Implementing and Sustaining Rural Community Paramedicine

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NATIONAL RURAL HEALTH RESOURCE CENTER

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Introduction

The 2021 Rural Community Paramedicine Summit convened by the [National Rural Health Resource Center (The Center)](#), with support from the [Health Resources and Services Administration (HRSA)](#), [Federal Office of Rural Health Policy (FORHP)](#), was held in a virtual format on February 21-22, 2021. The purpose of the meeting was to facilitate sharing of lessons learned and key strategies related to the implementation and sustainment of community paramedicine (CP) in rural communities.

One goal of this report is to share the experiences of established CP providers with rural ambulance providers and hospitals so that they might be better prepared as they consider such initiatives in their own communities. The report is also intended to inform those that strive to improve the health of rural communities, such as [Medicare Rural Hospital Flexibility (Flex) Programs](#) and [State Offices of Rural Health](#), and to enable them to consider how they might best support rural CP efforts through their programs.

Meeting objectives included:

- Identify the challenges and opportunities related to the implementation and sustainment of CP in rural communities
- Identify established CP models and capture lessons learned
- Identify strategies and resources, both existing and needed, related to the implementation and sustainment of rural CP, including how Flex Programs can support related activities
- Consider the future of rural CP
- Establish and disseminate a resource document summarizing the above for rural health organizations to utilize in establishing collaborative efforts to move towards value and population health models

Participants

- Joel Beiswenger, Tri-County Health Care, Minnesota
- Tahleah Chappel, Federal Office of Rural Health Policy
- Nicole Clement, National Rural Health Resource Center
- Sarah Craig, South Carolina State Office of Rural Health
- John Gale, University of Southern Maine, Flex Monitoring Team
- Britton Herbert, South Carolina Office of Rural Health
- Kiona Hermanson, National Rural Health Resource Center
- Terry Hill, National Rural Health Resource Center
- Danita Koehler, Alaskan Volunteer EMS Services in Southeast Alaska and the Aleutian and Pribilof Islands
- Tami Lichtenberg, Independent Consultant
- Robyn McArdle, North Carolina Office of Rural Health
- Kenneth Peach, Health Council of East Florida
- Karen Pearson, University of Southern Maine, Flex Monitoring Team
- Jonah Thompson, Alleghany Health Network, Pennsylvania
- Gary Wingrove, The Paramedic Foundation (through follow-up conversation)
- Matt Zavadsky, MedStar Mobile Healthcare, National Association of Emergency Medical Technicians (NAEMT)

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Executive Summary

Summit participants spent two half-days contemplating the past, present, and future of rural CP through presentations and small and large group work in which they addressed the objectives above.

Key themes identified during the two days focused on lessons learned from implementation and opportunities to increase sustainability. Participants identified both opportunities and challenges for CP programs.

Opportunities for rural CP programs:

- Community care coordination
- Potential new funding steams
- The ability to demonstrate value

Challenges for rural CP programs:

- Reimbursement and funding streams
- Workforce and leadership challenges
- The lack of data inhibits the ability to show value

The group also discussed key strategies for CP implementation that centered around:

- Seeking partners where you can make an impact
- Starting the CP program with a narrow focus
- Showing value through data and outcomes
- Identifying vital community partnerships and ensuring patient awareness
- Maximizing COVID-19 pandemic flexibilities and employing telehealth when needed

The summit participants also identified critical strategies for ensuring sustainability that included:

- Planning early for sustainability
- Focusing on data
- Identifying new and continuous funding streams

The group then moved to ways that Flex Programs could act as a convener or support CP programs through demonstration projects, assisting with state or community assessments, and providing education and/or projects around data improvement.

Data and the ongoing need for it was a theme that resonated throughout the two-day summit and participants encouraged CP programs to look to other successful models for consideration of measures while making sure to carve out their own path in the health care of their community.

Participants agreed that CP has the ability to emerge as a critical partner in the health of rural communities post-pandemic and can really benefit from new legislation and the flexibilities created by the public health emergency (PHE) to become a meaningful player in the new future of rural health care.

With health care going through a sea of change, legislation such as the [CARES Act](#) and [American Rescue Plan Act](#) are allowing changes and flexibilities that never existed before and establishing a new role for technology. Emergency medical services (EMS) have tremendous opportunity to define and develop a new space for itself. As part of that new role, CP has the ability to seize this moment, show its value, and embed itself in future solutions in Mobile Integrated Health.

Background

As the United States health care industry moves steadily toward value-based payment models and population health management, rural health care providers are developing population health strategies that involve building partnerships and systems to ensure that they meet the goals set by the Centers for Medicare and Medicaid Services (CMS), of better care, healthier people and communities, and smarter spending. Health care transformation provides opportunities for rural EMS to be more fully integrated into the health care system as well as participate in new payment and collaborative care models. The development of meaningful partnerships between the nation's rural hospitals and their EMS providers and communities is crucial to success in value-based care. A coordinated system of care has a crucial role in health care transformation and has been identified as a strategy for reducing hospital readmissions by bridging the gaps between settings of care.

Poised at the precipice of a new era in health care ushered in by rural hospital closings, decreasing margins, a move to value-based health care, and sealed in fate by a global pandemic, all of health care has been forced to rethink and re-imagine. According to the Rural Health Information Hub (RHIhub) topic guide, "CP is an emerging model that complements the traditional roles of EMS providers, so they are partners in public health and community health care delivery." RHIhub also makes note that rural patients

use 9-1-1 as their primary care, due to lack of access to other resources (Rural Health Information Hub, n.d.). This diverts critical resources and weighs down an already fragile EMS system. Community paramedicine can provide access to both public health and primary care to provide access to rural residents in a more appropriate way.

Community Paramedicine as an Emerging Model of Care

The specific roles, focus, and services of CP initiatives vary from program to program and across states leading to many working CP definitions and titles. While there is no single definition, the National Association of Emergency Medical Technicians (NAEMT) defines CP as, "One or more services provided by EMS agencies and practitioners that are administratively or clinically integrated with other health care entities." The Joint Committee on Rural Emergency Care (JCREC) describes a community paramedic as "…a state licensed EMS professional that has completed an appropriate educational program and has demonstrated competence in the provision of health education, monitoring and services beyond the roles of traditional emergency care and transport and in conjunction with medical direction."

