help. “It’s all individualized based on the patient’s needs,” Smith says. “There is a lot of gray to this.”

In 2014, community paramedics saw 203 patients with diagnoses that include COPD, asthma, congestive heart failure and psychiatric issues. Most are elderly and need the extra support to continue to live independently, Pate says.

Other referrals come from an orthopedic surgeon, who sends community paramedics into the homes of knee and hip replacement patients to conduct falls risk assessments, and an area nursing home, which brings in community paramedics to do blood draws, tracheostomy care and feeding tube care to prevent their patients from needing to travel to a clinic or hospital.

Tri-County’s tips for success

- 1 **Start small** and gradually build acceptance of your program among physicians and other healthcare providers who you will need to provide your program with referrals.
- 2 **Think local.** “My program wouldn’t work in Ft. Worth, or in New York City, and their program wouldn’t work here. Your program needs to fit local needs,” Smith says.

**Mobile Integrated Healthcare and Community Paramedicine (MIH-CP):
A National Survey**



MedStar Mobile Healthcare paramedics conduct post-discharge home visits with patients in Ft. Worth.

Regulatory Barriers Pose Challenges

EMS is governed by laws and regulations that vary from state to state. In launching MIH-CP programs, one challenge for agencies is determining whether their state's statutes and regulations allow or prohibit EMS from engaging in MIH-CP.

Surveys of state EMS offices by the National Association of State EMS Officials (NASEMSO) indicate that in a large number of states, laws and regulations are interpreted as permitting MIH-CP; in others, statutory and/or regulatory language is interpreted as prohibiting it; while some have not yet interpreted their statutes. Anecdotally, EMS agencies frequently report that it can be hard to discern what, if any, MIH-CP activities their local regulations or their state attorney general would permit.

It is perhaps for that reason that **more**

than half of respondents (57 percent) see statutory or regulatory policies as obstacles to MIH-CP.

It should be noted these responses include only the states where there

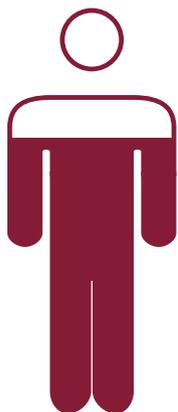
“Don’t give up. It’s going to be one of the most difficult things you do as an EMS agency due to all of the regulations. If you remember this is the next step in helping the citizens of your jurisdiction and you repeat that to anyone who questions the program, you will maintain a positive attitude and be a champion for your program.”

– Survey respondent

are operating MIH-CP programs. In the states where there are no MIH-CP programs, prohibitive statutes or regulations, or perceptions of those, may be a reason why programs are unable to get off the ground. Another possibility is there isn't enough interest in MIH-CP yet.

Moving ahead with innovation despite barriers

Even in states in which regulations are seen as barriers to MIH-CP, some EMS agencies are finding ways to work within



80%

Agree that their programs are legally compliant at the local, state and federal levels



57%

Agree that statutory or regulatory policies are a significant obstacle to sustaining or growing their MIH-CP program



23%

Disagree that statutory or regulatory barriers get in the way of their MIH-CP program

the law to launch programs.

- ➔ In California, state law says EMS must respond “at the scene of an emergency” and must transport patients to the hospital. But another statute permits pilot programs that use healthcare personnel in new roles to study improving patient outcomes and reducing costs. In mid 2015, about a dozen California EMS agencies are slated to launch community paramedicine pilots.
- ➔ When Maine’s state EMS officials wanted to bring CP to the state, the Attorney General issued an opinion stating that the Maine EMS Board could not authorize community paramedicine because it is outside the scope of emergency response. The state legislature approved an amendment to the EMS statute authorizing 12, three-year CP pilots, which are currently underway.
- ➔ In Michigan, the state EMS office determined their state laws did not prohibit MIH-CP. After consulting with the state Bureau of Legal Affairs, the EMS office determined that EMS agencies could apply for approval of CP programs via a “special study,” three-year pilots to test new healthcare strategies. So far, at least two programs have launched and six more are approved.
- ➔ On the other end of the spectrum is Texas, a delegated practice state, meaning there is no statewide scope of practice for EMS. Instead, medical directors determine what EMS can do – perhaps one reason why Texas is considered a national leader in MIH-CP.

“Regulations must be updated to support this kind of work.”

– Survey respondent

What’s in the law that makes it difficult for EMS to take on these new roles?



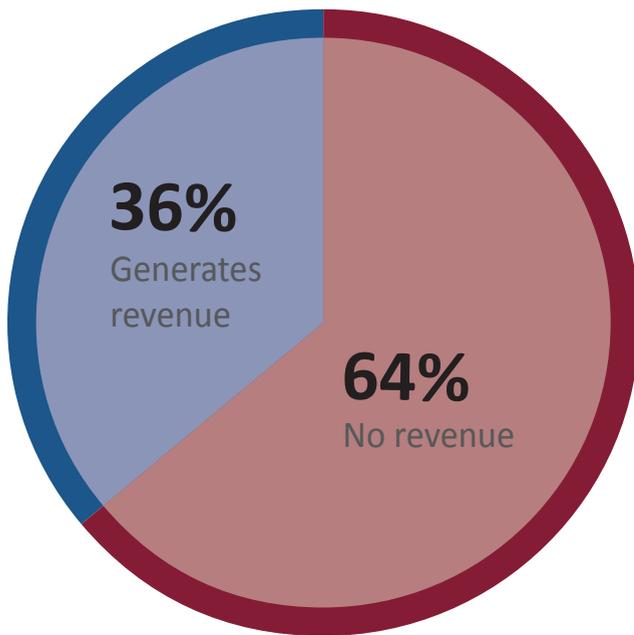
While EMS is often described as being at the crossroads of public safety, public health and medicine (and so, perfectly positioned to provide MIH-CP), it is more common that EMS is more narrowly defined in law or regulation as an emergency service.