The [Flex Monitoring Team](a FORHP-funded consortium of researchers from the Universities of Minnesota, North Carolina-Chapel Hill, and Southern Maine, funded to evaluate the impact of the Flex Program) released a [briefing paper] in 2014, *The Evidence for Community Paramedicine in Rural Areas: State and Local Findings and the Role of the State Flex Program.* It describes two principal models of CP programming, both of which can address the needs of rural communities.

- Primary health care: Focuses on helping to prevent hospital readmissions (post-discharge care, chronic illness monitoring, and targeting high-risk patients).
- Community Coordination: Works to connect patients to primary care and other social and medical services. (Pearson, Gale, Shaler, 2014).

Community paramedicine is one way of filling gaps between care settings and ensuring efficient transitions of care, not replacing other health care providers. Some CP programs address both of the above-described needs.

A [2018 national survey](#) from NAEMT states that, "Despite significant hurdles to implementing and financially sustaining the programs, many EMS professionals embraced mobile integrated health-community paramedicine (MIH-CP) with enthusiasm." The 2018 survey identified more than 200 functioning programs in 33 states that met their definition of, "…fully integrated; collaborative; data-driven; patient-centered and team-based." According to the survey document, insurance companies, managed care organizations, and others are becoming more willing to pay for EMS to provide such services and increasing numbers of EMS agencies are entering into such arrangements. The final report states, "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." (National Association of Emergency Medical Technicians, 2018)

> "CP can be the eyes, ears, and voices of residents-- looking out for problems and finding solutions. With their help, residents can have a consistent, convenient source of care from experts that not only know what they are doing but who care because they live in the community too."
>
> Gary Wingrove, The Paramedic Foundation

Outcomes in a CP program will vary but a reduction in unnecessary transports to and reduced utilization of the Emergency Department (ED), cost reduction, and effective referrals for patient care may be measurable indicators of success. Less measurable, but as important, improvement in the quality of life for patients from reduction of hazards in the home, and improved patient well-being. The respondents of the [2018 NAEMT study](#) rated their programs from 73 to 85 percent successful in different ways, including reduction of 30-day readmissions, 9-1-1 utilization reduction, and cost savings, to name a few. Eighty-five (85) percent rated their program as highly or somewhat successful in achieving patient satisfaction. Until recently, rural EMS largely focused on emergency response to critical situations (National Association of Emergency Medical Technicians, 2018), but in rural areas where health care may be difficult to access and needs outweigh providers, CP can take advantage of EMS professionals that have down time between emergency calls and the skills and ability to provide much needed health care services.

When not responding to emergencies, the CP professional is available to help in additional manners such as managing chronic diseases as well as providing immunizations and screenings. Likewise, they may be able to monitor care and provide counseling regarding resources related to social determinants of health and self-care.

While the specific roles and services are determined by community and public health needs, in addition to medical direction, CP capitalizes on the untapped resources of emergency medical providers in rural communities. Community paramedicine professionals expand their skills and roles in order to provide any number of services such as assessments, connections to primary care, integration and care coordination with home health, immunizations, and chronic care support.

"In its most basic form, CP is a program operated by an EMS service that has aligned with others. MIH is a program operated by other than an EMS service that has aligned with community paramedics."

Gary Wingrove, The Paramedic Foundation

Affectionately referred to as the "Swiss army knife" of health care by one of the summit participants, CP professionals are already recognized by the community, skilled in assessment of critical needs, and comfortable working within patients' homes. With some additional training that supplements their emergency medical skills, they have filled a crucial role in many communities.

Mobile Integrated Health

The term mobile integrated health care (MIH) is often incorrectly used interchangeably with CP, particularly outside of the EMS community. MIH is a broader concept, including health care services provided outside of a health care facility by any type of health professional, one example being community health workers (CHWs). To be inclusive, some organizations use the term mobile integrated health care and community paramedicine (MIH-CP).

According to a vision statement from the NAEMT, "Mobile Integrated Healthcare (MIH)–Community Paramedicine (CP) is the provision of health care using patient-centered, mobile resources in the out-of-hospital environment. MIH is provided by a wide array of health care entities and

practitioners that are administratively or clinically integrated with EMS agencies, while CP is one or more services provided by EMS agencies and practitioners that are administratively or clinically integrated with other health care entities."

MIH-CP programs should be goal-oriented, patient-centered, collaborative and team-based. An MIH-CP approach is all about triage and making sure the most appropriate resource is available.

Opportunities for Rural Community Paramedicine

Summit participants identified three broad areas of opportunity regarding CP implementation and sustainability:

- Community care coordination
- Potential new funding streams
- Ability to demonstrate value

Community Care Coordination

Community paramedicine was identified as having the ability to provide a field version of case management or care coordination. Emergency medical services practitioners are already welcomed by the public into homes when a patient may be having the worst day of their life and are recognized as caregivers. At the same time, CP is viewed as being able to enhance the skills of rural ambulance services and is potentially one way of turning volunteers into full time staff. It was mentioned that advanced practice EMS professionals such as paramedics are not always necessary for care coordination. Lower-level practitioners with some additional training could be used in a more systematic way to bridge gaps. "Paramedics" and "paramedicine" in the CP context are inclusive of Emergency Medical Technicians (EMT), Advanced EMTs, and paramedics.

Opportunities for CP to provide care in the community include routine things, such as medication and home safety checks. As noted by one participant, 84 percent of the patients that were seen in their CP medication check program required interventions from a pharmacist for such things as contra-indications or medication review with the prescribing provider.

Participants also cited that CP could play a role in avoidable admissions and reducing hospital re-admissions by collaborating with home health post hospital discharge or communicating with a primary care physician. In addition, the ability to supplement or assist with telehealth visits such as tele-psychiatry or tele-rehabilitation provides an avenue for CP to be part of the exponential growth of telehealth due to the COVID-19 pandemic. Many patients will need different levels of assistance with these technologies whether it be access to devices, broadband, or the technological skill, and community paramedics can provide that assistance.