When asked to describe what legal barriers were hindering their programs, the most commonly cited issues were regulations that confine practice to 911 emergency response. Several mentioned there is no legal ability to transport patients to destinations other than the emergency department.

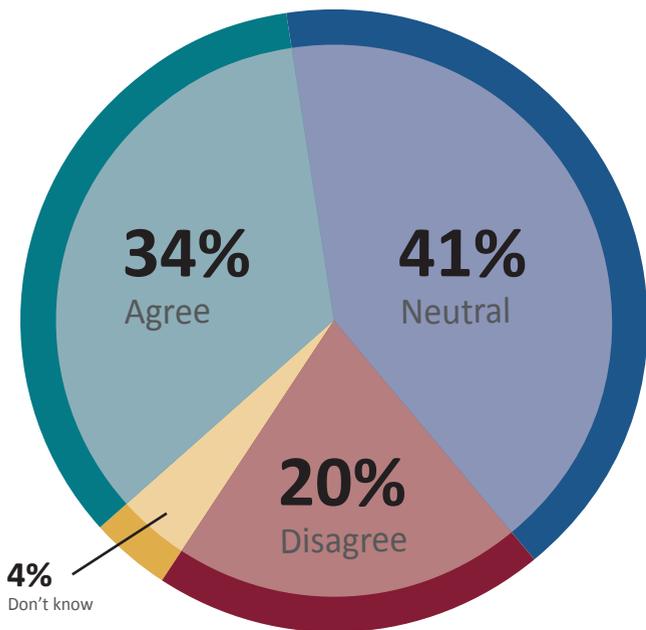
Home health licensing laws were also mentioned by several respondents. In conducting scheduled, in-home visits, there is the potential for MIH-CP services to be interpreted as falling under home health regulations. In Colorado, some MIH-CP programs have sought home health licenses, while one respondent from Virginia noted that the state Office of the Attorney General issued an opinion that MIH-CP programs wanting to perform in-home services should seek home health licenses.

A few also mentioned the lack of clarity in the law, confusion over which regulatory body should have jurisdiction over EMS practitioners when acting outside of the 911 response capacity, difficulties working with city and state attorneys and hospital legal counsel, and questions about whether MIH-CP activities are within the paramedic/EMT scope of practice.

Limited Funding, Reimbursement for MIH-CP Makes Long-term Outlook Cloudy



[ARE MIH-CP PROGRAMS GENERATING REVENUE?]



[IS YOUR MIH-CP FINANCIALLY SUSTAINABLE?]

Reimbursement for transport and mileage is the bread and butter of EMS agencies. While public organizations, such as fire departments, often receive substantial tax support to fund operations, even these organizations say they are increasingly reliant on billing Medicare, Medicaid and private insurance to keep up with the increasing volume of medical calls.

When it comes to MIH-CP, however, there is only one state in which community paramedicine is a billable service, and even there it's only for patients with Medicaid. [See Tri-County Health Care Case Study]. Unable to bill for services, the vast majority of EMS agencies operating MIH-CP programs say the lack of payments and reimbursements is an obstacle.

89% Agree that reimbursement/funding is a significant obstacle

Yet respondents were not entirely pessimistic about their financial prospects. When asked if they agree or disagree with the statement "Your program is financially sustainable," the most common answer was "neutral," perhaps indicating that many are simply unsure.

Few MIH-CP programs generate substantial revenue – Yet

While many agencies fund their programs out of their own operating budgets, some have secured contracts that provide payment for MIH-CP services. **Of the 99 respondents who answered the revenue questions, 36 – about one in three – report that their program generates revenue.** For the most part, the revenue is minimal.

Seven receive under \$10,000 annually; four report earning between \$10,001 and \$25,000; and one generates between \$25,001 and \$50,000.

A few MIH-CP programs bring in considerably more. Four report earning between \$50,000 and \$100,000 annually; two bring in \$100,000 to \$150,000 annually; two receive payments of \$300,000 to \$500,000; and two generate \$500,000 or more annually.



A Wake County (N.C.) EMS advanced practice paramedic conducts outreach.

Economic model for MIH-CP payments

When asked how the MIH-CP program receives payments, the most common answer was fee-for service (15 agencies, or 15 percent). Eleven agencies indicate they receive an enrollment

50%
of respondents believe their program will continue to grow as a source of revenue for their EMS agency

fee or fee-per-patient, 12 say they operate in a shared savings model with partner organizations, and two say they receive a fee for referral. Twenty-three respondents indicated they were receiving other sources of revenue, with grants most commonly cited.

Is the financial outlook more promising than these early revenue figures suggest?

In the overall cycle of testing new business models, it is very common for innovations to take years to generate enough revenue to be considered a financial success. This is especially true in healthcare, where EMS-based MIH-CP services are still in their infancy. It is also very typical for healthcare innovations to take years to generate enough outcome data to become recognized as a valuable service line for payers to invest in. Healthcare payment policy is not often considered nimble.