"Organizations at financial risk are realizing that they are paying for prevention and find that valuable."

Kenneth Peach, Health Council of East Florida

The ability to affect social determinants of health, clinical support as an extension of physician practice, support new health care disciplines such as dialysis and palliative care can provide rural CP with many opportunities in the future to show value.

Potential New Funding Streams

The use of CP to support frontier and isolated communities was identified as an opportunity. Around the clock access using telehealth is beneficial if there is not a sufficient population to sustain hospital and clinical care. Many rural EMS services might be able to employ and pay staff if they were able to bill for services that were more consistent than emergency calls.

Additional opportunities that capitalize on the needs of other health care partners such as accountable care organizations (ACOs) were outlined. One participant spoke of their CP program partnering with an ACO to assist them in meeting their value-based care goals by providing a number of eye exams that needed to be accomplished in a short amount of time. He cited another example of the CP program entering into an agreement with a hospital to take on a patient with a high probability of readmission. For a set fee, the CP program saw the patient eight times, but it was still less costly than one ED visit and hospital readmission was avoided. He cited a study about the [18 top avoidable costs for same cause readmission](#) that put the average cost of readmission at about $14,000 (Agency for Healthcare Research and Quality, 2019).

The summit participants talked about the need to be innovative and stretch the boundaries of current thinking, while being flexible, and test concepts. However, they pointed out that pilot programs should be advertised as such so that everyone knows what is happening up front. Shared savings can be created through transition care management. An already allowable service for payers, using CP to provide care management to patients transitioning from acute to post-acute settings could provide a much-needed revenue stream while helping hospitals to avoid readmissions. New models such as [Acute Hospital Care at Home](#) from CMS is bringing care into the home and some hospitals are utilizing community paramedicine in these programs. There may also be the opportunity to engage with traditional state-based or managed Medicaid plans.

The key, according to participants operating CP programs, is to be open to any opportunity - especially those that fill gaps while being able to show how optimizing care integration can affect cost-based reimbursement, and show value to the community, health care partners, and payers while not exceeding the current capacity of CP program staff.

> "EMS assumes its value to be inherent and that its worth is evident."
>
> Jonah Thompson, Allegheny Health Network

Ability to Demonstrate Value

Another opportunity identified by the group was the ability of CP programs to show value and demonstrate cost savings. It was important to the participants that CP will be able to explain the value to both traditional and non-traditional partners alike, but that CP would need help to convey value through outcome measurements.

There are two basic ways to show value to both partners and communities: data and storytelling. Both are useful at different times and in different context, but participants felt that both are important. The participants also noted that it is a challenge for CP programs to identify data and communicate their outcomes, value, and impact.

Demonstrating cost savings is not a traditional concept for EMS. As health care moves from fee-for-service to a more value-based and cost sharing system, showing the value of cost avoidance will be important. Direct cost avoidance requires the agreement of the partner agencies (such as the

hospital) to share cost information. Another option can be to use nationally available Medicare information, though this may be very conservative data though due to Medicare not always paying the actual cost of the service, except for allowable costs in critical access hospitals (CAHs).

To better show cost savings and value, two general cost-avoidance formulas were developed by the MedStar Mobile Healthcare team in Fort Worth, Texas. The first formula is for avoiding the cost of transport due to treatment in place and the second is a formula for calculating when a CP program helps avoid a hospital readmission. Cost-savings is important to health care providers and their partners, but some of the most compelling information for communities comes from anecdotal information about the transformation in care for their members. For examples of outcome measures that can be used to demonstrate cost savings and value, please see Appendix B. Key Community Paramedicine Resources Identified by Participants.

Karen Pearson, from the University of Southern Maine Flex Monitoring Team, shared a couple of examples from their research where patient care was positively affected by CP. The first example cited was a patient enrolled in a CP program that had a history of multiple chronic conditions resulting in repeated visits to the ED. In the 12 months prior to enrollment in the CP program, this patient had been to the ED eight times (seven by ambulance), with one hospital admission. The patient's primary care physician (PCP) referred her to the CP program, directing the community paramedicine professional to visit the patient on a weekly basis to help with medication reconciliation. In the year following enrollment, the patient called 9-1-1 only four times and had no hospital admissions, thus showing a 50 percent reduction in ambulance transports, and also importantly, a cost savings to the EMS system.

In the next example, one patient was a frequent user of the EMS system and had been hospitalized over 70 times prior to enrolling in the CP program. Over the course of 45 days, the community paramedic, who performed daily visits, was able to keep this patient out of the ED and hospital for 18 days. At that time, there was an ambulance transport followed by a brief four-day hospitalization. The patient was then seen at home for 11 more days before an ED visit, that did not result in hospitalization, took place. Additionally, the patient was seen in the ED for lab work, but not hospitalized. This patient did not return to the ED or hospital during the remainder of this 45-day period. (Pearson & Shaler, 2017)

Another summit participant, who runs a CP program based within a CAH, recounted a patient that was referred to their CP program with serious mental health issues after multiple encounters with law enforcement. Through relationship building and addressing needs that encompassed many basic social determinants of health, the community paramedic built trust and was able to significantly impact the health of the patient. The CAH CEO later saw the local sheriff who shared they were under the impression that the individual must have moved out of the area because law enforcement had no encounters with the individual in recent months. The sheriff was astonished to find out that the individual still lived in the community and the positive effect the CP program was having.

Data and information can show cost savings in real dollars and is highly important, but the actual stories of patients and care being affected positively defines the human impact of CP programs, which are important for policy governing boards and legislators to hear.

Challenges for Rural Community Paramedicine

This section contains information about the four main ideas participants identified:

- Reimbursement and funding streams
- Workforce challenges
- Leadership challenges
- Lack of data inhibits ability to show value

Reimbursement and Funding Streams

Reimbursement has always been a challenge for EMS. Largely misunderstood, everyone expects the highest level of pre-hospital care to be a call away when needed, but most have no idea what level of care is provided in their communities, what it costs, or how it is funded. Rural EMS workforce consists mainly of services staffed by volunteers; these dedicated individuals are often responding to ambulance calls from their regular full-time jobs. One national EMS expert has often said, "Where paramedics are most needed, they are least found."