For most EMS agencies, CMS (Medicare and Medicaid) represents the lion's share of revenue derived from fee-for-service transports, and making major changes in CMS payment policy literally require an act of Congress. Compounding this issue, most commercial payers generally follow CMS guidelines for payment policy. Therefore, it is not surprising that the revenue rates are so low during this time of innovation incubation.

It should also be noted that there are other potential sources of revenue outside of direct payments for services, including taxpayer support. Agencies that rely on tax revenue for a portion of their budget may have their programs funded, in whole or in part, through tax dollars if the community values the MIH-CP services or sees MIH-CP services as an overall means of cost savings.

Yet these survey findings also underscore the urgent need to prove that value – to the community, to private insurers, to CMS and to other entities that may provide payments. For insurers or other external sources of payments, demonstrating value will likely include showing a reduction in expenditures coupled with effective patient outcomes and positive surveys of patient experience.

[ANNUAL OPERATING COSTS OF MIH-CP PROGRAMS]



Mobile Integrated Healthcare and Community Paramedicine (MIH-CP):
A National Survey

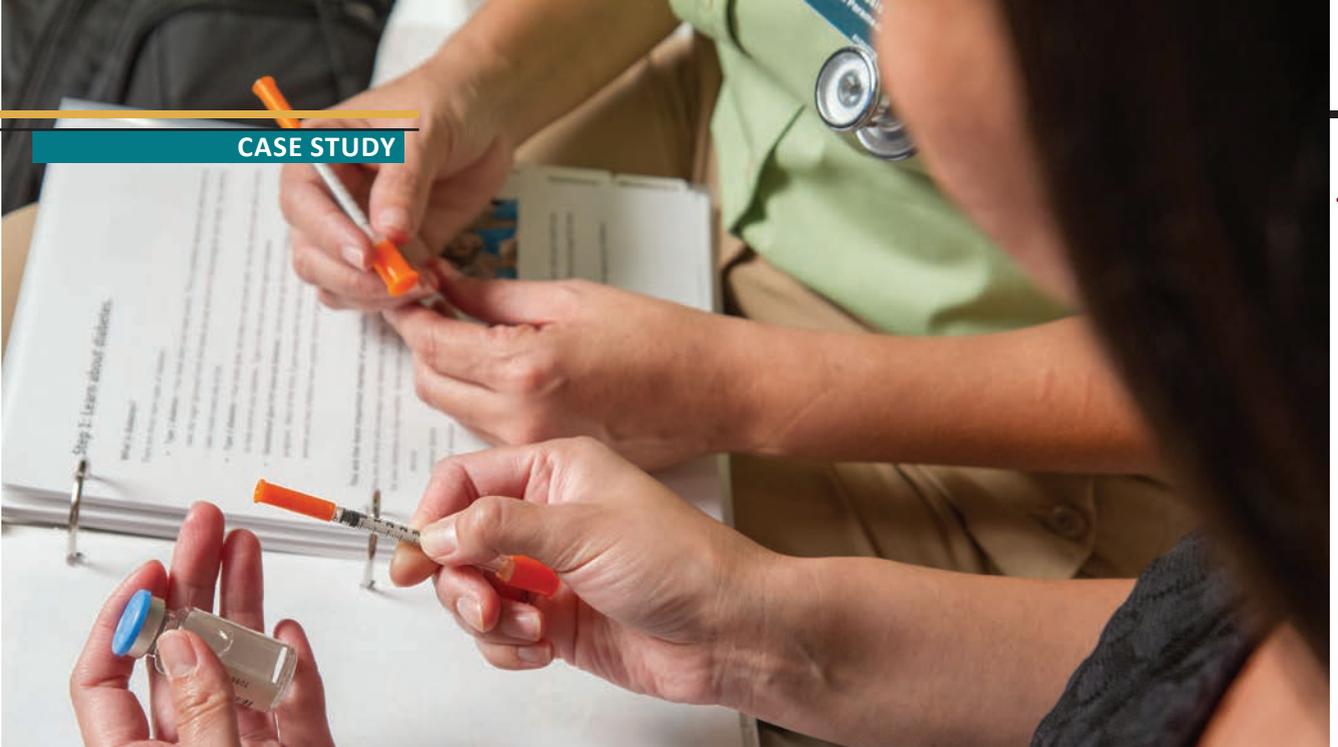


IMAGE PROVIDED BY ACADIAN

Acadian Ambulance

Private ambulance company partners with Medicaid managed care organization to improve pediatric asthma care

Acadian Ambulance, which serves 30 counties in Texas, 33 Louisiana parishes and one Mississippi county, is one of the nation's largest private ambulance providers, answering half a million calls for service annually.

In 2013, inspired by the work being done by MedStar Mobile Healthcare in Ft. Worth, Texas, Acadian decided to launch an MIH-CP program. The Acadian team started where many EMS agencies begin – by analyzing EMS data for frequent 911 users who might benefit from better navigation and a more coordinated approach to care.

Gaining experience with frequent users

Their search identified about 15 people in the Lafayette, La. area who were calling 911 at least once a week. Paramedics arranged home visits with them. Many had complex medical and mental health issues that required individualized solutions, says

Richard Belle, Acadian's mobile healthcare and continuing education manager.