While communities and health care stakeholders may see the value in CP, getting them to pay for it is a different story. Community paramedicine programs are quite often started by grant funding resulting in additional revenue streams needed for them to sustain. Rural programs may have trouble paying a just wage for such important work. Potential payers may see the benefits of the programs but often do not want to pay for it. Consequently, they may need to be shown financial strategies that will work for them. The following are examples of what may potentially be of interest to different kinds of payers.

- Value-based payers focus on ways that the CP program can help them reduce their costs in order to increase shared savings, such as preventative services and home visits for Medicare Advantage patients.
- Fee-for-Service payers may be interested in CP program services that generate revenue such as transitional care management, Medicare wellness visits, advanced care planning, and chronic care management.
- Self-insured employers may be interested in contracting with a CP program for things like employee blood pressure checks or the provision of onsite health education.

Workforce Challenges

While some urban CP programs do not answer emergency calls, it was the consensus of the group that very few small rural EMS providers can sustain a CP program that does not have other duties. As members of the summit group stated, not all paramedics are good community paramedics. Sometimes a separate system is needed. Rural EMS culture is often more aligned with police and fire than health care. Community paramedicine is also not a one-size fits all and participants pointed out the need to utilize community assessment and engagement processes such as the [Informed Community Self-determination Process](#) (McGinnis, Wingrove 2020).

The EMS workforce that is already stretched, has been exacerbated by the COVI-19 pandemic. One rural EMS provider recently told the story of holding the hands of 27 individuals who were scared and sick with the coronavirus in her small, farming community in just the last few months, forced to face her own safety and potential mortality. Most rural providers never experience death that frequently.

Summit participants that currently run CP programs also pointed to the challenge of being asked to be everything to everybody, all the time. They stated that it can be overwhelming at times even with the expected tasks, and that taking on difficult or complex patients that may tax their resources and capabilities can also add to the challenge. The summit participants reflected that each CP program needs to determine their priorities and roles to address the requested needs, while advising to building capacity by starting small.

Leadership Challenges

Not only was the ebb and flow of interest from other health care stakeholders a challenge, the inconsistent levels of interest and strong administrative support from EMS leadership was also cited as a challenge.

One lesson learned in implementation is that CP is a significant shift for rural ambulance providers. Participants explained that many individuals in EMS leadership come from the traditional police, fire, or ambulance rescue models and some have trouble seeing the need for the change or how the model sustains their efforts or correlates to added value for their programs.

It is observed that people may like the idea, but interest peaks and then declines. There is a need to capitalize on interest levels and sustain them instead of mitigating the decline. The group advocated again for using community engagement processes like [Informed Community Self-determination Process](#) (McGinnis, Wingrove 2020). This process brings community stakeholders together around what the community's vision is in regard to EMS in order to determine what is needed and where to focus on demonstrating the value in communities and municipal budgets. One participant cautioned CP programs not to underestimate their value to other health care partners. If CP programs are confident in their worth and able to appropriately articulate the value of their services, stakeholders may be willing to invest in CP solutions.

Lack of Data Inhibits Ability to Show Value

Participants cited that CP programs often have trouble collecting data beyond traditional EMS data, do not focus on outcome data, and have difficulty figuring out how to use data to show value to their partners and stakeholders.

While the need for data was mentioned several times throughout the two days, it was also noted that EMS tends to largely be shut out of data exchange and that data collection tools for CP programs are lacking. Those that are available are often proprietary and can be expensive. One option may be to find out if there is opportunity to add CP-specific data fields to the patient care record system the ambulance service currently uses. EMS agencies are not included in the information technology incentives or grant programs authorized and funded by Congress and states.

Key Strategies for Community Paramedicine Implementation

The group shared many lessons learned in both implementation and sustainability. This section contains the key strategies from the group related to the implementation of rural CP:

- Seek partners where you can make an impact
- Start the CP program with a narrow focus
- Show value through data and outcomes
- Ensure patient awareness and vital community partnerships
- Maximize COVID-19 pandemic flexibilities and employ telehealth when needed

Seek Partners Where You Can Make an Impact

Summit participants that have implemented and sustained programs started by urging CP programs in the planning stages to seek out partners and work to understand their needs. They may be struggling to achieve value-based care or need help to assist patients with chronic conditions. These are examples of where a CP program can really make an impact. Participants pointed out that it would be harder for CP programs to prove their worth to potential partners that have less opportunity to show improvement.

Start the CP Program with a Narrow Focus

Program focus was also a key topic of discussion. Participants emphasized that CP is not a one-size fits all solution and that assessing community needs before implementation is important. They also felt that engaging in the Community Health Needs Assessment (CHNA) process with their local

hospital to identify ways that CP could benefit both the hospital and the community.

It was mentioned that CP programs often ran the risk of trying to be everything to everybody resulting in programs to be easily overwhelmed with patients and/or take on patients that they were not able to handle. Community paramedicine leadership should consider their goals carefully during planning while considering their target audience they want to serve ensuring to not overwhelming their programs and staff. Community paramedicine leadership should consider their goals carefully during planning and target the kinds of patients they want to serve in order to not overwhelm their programs and staff. Participants highlighted that it was important to focus on and maintain one or two areas before expanding into multiple areas. Community paramedicine programs should also focus on willing partners rather than trying to convince a reluctant partner. For example, if a hospital is a willing partner and public health is not, the agency should first build their program around the needs of the hospital.

Participants also encouraged rural CP programs not to rely solely on readmissions as a way of convincing hospitals to see the value of CP. Focusing too heavily on that particular aspect could set programs up for failure if that part of the [Affordable Care Act (ACA)](#) were to change at the federal level.

Show Value through Data and Outcomes

One of the key strategies to implementation was to show the value of CP through data and outcomes. In fact, data was a common theme throughout the two days in every level of conversation. They also cited the need to involve a broad, vertically integrated health team and to educate stakeholders such as community partners and patients.