For one elderly woman, medics arranged mail-order prescriptions to prevent her from calling 911 every time she ran out of her medications. They reduced trip hazards in her home, and worked with United Way to have a rotted staircase replaced and a railing installed. Another patient was a paraplegic who suffered from frequent, painful urinary tract infections but could not get in to see a urologist quickly enough, so he went to the emergency department. Acadian's medical director got involved to get him an appointment. The man no longer calls 911 with regularity.

Of those initial 15 patients, all but one has significantly curtailed their use of 911 and the emergency department, Belle says. "There is a small population of people out there who are system abusers, and many of them have substance abuse problems," he says. "But most are using 911 because they don't have a primary care provider, they don't have transportation to get to a primary care provider or to get prescriptions filled, or they just don't

know how to get plugged into community resources that are available to them."

Expanding to diabetes, pediatric asthma care

Encouraged by their success, Acadian began outreach to potential partners. The first pilot to come out of that was with a private insurer, which contracted with Acadian to do home visits with diabetic patients to cut down on emergency department visits. During the four-month pilot, Acadian medics provided education on managing diabetes, and supplied glucometers and test strips to those who didn't have them. Though early results showed patients A1C levels had improved, the insurer ended the pilot without explanation, Belle says.

About a year ago, Louisiana Healthcare Connections, a Medicaid managed care organization, began working with Acadian on a pediatric asthma intervention. Acadian's Chief Medical Officer Dr. Chuck Burnell worked with Louisiana Healthcare Connections' clinical team to develop protocols.

"Last summer, we were looking for

“After six months, we’ve seen better management of asthma for the children in this program. Their emergency room utilization has decreased and their medication compliance has improved.”

– Lani Roussell, Quality Improvement Manager, Louisiana Healthcare Connections

a way to help our young members with asthma, which is particularly problematic due to environmental factors in our state. Asthma causes more hospitalizations than any other childhood disease and is the number one cause of school absences from a chronic illness,” says Lani Roussell, Louisiana Healthcare Connections quality improvement manager. “Because of their reputation for quality service and technological innovation, we partnered with Acadian Ambulance on a pilot program to bring mobile healthcare to New Orleans area children with asthma. The mobile healthcare program identifies Louisiana Healthcare Connections members who have pediatric asthma and are at a high risk of emergency room utilization. Then over the course of four weeks, Acadian Ambulance’s trained paramedics visit the member at home to conduct preventive screenings, perform an in-home risk assessment, and provide personalized health coaching on managing asthma.”

Program set to expand further

Acadian has received referrals for 362 children. An unexpected challenge was that a high number (133) were unreachable; either the address and phone on record with the insurance company were incorrect, or the family didn’t return calls, Belle says.

Thirty families refused to participate; 107 are considered “inactive” because the family expressed interest in participating and received one or more home visits but then became unresponsive. As of March 2015, 33 families had completed the program and graduated.

“After six months, we’ve seen better management of asthma for the children in this program. Their emergency room utilization has decreased and their medication compliance has improved,”

Roussell says. “Together, Louisiana Healthcare Connections and Acadian Ambulance are developing innovative ways to address pediatric asthma and making a lifelong difference in the health, education and happiness of Louisiana’s children.”

Today, 19 families are enrolled in the program; 14 have a first visit scheduled and 23 have expressed interest. Among participating families, the response has been overwhelmingly positive, Belle says.

Some of the “fixes” are relatively easy, such as explaining to one family that their asthmatic toddler should not sleep in a crib with two cats. Others are more difficult. Some families live in substandard housing with mold and pest infestations. “We do very little clinical care. Most of what we do is education and navigation of patients, getting them to understand that when their child starts to feel bad,

they need to contact the child’s physician. Don’t wait and then go to the emergency department,” Belle says.

Moving toward financial viability

Acadian medics receive a fee per visit from the managed care organization. But it still costs Acadian more to administer the program than it recoups, Belle says. With the program slated to run until the end of 2015, next steps will be re-negotiating their fee with the managed care organization, adding more patient groups, and sharing their positive results with other potential partners.

“This program will be revenue generating for Acadian in the coming months,” Belle says. “We are going to take these results to other hospital systems, and public and private payers as a proof of concept, and show them how much money they can save by doing this.”

Acadian’s tips for success

- 1 **Frequent user programs** are a good place for EMS agencies to start developing an MIH-CP program. The agency can use internal data, and can use any successes to demonstrate effectiveness to potential partners.
- 2 **Tap into your local community health worker network.** Community health workers, who may be volunteer or paid workers, typically have little medical training, but instead conduct outreach, provide social support, do informal health behavior counseling and provide basic health education or screenings to members of the community. In Louisiana, the community health workers network shared valuable information about community resources such as social services, non-profits and charitable organizations. Acadian mobile healthcare paramedics also attend community health worker monthly meetings.
- 3 **Understand that every patient group has different needs.** The children in the Medicaid pediatric asthma group, for example, had a pediatrician. So one goal was to get the family to rely on the primary care provider instead of the emergency department. In a frequent user group, however, many patients are likely to lack primary care access, posing a different challenge for the mobile healthcare team.

Mobile Integrated Healthcare and Community Paramedicine (MIH-CP):
A National Survey

Measuring Outcomes and Patient Satisfaction to Show Value

With healthcare entities increasingly expected to show that treatments and interventions are worth the price, developing systems of collecting and analyzing data is a high priority across the healthcare spectrum.

Traditionally, EMS hasn't been expected to collect or report performance data, with the exception of response times and resource deployment. But it's only a matter of time before major payers such as CMS and private insurers will expect EMS to transition, along with the rest of healthcare, away from strictly fee-for-service reimbursement and toward reimbursement that takes into account costs and outcomes – in other words, value.