Ensure Patient Awareness and Vital Community Partnerships

According to the summit participants, community partners are incredibly important to CP programs while additionally alluding to the need for CP programs to have community partners that are willing to tell the story of the CP program and refer patients to it. That requires engaging all stakeholders and convincing health care leaders to invest in the programs with a compelling business plan and metrics that matter to them.

Aside from being known to partners, summit participants said that it was important that patients be able to know the community paramedic professionals for the services they are there to perform and understand who exactly is helping them in their home.

One program created a care map for patients and clipped their business card to it so that patients could distinguish them from home health, therapists, care givers, or other homecare services. Another group made a care plan book to leave in the patient's home. Participants acknowledged that CP programs need to create their own identity to avoid being mistaken for other types of caregivers and that the hybrid or similarity to other health care should not define them.

Partnership with other community providers to create synergy and not duplicate services is important. They need to embrace their solutions-based and crisis response foundation to create their own identity and approach to primary care and prevention service. No other health care provider is better positioned to understand the end result of lack of access or sporadic chronic care management.

Maximize COVID-19 Pandemic Flexibilities and Employ Telehealth When Needed

Another implementation strategy is the opportunity to capitalize on the increased utilization of technology. Public health emergency (PHE) flexibilities have also emerged to fill in the gaps left in health care due to the global pandemic. While the PHE will not last forever, some of the key flexibilities may remain such as expanded scopes of practice and new opportunities for telehealth. The key will be for CP programs to keep an eye on what emerges as new models of care from the PHE and to identify where they can integrate themselves while excelling.

Telehealth use has exploded since the beginning of the COVID-19 pandemic and participants see the opportunity for CP programs to join telehealth pilot programs or assist patients with telehealth visits as part of their service offerings. Other technology integration mentioned by one of the participants was the use of iPads and other technology tools in the patient's home.

Key Strategies for Sustainability

After discussing the key strategies for implementation of CP, the focus shifted to sustainability. The following information falls into three main themes:

- Plan early for sustainability
- Focus on data
- Identify new and continuous funding streams

Plan Early for Sustainability

Many programs have used grant funding for their start up and early implementation. It is imperative that CP programs be able to tell the story of their value through outcomes data and patient successes to find new funding. Community paramedicine programs are not sustainable without continued funding. Identifying funding sources that provide a continuous stream of revenue was one of the keys to sustainability identified by the meeting participants. Convincing payers has been slow, but some programs have found inroads.

"Start planning for sustainability on day one. It can be easy to push off planning for the future especially in terms of finance when you are starting the program with grant dollars but start telling your story and collecting meaningful data right off the bat."

Jonah Thompson, Allegheny Health Network

Focus on Data

Data was mentioned by meeting participants repeatedly as being critically important. Unfortunately, many CP programs struggle with data collection and need suggestions about what data to collect. Summit participants also suggested that the post-acute data that EMS collects should not be the focus, but rather focus on the data that is important to the various health care partners as many potential payers for CP services are less interested in the metrics that have traditionally mattered to EMS.

Summit participants noted that it may be tempting to borrow metric sets from other providers but doing so creates a disservice to CP programs.

Community paramedicine programs need to establish an identity that is unique. One participant suggested that social determinants of health have yet to be adopted into a specific scope of health care practice and that they present an opportunity to provide coding and billing options for CP that are distinct. This would affect not only funding but assist in collecting key data on the patient population. It is also observed that many payers have yet to see the value in CP programs resulting in direct impact to reimbursement policies. Difficulty in establishing CP programs as an independent variable in effecting health status change was also noted by meeting participants. They cited the need for more CP research and decision support tools, as well as toolkits that include a section on data. Access to data analysts that could help CP programs frame up data important to the payers and partners they seek to work with, while capturing the value of their unique scope of practice and metrics that can advance their programs is critically important.

It was suggested that Uniform data sets (UDS) and the Institute of Health's Driver Diagrams might be a model to glean best practices from as well as the Gravity Project.

Identify New and Continuous Funding Streams

A third opportunity, mentioned by the group at large, is the possibility of new funding streams for rural ambulance services. New health care programs launched by CMS such as the Emergency Triage, Treat, and Transport (ET3) and the Community Health Access and Rural Transformation (CHART) models and others are creating new pathways and models that expand possibilities for rural EMS to affect care. As rural EMS looks to transform from volunteer services to paid models of EMS, CP could be an opportunity to enhance that opportunity in rural communities. One participant cited care transitions, assisting patients to make a successful move from acute to post-acute settings as a possibility to gain new revenue and help hospitals avoid patient readmissions at the same time.

COVID-19, as a global pandemic, has also created the possibility of additional funding streams. CMS waivers that created flexibilities to provide care for individuals in new ways for the duration of the federally declared PHE offer opportunities to rural providers as well. Participants pointed to the need to consider how we educate and train rural partners in these programs and other stakeholders on the capabilities of rural ambulances. New

legislation, programs, and the expansion of telehealth as a solution to the need for health care at a distance were also identified as having the potential to provide new sources of funding to CP programs.

The group pointed to boots on the ground networking in order to build a strong community network. A strong champion and business relationships were also identified as important. However, it was also noted that building and sustaining partnerships can feel a little transactional and uncomfortable at times. One participant noted that rural independent hospitals and health systems have the ability and the opportunity to initiate talks with payers around value-based contracts that could include CP.

Flex Program Support for the Implementation and Sustainment of Rural Community Paramedicine

Funded by FORHP, the [Flex Program](#) is intended to preserve access to primary and emergency health care services, improve the quality of rural health services, provide services that meet community needs, and foster a health care delivery system that is both efficient and effective. Only states with CAHs, or hospitals eligible to convert to CAH status and a state rural health plan, are eligible to participate in the Flex Program. There are currently 45 state Flex Programs, and each is different. With different identified needs in each state, each Flex Program varies in their approach. The following describes the ways in which Flex Programs can support the implementation and sustainment of CP in rural communities:

- Rural EMS Improvement program area of Flex
- Acting as a convener and supporting demonstration projects

Rural EMS Improvement Program Area of Flex

The Rural EMS Improvement program area of Flex Program is optional and not all state Flex Programs choose to fund this program area. There are many options for what a Flex Program can support to address the needs of rural EMS in their state. As long as an initiative, such as CP, meets the goals of the Flex Program, and falls within the activity categories of the program

area, a state Flex Program can choose to focus on it. Activity categories within the Rural EMS Improvement program areas include:

- Statewide and/or community-level EMS assessments to inform action planning
- EMS operational improvement: Activities to benefit vulnerable ambulance agencies that need significant changes to continue operations
- EMS quality improvement: Activities would address one of two needs:
  - The need to introduce quality improvement activities and measures to better integrate EMS with wider health care delivery systems.
  - The need to support rural agencies with training and tools to improve the quality of patient care.

Projects should focus on pre-hospital care. Projects focused on the hospital ED would fall into a different program area of Flex. However, projects that include both EMS and CAH EDs are allowed and encouraged. Projects can be one to five years in length.

As each state Flex Program is different, CP programs will differ as well. State legislation and regulation may or may not allow for CP, and if it does, it is likely unique from other states. What is allowed or not allowed as far as scope of service may also be different. But there are opportunities for Flex Programs to assist CP programs. Initiatives such as education or projects around data improvement and use would be a natural fit in the Rural EMS Improvement program area.

Acting as a Convener and Supporting Demonstration Projects

Flex Programs have historically supported demonstration projects in all of the Flex program areas and the planning processes that goes into them, but a lot of work goes into getting to that stage. First, a problem or issue is identified. Those affected begin to have conversations about how to address it. This leads into consideration of who can help and how. Flex Programs can and have supported the process of convening stakeholders to discuss issues and how to address them. With CP as an example, Flex funds could be used to bring health care and community stakeholders together to discuss options, interest, and feasibility. When decisions have been solidified, Flex

Programs might also support the implementation of a pilot project to test that option for sustainability.

Beginning in federal Fiscal Year 2019, FORHP provided supplemental funding to support multi-year projects to improve access to quality emergency medical care in rural communities. The intent of the supplemental projects is to implement demonstration projects in one of two focus areas: sustainable models of rural EMS care or data collection and reporting for a set of rural-relevant EMS quality measures. Through a competitive grant application process, eight tat Flex Programs received the supplemental funding, a few of which address CP. Below are examples of the grantees as described by the Flex Monitoring Team in their evaluation report regarding the first year of the projects:

"Ohio is funding three rural community paramedicine (CP) sites with the goal of creating a sustainable and replicable statewide model. The primary focus of the CP sites will be to reduce 30-day readmissions, ambulance transports, and ED visits. As part of the evaluation of these three sites, Ohio collected data on the costs associated with implementing and operating the CP sites, revenue streams, health outcomes, staffing patterns, timelines, barriers to implementation, and other relevant information. The results will inform the development of an instructional guide for other Ohio EMS agencies seeking to develop a CP program."

"South Carolina worked with three to six EMS agencies located in rural counties without a hospital. The goal is to bolster the agencies' ability to treat patients in the settings most appropriate for their immediate needs. The agencies received technical assistance and support to implement one of three models: (1) community paramedicine; (2) telehealth/treat-no-transport, which allows EMS agencies to treat patients at the scene and avoid transportation to the ED; and (3) alternate destinations, which allows patients to be transported to urgent care facilities, doctors' offices, or emergency rooms, depending on the acuity of the situation. Upon selection of the EMS agencies for each model, South Carolina developed agency cohorts to facilitate information sharing and encourage peer-to-peer support among the agency directors. South Carolina's goal was to seek reimbursement for the community paramedicine program and the alternative destination models." (Pearson, Gale, Kahn-Troster, 2020)

Other Flex funded supplement projects are addressing things such as rural relevant EMS measures, data quality, reporting and performance improvement, telehealth implementation for ambulance providers, and collaborating with stakeholders to educate communities about the cost and value of EMS.

Conclusion

With health care going through a sea of change, legislation such as the [CARES Act](#) and [American Rescue Plan Act](#) are allowing changes and flexibilities that never existed before and establishing extended opportunities for technology to demonstrate a critical role in the new health care space. New demonstration projects like ET3, CHART, and the Rural Emergency Hospital Program, a step-down model for hospitals established through the [Consolidated Appropriations Act of 2021,](#) are creating opportunities for CP programs to develop new relationships and inroads in the health care delivery system.

Summit participants emphasized that now is the time to capture what CP is and outline successful models. They also spoke to the need for more resources for CP sustainment and toolkits to capture best practices and assist new programs in their startup.

Throughout the two days, participants discussed opportunities and challenges for CP that focused on working with the community, showing value through data, tackling workforce and leadership challenges, sharing best practices, and finding new sources of revenue to ensure sustainability. Summit participants pointed to the need for partnerships and community support, including ensuring that patients understand the services provided by the CP program.

In order to ensure sustainability, CP programs need to plan from the beginning for their long-term viability and continually identify new and emerging funding for continuous revenue.

CP programs can take advantage of scope of practice and health care flexibilities created by COVID-19 legislation and CMS regulation. They can be part of the expansion of the telehealth through assistance of service provision.

Summit participants explored how the Flex Program can assist CP programs in implementation and sustainability. Possibilities included performing assessments at the community and state level while supporting demonstration projects in EMS by participating in supplemental projects or funding data improvement projects. Flex Programs serve an important role of convener bringing hospitals, communities, and EMS together to collectively identify and implement the solutions that best meet the needs of all involved.

In the new value-based health care environment, EMS has tremendous opportunity to define and create a new and broader space for itself. As part of that new role, CP has an opportunity to seize this moment, demonstrate its value, and embed itself in future health care solutions.

References

The following source documents were reviewed and directly cited or used as background for information in this report.

Agency for Healthcare Research and Quality (AHRQ). (2019). *Characteristics of 30-Day All-Cause Hospital Readmissions, 2010-2016.* Retrieved from https://www.hcup-us.ahrq.gov/reports/statbriefs/sb248-Hospital-Readmissions-2010-2016.jsp

Centers for Medicare and Medicaid Services (CMS) Innovation Center. (n.d.). *Community Health Access and Rural Transformation (CHART).* Retrieved from https://innovation.cms.gov/innovation-models/chart-model

Gale, J. (2014). *The Evidence for Community Paramedicine in Rural Areas: State and Local Findings and the Role of the State Flex Program.* Flex Monitoring Team.