90% of respondents say their MIH-CP program collects data

In the MIH-CP context, collecting and reporting data internally and to healthcare stakeholders is beneficial for two major reasons. First, data can prove to the EMS agency and partners that the program is having the desired impact. Second, if the program is not achieving the desired outcome, the data serves as the foundation for developing, testing and comparing alternate models and strategies.

Consistent with the importance of partnerships and collaboration in MIH-CP, 65 percent of respondents indicate that they share data with their MIH-CP partners. Fewer but still sizable numbers

64% collect pre-MIH-CP enrollment healthcare utilization, while 56% collect post-enrollment usage too

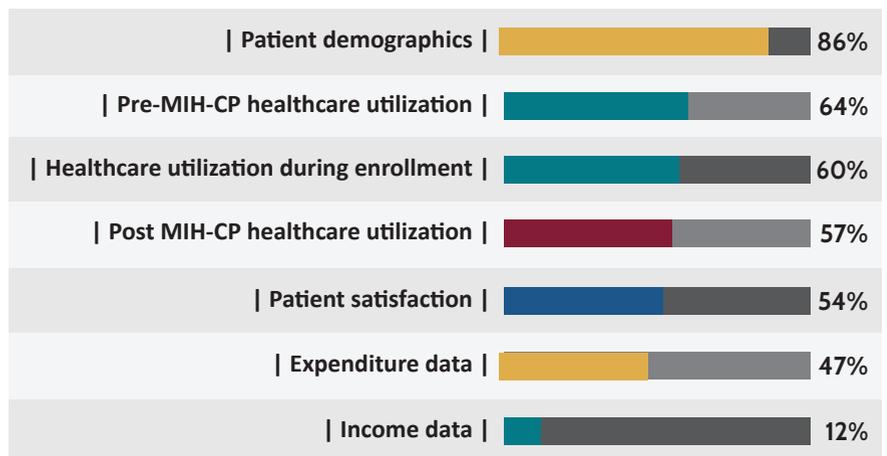
share with other entities, including local government or other local stakeholders (36 percent), their state Medicare/Medicaid office (21 percent), state public health department (20 percent), insurance companies (15 percent) and CMS (12 percent). Only 7 percent say they don't share data.

MIH-CP must grapple with what to measure and how to measure it

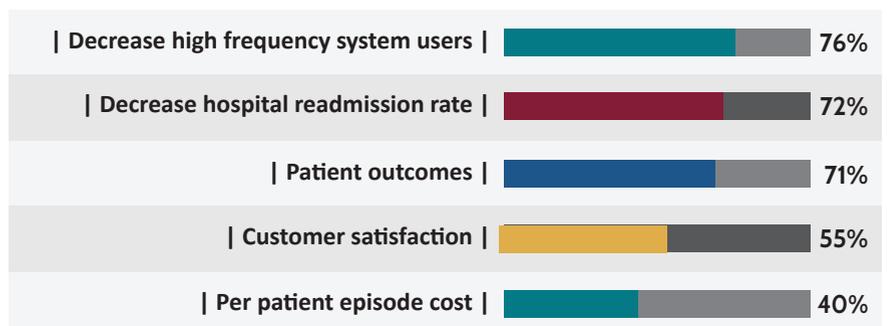
That so many respondents indicate they collect and analyze data for both MIH-CP program development and outcome measurement is very encouraging. This means that the basic infrastructure and commitment to tracking and reporting data is in place, a key step in demonstrating the value proposition that payers may want to see as a condition of widespread payments or reimbursement for MIH-CP services.

But determining the most important data to collect, the most feasible way to collect it and how to share it brings up complex questions that all of healthcare is grappling with – MIH-CP included.

[DATA COLLECTED BY MIH-CP PROGRAMS]



[OUTCOMES MEASURED BY MIH-CP PROGRAMS]





Community paramedics from North Memorial Ambulance Services in Robbinsdale, Minn. seek to prevent 911 calls.
IMAGE PROVIDED BY DAVID JOLLES/MINNEAPOLIS STAR TRIBUNE

In this survey, only one agency reports collecting and reporting patient health status as a core measure. Though the specifics of data collection may vary from agency to agency, the patient's assessment of their health status upon enrollment and at graduation is a key measure that should be used by all EMS agencies conducting MIH-CP programs.

In addition to challenges in determining which outcomes to measure, there are also technological obstacles, including the dismaying inability of many electronic patient care reporting (EPCR) systems used by EMS to fully integrate with the data systems of hospitals and other partners, and vice versa. Another issue is that many EPCR systems used by EMS are not designed to collect longitudinal data. The incompatibility of various data systems and barriers to health information exchange is hardly exclusive to EMS or MIH-CP, but is an area that needs attention to make possible the bi-directional flow of information between the multi-disciplinary teams involved in MIH-CP.

EMS agencies describe strong early successes in reducing reliance on 911 and emergency departments

With the majority of programs in operation for a year or less, it's not surprising that one in four respondents say that it's too soon to tell how much success they are having in key areas such as reducing costs, reliance on 911, the emergency department and 30-day readmissions. Yet a sizable percentage say they are seeing success in a variety of areas.