Health Resources and Services Administration (HRSA). (n.d.). *Uniform Data Sets.* Retrieved from https://bphc.hrsa.gov/datareporting/reporting/index.html

HL7 International. (n.d.). *Gravity Project.* Retrieved from https://www.hl7.org/gravity/

Institute for Healthcare Improvement (IHI). (n.d.). *Driver Diagram.* Retrieved from http://www.ihi.org/resources/Pages/Tools/Driver-Diagram.aspx

National Association of Emergency Medical Technicians (NAEMT). (2016). *Vision Statement on Mobile Integrated Healthcare (MIH) & Community Paramedicine (CP).* Retrieved from http://www.naemt.org/docs/default-source/community-paramedicine/MIH_Vision_02-06-14.pdf?sfvrsn=10

National Association of Emergency Medical Technicians. (2018). *Mobile Integrated Health and Community Paramedicine (MIH-CP) 2nd National Survey.* Retrieved from http://www.naemt.org/docs/default-

source/2017-publication-docs/mih-cp-survey-2018-04-12-2018-web-links-1.pdf

Pearson, K. (2020). *Implementation of Flex EMS Supplemental Funding Projects: Year One Activities.* Retrieved from https://www.flexmonitoring.org/publication/implementation-flex-ems-supplemental-funding-projects-year-one-activities

Pearson, K., & Shaler, G. (2017). Community Paramedicine Pilot Programs: Lessons from Maine. *Journal of Health and Human Services Administration*, 141-185.

Rural Health Information Hub (RHIhub). (n.d.). *Community Paramedicine Topic guide*. Retrieved from https://www.ruralhealthinfo.org/topics/community-paramedicine

Wingrove, G. (2020). *Template for Emergency Medical Services Informed Community Self Determination (ICSD).* Retrieved from https://www.ruralcenter.org/resource-library/template-for-emergency-medical-services-informed-community-self-determination

Appendices

Appendix A: Established Models of Community Paramedicine

The following are established CP Programs identified by summit participants. This list is not intended to be an all-inclusive list of CP programs. Links provide overviews to the programs for the readers further exploration.

- Colorado
    - Eagle County Paramedic Services
- Minnesota: In 2016, Minnesota had nine active rural CP programs and six developing rural CP programs. There were also seven active urban programs and two developing. Numbers have likely increased since that time.
- North Carolina
    - Ashe County EMS
    - Cumberland County/Cape Fear Valley Health
    - Graham County EMS
    - Harnett County EMS
    - Harris Regional Hospital
    - Johnston County EMS
    - McDowell County EMS
    - Macon County EMS
    - New Hanover Regional Medical Center
    - Swain County/Harris Regional
    - Union County EMS
    - Wilkes County/Wake Health
- South Carolina
    - Abbeville County EMS
        - Abbeville Community Medicine Evaluation Report
- Wisconsin
    - ThedaCare

Appendix B: Key Community Paramedicine Resources Identified by Participants

The following content is organized by resource type. Links provide overviews to the resources for the readers further exploration.

CP Curriculum

- [The Community Paramedic Program](#)

Evaluation Findings

- [Community Paramedicine: Program Characteristics and Evaluation.](#) (2017). Institute of Health Economics.
- [Community Paramedicine Pilot Program Evaluation.](#) (2015).
- Pearson, K., & Shaler, G. (2017). Community Paramedicine Pilot Programs: Lessons from Maine. *Journal of Health and Human Services Administration*, 141-185.

  Pearson-Shaler_2017
  -JHHSA-Community F

- Community Paramedicine Data Collection Initiative. Produced under a subcontract with LincolnHealth, funded by a grant from the Doree Taylor Charitable Foundation.
    - Ali, E., Rosingana, K., & Pearson, K. (2020). Lincoln County Community Paramedicine Data Collection Initiative (Infographic). University of Southern Maine, Cutler Institute.

      Maine-LincolnHealth-
      CP_infographic_2020.

    - Rosingana, K., Ali, E., & Pearson, K. (2020). Lincoln County Community Paramedicine Data Collection Initiative. (Final Report). University of Southern Maine, Cutler Institute.

      Maine-LincolnHealth-
      CP_final_2020.pdf

Groups/Organizations/Projects

The following list includes groups, organizations, and projects with varied efforts that relate to CP.

- Community Paramedicine Insight Forum (CPIF): This group holds a monthly 90-minute webinar featuring an insightful presentation and questions and answers session based on experiences and lessons learned from efforts to establish a CP program.
- HL7 International Gravity Project: The purpose of this project is to work toward standardization of social determinants of health data. While not directly linked to any provider type, it was noted by one summit participant that EMS and CP could be stakeholders in such an effort.
- International Association of Flight & Critical Care Paramedics
- International Board of Specialty Certification – For CPs
- International Roundtable on Community Paramedicine (IRCP)
- Joint Committee on Rural Emergency Care (JCREC): NASEMSO and the National Organization of State Offices of Rural Health (NOSORH) created the JCREC. This Committee is dedicated to advancing policy to ensure access to timely, affordable, and high-quality emergency care services in rural America. For more information about how to participate, please email info@nosorh.org.

Presentations Highlighting CP Models

- CPIF and IRCP archived presentations

- Development of Sustainable Community Paramedicine Programmes: A Case Study in Pennsylvania. Yuan-Han Huang, Linlin Ma, Luke A Sabljak, Zachary A Puhala. (2018).

  Huang_2018-Emerg
  MedJ_Development-s

- Peach, Kenneth. Community Paramedicine…the Chronic Care Way. (July 2020).

  Project - CP - ECHO
  slides - 070220.pptx

- Peach, Kenneth. Meeting Social Determinant of Health Needs. (January 2021).

  Project - CP - ECHO
  slides - 012121.pptx

- Peach, Kenneth. Paramedicine Extends Primary Care into the Home.