54% Rate their program as highly or somewhat successful in showing cost savings for a defined group of patients

60% Rate their program as highly or somewhat successful in reducing 911 utilization among specific patient groups

59% Rate their program as highly or somewhat successful in reducing reliance on the emergency department for a defined group of patients

81%
of programs in operation for two years or longer report success in reducing costs, 911 use and emergency department visits for defined groups of patients

46% Rate their program as highly or somewhat successful in reducing 30-day readmissions for specific patient groups

62% Rate their program as highly or

somewhat successful in achieving patient satisfaction

With which groups of patients do MIH-CP programs report success?

MIH-CP programs are most likely to report success with frequent 911 users – 54 percent say they are highly or somewhat successful in improving outcomes for this group while 51 percent say they are highly or somewhat successful in reducing per patient healthcare costs.

One patient group that seems to be particularly challenging for MIH-CP programs is patients referred because of substance abuse or alcoholism. About 26 percent of MIH-CP programs report improving outcomes for this group, while 18 percent report lowered healthcare costs.

[MIH-CP Programs Report Improved Outcomes for Various Patient Groups.]

	Improved Outcomes	Too Soon To Tell	Not Applicable
Frequent 911 users	54%	0	16%
COPD, asthma, diabetes	54%	25%	17%
Congestive heart failure	37%	25%	30%
Substance abuse/alcoholism	26%	20%	35%
Hospice/terminal illness	26%	19%	44%

[MIH-CP Programs Report Lowered Costs for Various Patient Groups.]

	Lowered Costs	Too Soon To Tell	Not Applicable
Frequent 911 users	51%	29%	14%
COPD, asthma, diabetes	42%	33%	21%
Congestive heart failure	33%	33%	28%
Substance abuse/alcoholism	18%	31%	32%
Hospice/terminal illness	18%	29%	41%

Mobile Integrated Healthcare and Community Paramedicine (MIH-CP): A National Survey

Colorado Springs Fire Department

Partnering with hospitals, Medicaid care coordination organization to reduce 911 calls

With medical 911 calls increasing by about 8 percent annually and data showing that about 50 percent of 911 responses are for non-urgent situations, Colorado Springs Fire Department, which answers 60,000 calls annually, wanted to find ways to redirect some of those callers to resources other than the emergency department.

As a first step, in 2012, the fire department, in partnership with University of Colorado Health-Memorial Hospital and Centura Health System's Penrose-St. Francis Hospital, set out to study the reasons underlying the overuse of 911 and emergency departments. Teams made up of a physician and an EMT or paramedic went into the homes of frequent 911 users to assess the patient and their home environment. The hospitals covered the

cost of the physician time, while a Kaiser Permanente grant covered data analysis.

"We told them to look, listen and connect," says Jefferson Martin, Colorado Springs Fire Department's community and public health administrator. "We quickly came to the determination that there was nothing acute medically that we needed to do during those visits." Instead, patients needed education about managing chronic diseases, lacked transportation to pharmacies or doctor's offices, or were in need of resources to assist with psychosocial or economic issues. "The easy button was 911. That system couldn't turn them away," he says.

Three months into their investigation, they determined that a physician wasn't needed for the assessments. Instead, they sent an EMT or paramedic with a nurse

or nurse practitioner, and eventually, only EMTs and paramedics.

Three in four have mental health issues

Over a one-year period, the teams visited 200 homes. Their analysis showed that three in four (77 percent) patients had mental health issues, often with other chronic medical conditions.

Calling their program CARES (Community Assistance Referral and Education Services), a name coined by Battalion Chief Mitch Snyder of Kent Fire Department in Washington, they launched a program in which EMTs and paramedics would continue the home visits, providing assistance with education and navigating patients to mental health or other community resources.

"This is about delivering the right care, at the right time, in the right place," says Dr. Robin Johnson, an emergency physician at Memorial Hospital who has since become a deputy medical director for CARES. "It is never about saying no to care, but about redirecting to the best healthcare for the patient."

With funding from Penrose-St. Francis Hospital, the fire department hired a licensed clinical social worker/behavioral health specialist to provide guidance and case management. The fire department also shifted the responsibilities of a nurse practitioner, already on staff as the fire department's quality assurance officer, to assist.

"In EMS, we are fixers," Martin says. "We don't think in terms of long-term behavioral modification, so it's great to have an expert to come in and help us. One thing we've been taught by the behavioral health specialist is that we don't want to enable or reward negative behaviors, so we are not supposed to do everything for patients. Instead, we set health goals that include steps they can take, and steps we can do for them. Our patients may have 10 issues that are contributing to the way they are accessing the system, but we try not to overwhelm



IMAGE PROVIDED BY COLORADO SPRINGS FD

them. We have to prioritize.”

Patients are seen at home up to five times. They are also given the phone number for a mental health crisis line that’s answered 24-7, and a number for non-urgent problems, which goes directly to voice mail. There’s a reason behind not having a live person answering those calls, Martin says. “Our behavioral health clinician has said we need to teach them how to plan ahead. The lesson is, ‘We will still help you, but not in 8 minutes or less,’” he says.

In 2013, the CARES program saw 200 patients. In 2014, they upped that to 500 patients – and are seeing results. Among two-thirds of patients, 911 use dropped by 50 percent.

“We think this is a really great way of bringing hospitals, emergency services, a payer source and others together to address community needs, and that there will be payers in addition to Medicaid that will be interested in this.”

– Kelley Vivian, Community Strategies Director,
Colorado Medicaid Regional Care Collaborative Organization

The other third have been harder to reach, he says. “These patients are incredibly complex. For them it’s not about access to primary care, or education, or transport. Those are issues we can solve,” he says. “The patients we’ve been less successful in moving the needle on are those with medical, behavioral, mental health and substance abuse issues.” As a last resort, the CARES team will enlist the help of the legal system, including law enforcement and the court system, to compel a psychiatric evaluation or commitment.

Medicaid Regional Care Collaborative gets involved

Seeking a strategy to reduce costs among frequent emergency department users, the next organization to get involved with the CARES program was the Colorado Medicaid Regional Care Collaborative Organization, or RCCO, a non-profit made up of multiple area healthcare entities that

agree to work together to improve care coordination for Medicaid patients. The RCCO pays the fire department \$1,000 per patient for a 90-day intervention, with a total of \$100,000 budgeted, and also covers the cost of a pharmacist to assist with medication reconciliation.

A pilot involving 13 patients found a 75 percent decrease in hospital readmissions during the three months post-intervention, an estimated cost savings of \$145,000 in Medicaid claims, says Kelley Vivian, the RCCO’s community strategies director.

“The CARES program is a wonderful way to interact with our clients that we refer to as super-utilizers – the well-known faces in the 911 system, the emergency department

and even in their doctor’s office,” Vivian says. “These are patients that need that extra level of interaction, to help them become more proactive in their health and so they can take better care of their health.”

Program expands to include other teams

The next step for the fire department was expanding the program to include two additional units – a mobile urgent care unit, which includes a paramedic or EMT paired

with a nurse practitioner who respond to low-acuity (Alpha or Bravo) calls, and a Community Response Team, which includes a paramedic, behavioral health clinician and law enforcement officer who respond to 911 calls that are psychiatric in nature.

The state Office of Behavioral Health provided funding, while the medical directors of the fire department, emergency department and a psychiatric facility worked together to develop protocols that enable the team to do the exam, blood draws and toxicology screening necessary to medically clear patients in the field, without needing transport to an emergency department. Launched Dec. 1, 2014, the first call came in 8 minutes later, Martin says.

Other additions to the program include one full-time and three part-time nurse navigators, whose salaries are paid for through a combination of the fire department budget; grants from Aspen Point, a behavioral health organization, and Kaiser Permanente.

With so many healthcare and community entities seeing value in the CARES program, the RCCO, Vivian says, is considering increased funding for CARES next year.

“We think there are more clients who can be served. Firefighters are trusted, thorough and they do a good job of explaining what is going on in the home back into the system of care,” Vivian says. “We think this is a really great way of bringing hospitals, emergency services, a payer source and others together to address community needs, and that there will be payers in addition to Medicaid that will be interested in this.”

Colorado Springs Fire Department’s tips for success

- 1 **Conduct a thorough community needs assessment**, for your own information and to present to partners. “Anecdotes are not enough,” Martin says.
- 2 **Collaborate and seek guidance from pharmacists**, licensed clinical social workers/behavior specialists and other healthcare specialties.

Mobile Integrated Healthcare and Community Paramedicine (MIH-CP):
A National Survey



Lessons Learned - Tips from the experts

One of the most revealing questions in the survey relates to lessons learned and advice respondents offered to other EMS agencies seeking to launch MIH-CP programs. The answers of the 86 respondents who offered their input can be summarized in seven themes.

1 Collaborate, don't compete.

MIH-CP programs work in partnership with other healthcare stakeholders to fill gaps in healthcare delivery, not replace services already available within the community. The most oft-cited recommendation was to involve stakeholders early in the planning process.

“Early identification of stakeholders is essential ... make sure they are at the table from the beginning.” – Survey respondent

“Develop a community stakeholders list and begin to have regular informative meetings.” – Survey respondent

The purpose of early stakeholder consultation is to inform potential partners about MIH-CP, to share agency plans, to ensure the regulatory environment is understood at the outset, to allay fears of competition and to secure buy-in, according to respondents.

“Help stakeholders see that EMS is committed to better outcomes of population health and better stewardship of healthcare dollars.” – Survey respondent

“Rather than view EMS as merely the ‘ambulance drivers’ that deluge a hospital, EMS should be seen as the critical link that is driving the dissolution of barriers to coordinated care.” – Survey respondent

2 Do a community needs/gap analysis. Prior to launch, learn the resources that are available within the community, determine where there are gaps and find out if your EMS agency can have a role in filling those gaps.

“As every community is different, the most important component of program development is focusing on the specific needs of the population served and designing a program around them.”

– Survey respondent

“Although various programs may have common principles, the key to success is creating one that’s right for your community’s needs.” – Survey respondent

3 Start small and build on success.

Another common piece of advice was to start with a limited number of patients and build upon experience. Several also urged EMS agencies to avoid trying to address all needs simultaneously. They also encouraged patience and perseverance, saying that getting programs up and running always seems to take longer than planned.

4 Focus on the patient. Several respondents reminded EMS agencies to above all, keep the patient at the center of the program design.

“Always view this type of initiative in light of what is best for the patient, your community and then your organization. The incentives to begin these programs shouldn’t be money as a primary factor. Collaborate, innovate, execute, retool, re-execute.”

– Survey respondent

5 Integrate. Integration with the existing healthcare system includes the gap and resource analysis highlighted above, as well as other integrations in health information technology, referral processes and patient navigation to the most appropriate care.

“We work closely with patient navigation to address non-medical, access, insurance, behavioral health and social needs.”