  Project - IHI -
  Poster.pdf

- Peach, Kenneth. Potential Revenue Sources to Fund Rural Community Paramedicine. (January 2021).

  Project - CP - ECHO
  slides - 010721.pptx

Protocols and Standards

- [Community Paramedicine Programs Standards 1st Edition](#)
- [Eagle County Paramedic Services Community Paramedic Protocols Manual](#)
- [South Carolina Community Paramedic Protocols](#)

Research/Policy Briefs

- Adio, O.A., Ikuma, L.H., Dunn, S., & Nahmens, I. (2020). [Community Paramedics' Perception of Frequent ED Users and the Community Paramedicine Program: A Mixed-Methods Study.](#) Journal of Health Care for the Poor and Underserved 31(3), 1134-1151. doi:10.1353/hpu.2020.0086
- Development of Sustainable Community Paramedicine Programmes: A Case Study in Pennsylvania. Yuan-Han Huang, Linlin Ma, Luke A Sabljak, Zachary A Puhala. (2018).

  Huang_2018-Emerg
  MedJ_Development-s

- Joshua J. Neumiller, Stephen M. Setter, Allison M. White, Cynthia F. Corbet, Douglas L. Weeks, Kenn B. Daratha, Jeffrey B. Collins. [Advances in Patient Safety and Medical Liability. Medication](#)

Discrepancies and Potential Adverse Drug Events During Transfer of Care from Hospital to Home.

- Characteristics and Challenges of Rural Ambulance Agencies – A Brief Review and Policy Considerations. (2021). Rural Policy Research Institute (RUPRI) Health Panel.
- Essential Principles for Utilization of Community Paramedics. American Nurses Association. (2014).

  ana-essentialprincipl es-utilization-of-comr

- Gaps in Cost Sharing Protections for COVID-19 Testing and Treatment Could Spark Concerns About Vaccine Costs. Kaiser Family Foundation. (2020).
- O' Meara P, Wingrove G, Nolan M. Frontier and remote paramedicine practitioner models. Rural and Remote Health 2018; 18: 4550.

  Frontier_and_remote _paramedicine_practit

- Raynovich B, Nollette C, Wingrove G, Wilcox M, Mattera C. National Association of EMS Educators (NAEMSE) Position Paper on Community Paramedicine and Mobile Integrated Health Care. EMS Insider. (January 2018).
- Raynovich W, Weber M, Wilcox M, Wingrove G, Robinson-Montera A, Long S. A Survey of Community Paramedicine Course Offerings and Planned Offerings. International Paramedic Practice, 2014 May; 4(1):19-24.
- Gleason KM, McDaniel MR, Feinglass J, et al. Results of the Medications at Transitions and Clinical Handoffs (MATCH) study: an analysis of medication reconciliation errors and risk factors at hospital admission. J Gen Intern Med. 2010;25(5):441-447. doi:10.1007/s11606-010-1256-6
- The Evidence for Community Paramedicine in Rural Areas: State and Local Findings and the Role of the State Flex Program. Karen Pearson, John Gale, George Shaler. (2014).
  - Briefing Paper
  - Policy Brief

- [The Future of the Frontier Extended Stay Clinic](#). National Rural Health Association.
- [The Pay-for-Performance Map](#). Advisory Board.
- Patterson D, Coulthard C, Garberson L, Wingrove G, Larson E. [What is the Potential of Community Paramedicine to Fill Rural Health Care Gaps?](#) Journal of Health Care for the Poor and Underserved, 2016 November; 27(4) Supplement: 144-158.
- White R, Wingrove G. [Principles for Community Paramedicine Programs.](#) National Rural Health Association. (2012).

Tools and Resources

- [2020 National EMS Assessment](#). (2020). National Association of EMS Officials (NASEMSO).
- [Attributes of a Successful Rural Ambulance Service.](#) An assessment tool and workbook for ambulance services. Wisconsin Office of Rural Health.
- [CDC's Social Vulnerability Index](#). Center for Disease Control and Prevention (CDC), Agency for Toxic Substances and Disease Registry (ATSDR).
- [Community Health Needs Assessments: Resources for Community Paramedicine & Mobile Integrated Health care.](#) (2018). NASEMSO.
- [Community Paramedicine Guides.](#) Includes Colorado, Florida, Idaho, Minnesota, and South Carolina.
- [Community Paramedicine Impact Reference Guide](#). (2020). National Rural Health Resource Center.
- [Emergency Medical Services Topic Collection.](#) National Rural Health Resource Center.
- Examples of Medicare codes and how payment could be shared between involved providers. Peach, Kenneth.

Project - CP - Codes
funding patient servic

- [Health Resources and Services Administration (HRSA) Community Paramedicine Evaluation Tool](#)
- [Mobile Integrated Healthcare: Approach to Implementation. Burlington, MA: Jones & Bartlett Learning.](#)

- Mobile Integrated Health and Community Paramedicine 2nd National Survey. (2018). National Association of EMTs.
- Mobile Integrated Health Care - Community Paramedicine Learning and Action Network. TMF Health Quality Institute.
- Mobile Integrated Healthcare Part 2: MIH-CP Outcome Measures Tool Project. (2015). EMS World Print Online Expo.
- Moving from Loaded Miles to Value-Based Models: Flex Program Support for Rural Emergency Care. (2019). National Rural Health Resource Center.
- National Association of EMTs (NAEMT) MIH-CP Knowledge Center
- Population Health Toolkit – Put Data to Use Introduction Tutorial
- Value-Based risk reduction return on investment calculator. This tool is an example of how a CP program can demonstrate savings to a potential payer. Peach, Kenneth.

Marketing - CP -
Value-Based Risk Red

- Rural Community Ambulance Agency Transformation Toolkit. (2019). National Rural Health Resource Center.
- Rural Community Paramedicine Toolkit. NORC Walsh Center for Rural Health Analysis. (2020).
- Rural Health Information Hub (RHIhub) Community Paramedicine Topic Guide
  - Models and Innovations
- Using Data and Outcome Measures to Show Economic Sustainability of Mobile Integrated Healthcare Programs. (2017). Journal of Emergency Medical Services (JEMS).