– Survey respondent

“Develop the network of resources you will need for the patients enrolled in the program.” – Survey respondent

6 Collect Data. Another common theme was encouraging MIH-CP programs to collect data relevant to measuring patient outcomes, patient experience and impact on patient costs. Some emphasized the need to integrate with local, regional or state electronic health information exchanges (HIE).

“Join or create local HIE and share your data and interpret its significance for your patients, your system and primary healthcare and services providers.”

– Survey respondent

7 Learn from other MIH-CP programs. Multiple respondents also recommended consulting with established MIH-CP programs.

“Do not reinvent the wheel. There are a lot of resources available to study and emulate. Replicate best practices and learn from the agencies that have been running programs to help avoid potholes.” – Survey respondent

Conclusion: What Will It Take for MIH-CP to Become a Success?

The growing movement to compel more efficient healthcare spending and the widely acknowledged need for integration and collaboration to solve complex patient issues represents an enormous opportunity for EMS to cement its future in a changing healthcare world.

This survey shows that through MIH-CP, many agencies are proactively redefining the role of EMS, from one associated mainly with emergency response to one involved with prevention, patient education and effective navigation. This is no small feat, given obstacles such as opposition from other healthcare entities; confusing and sometimes prohibitive legislative or regulatory barriers; and limited reimbursement.

Those obstacles are perhaps one reason why, out of an estimated 17,000 EMS agencies nationwide, only 100 or so have launched MIH-CP programs. And many of those agencies, despite their enthusiasm and strong belief that they are doing what's right for their communities and their patients, admit their long-term sustainability is by no means guaranteed.

How to define success?

Defining "success" for a healthcare program such as MIH-CP can be considered from multiple angles. For individual patients or groups of patients, success is defined by impact and costs, and measuring it is dependent on collecting and analyzing the sort of clinical and outcomes data discussed earlier in this summary analysis.

Success can also be considered from the EMS agency perspective, and could include



factors such as whether an MIH-CP program is revenue generating or self-sustaining; how the program impacts the EMS agency's relationships and reputation within the community; whether MIH-CP provides opportunities for professional growth for the EMS workforce; and the extent to which MIH-CP enables the agency to achieve its mission of serving its community.

A third way to look at success is at the macro level – that is, to what extent can MIH-CP impact patient outcomes and achieve sustainability on a large scale, nationwide? Although answering that question is premature, what can be discussed are the key factors that will contribute to the ability of MIH-CP programs to become firmly established as cost-effective, value-added healthcare service providers in the months and years to come.

Three key factors

1 State level statutory and regulatory change – Today, many state laws and regulations expressly limit EMS agencies to emergency or 911 response and limit their activities to providing medical care only at the scene of an emergency.



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Conclusion: What Will It Take for MIH-CP to Become a Success?

MIH-CP should be included in healthcare policy change and reimbursement reform that transition EMS into a value-based health services provider that is adequately funded to continue its vital role in safeguarding the health and well-being of our nation's population.



IMAGE PROVIDED BY MEDSTAR MOBILE HEALTHCARE

In practice, EMS practitioners know many 911 calls are not life threatening, and instead are patients who could be better served by less expensive resources, such as primary or urgent care. Moreover, the narrow view of EMS as emergency-only represents an outdated, siloed view of the provision of patient care that is rapidly falling by the wayside elsewhere in the healthcare system. The findings of this survey, along with the case studies, suggest that the narrow view of EMS is beginning to change among other healthcare providers as well.

2 Data proving value – The most powerful case for convincing payers or healthcare partners to invest in MIH-CP programs is to provide proof that the programs achieve the Triple Aim of improved patient experience of care, improved population health and reduced per capita cost of care.

Some MIH-CP programs have already secured contracts with hospitals, home health, hospice, nursing homes, Medicaid care coordination and managed care organizations, and even a state department of behavioral health. But to turn that trickle into a flood, EMS agencies need to engage in collecting, analyzing and reporting data.

In a positive sign, many MIH-CP programs say they collect data and are showing positive results. Yet there are almost no peer-viewed, published studies on MIH-CP outcomes. In addition, the EMS profession is still working toward a consensus on the best method for demonstrating value, including determining what to collect, how to report it and to whom.

3 Reimbursement reform – Today, EMS is paid via a transportation-based, fee-for-service model, specifically for delivering patients to an emergency department. “This provides a disincentive for EMS agencies to work to reduce avoidable visits to emergency departments, limits the role of prehospital care in the US health system, is not responsive to patients’ needs, and general downstream healthcare costs,” wrote Dr. Kevin Munjal in a Feb. 20, 2013 *JAMA* editorial. “Financial and delivery model reforms that address EMS payment policy may allow out-of-hospital care systems to deliver higher-quality, patient-centered, coordinated healthcare that could improve the public health and lower costs.”

Hospitals, physicians, and other medical providers are increasingly subject to value-based reimbursement, including receiving penalties for unnecessary hospital readmissions. Thus far, EMS hasn’t had its reimbursement tied to performance or outcomes measures, but it’s only a matter of time before CMS and private insurers will expect EMS to fall in line with the rest of healthcare.

Individual EMS agency contracts with hospitals and other healthcare partners will continue to be an important source of revenue to support MIH-CP programs. But MIH-CP should also be included in healthcare policy change and reimbursement reform that transition EMS into a value-based health services provider that is adequately funded to continue its vital role in safeguarding the health and well-being of our nation’s population.



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