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The Evidence for Community Paramedicine in Rural Areas: State and Local Findings and the Role of the State Flex Program

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A Performance Monitoring Resource for
Critical Access Hospitals, States, and Communities

Flex Monitoring Team

University of Minnesota
University of North Carolina at Chapel Hill
University of Southern Maine

The Flex Monitoring Team is a consortium of the Rural Health Research Centers located at the Universities of Minnesota, North Carolina at Chapel Hill, and Southern Maine. Under contract with the federal Office of Rural Health Policy, the Flex Monitoring Team is cooperatively conducting a performance monitoring project for the Medicare Rural Hospital Flexibility Program (Flex Program). The monitoring project is assessing the impact of the Flex Program on rural hospitals and communities and the role of states in achieving overall program objectives, including improving access to and the quality of healthcare services; improving the financial performance of Critical Access Hospitals; and engaging rural communities in healthcare system development.

The authors of this report are Karen Pearson, MLIS, MA, John Gale, MS, and George Shaler, MPH.

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Questions regarding the report should be addressed to: Karen Pearson at karenp@usm.maine.edu

Flex Monitoring Team
http://www.flexmonitoring.org

University of Minnesota
Division of Health Policy & Management
2520 University Ave. SE, #201
Minneapolis, MN 55414
612.624.6151

University of North Carolina at Chapel Hill
Cecil B. Sheps Center for Health Services Research
725 Martin Luther King Jr. Boulevard, CB #7590
Chapel Hill, NC 27599-7590
919.966.5541

University of Southern Maine
Muskie School of Public Service
PO Box 9300
Portland, ME 04104-9300
207.780.4435

The Medicare Rural Hospital Flexibility Program

The Medicare Rural Hospital Flexibility Program (Flex Program), created by Congress in 1997, allows small hospitals to be licensed as Critical Access Hospitals (CAHs) and offers grants to states to help implement initiatives to strengthen the rural healthcare infrastructure. To participate in the Flex Grant Program, states are required to develop a rural healthcare plan that provides for the creation of one or more rural health networks, promotes regionalization of rural health services in the state, and improves the quality of and access to hospital and other health services for rural residents of the state. Consistent with their rural healthcare plans, states may designate eligible rural hospitals as CAHs.

CAHs must be located in a rural area (or an area treated as rural); be more than 35 miles (or 15 miles in areas with mountainous terrain or only secondary roads available) from another hospital, or be certified before January 1, 2006 by the state as being a necessary provider of healthcare services. CAHs are required to make available 24-hour emergency care services that a state determines are necessary. CAHs may have a maximum of 25 acute care and swing beds, and must maintain an annual average length of stay of 96 hours or less for their acute care patients. CAHs are reimbursed by Medicare on a cost basis (i.e., for the reasonable costs of providing inpatient, outpatient, and swing bed services).

The legislative authority for the Flex Program and cost-based reimbursement for CAHs are described in the Social Security Act, Title XVIII, Sections 1814 and 1820, available at http://www.ssa.gov/OP_Home/ssact/title18/1800.htm

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PURPOSE

Community paramedicine is a quickly evolving field in both rural and urban areas as Emergency Medical Services (EMS) providers look to reduce the use of EMS services for non-emergent 911 calls, overcrowding of emergency departments, and healthcare costs. In rural areas, community paramedics help fill gaps in the local delivery system due to shortages of primary care physicians and long travel times to the nearest hospital or clinic.

This study examined the evidence base for community paramedicine in rural communities, the role of community paramedics in rural healthcare delivery systems, the challenges faced by states in implementing community paramedicine programs, and the role of the state Flex programs in supporting development of community paramedicine programs. Additionally, this briefing paper provides a snapshot of community paramedicine programs currently being developed and/or implemented in rural areas.

APPROACH

Our approach combined a survey of state EMS officials and directors of state Offices of Rural Health (SORHs) and/or state Flex coordinators with in-depth, follow-up interviews conducted between January and September 2013 of these state-level personnel, as well as local EMS and hospital providers, in selected states. We reviewed state Flex grant applications from 2010-2012 to examine state work plans and funding to support community paramedicine initiatives, and also reviewed articles in peer-reviewed healthcare journals as well as reports from the trade literature and the EMS industry which focused on the integration of EMS into local healthcare delivery systems.

BACKGROUND

Medicare Rural Hospital Flexibility (Flex) Program Context

The Medicare Rural Hospital Flexibility Program (Flex Program), created by Congress in 1997, provides grants to 45 state Flex programs to support the implementation of initiatives to strengthen the rural healthcare infrastructure. Participating state Flex programs are required to undertake activities to support hospitals and communities in the following core areas:

1. Improving the quality of services provided by Critical Access Hospitals (CAHs);
2. Improving the financial and operational performance of CAHs;

3. Developing local and regional systems of care with CAHs as the hub, enhancing the community engagement of CAHs, and integrating EMS into those local and regional systems of care; and
4. Facilitating the conversion of eligible hospitals to Critical Access Hospital status.

The third core area of integrating EMS into the local and regional system of care suggests a conceptual home for the community paramedicine approach and emerging models as well as a strategic home for how Flex programs can respond to community paramedicine initiatives. Previous work by the Flex Monitoring Team[1-4] (FMT) has identified the persistent challenges State Flex Programs have faced in supporting the improvement and integration of EMS and the development of regional systems of care.

Rural Context

Access to healthcare services in rural areas is challenged by fragmented and uncoordinated delivery systems, poorly-resourced primary care services, geographically-isolated providers, and rural populations that tend to be older and sicker than in urban areas.[5] Hospital readmission rates are high for all Medicare beneficiaries; research has shown that nearly one in five patients are readmitted within 30 days of discharge, with many more returning to the emergency room.[6-9] Additional demographics show that a large segment of the U.S. population lives in medically-underserved rural areas, with rural counties accounting for 63-77% of designated Health Professional Shortage Areas.[10,11] Rural adults residing in these shortage areas were also less likely to have a regular primary care provider (PCP).[12] According to the 2010 National Advisory Committee on Rural Health and Human Services, there were only 55 rural primary care physicians for every 10,000 people in rural areas compared to the estimated 95 per 10,000 needed.[13] For 57 million Americans, a trip to the physician's office may require a lengthy drive and considerable expense.[11,14,15] One-fifth of the U.S. population lives in rural, remote, and/or frontier areas, yet only 10% of the nation's physicians practice in these areas.[16,17] A coordinated system of care is part of a strategy for health improvement and was recently cited as a strategy for reducing hospital readmissions by bridging the gaps between settings of care.[18,19]

Filling the Gap

Community paramedicine provides a way to fill this gap in rural areas that either have limited primary care services or lack them entirely. According to the *National Consensus Conference on*

Community Paramedicine, "Community paramedicine providers care for patients at home or in other non-urgent settings outside of a hospital under the supervision of a physician or advanced practice provider. Community paramedicine can expand the reach of primary care and public health services by using EMS personnel to perform patient assessments and procedures that are already in their skill set."[20] The specific roles and services of a community paramedic are determined by community health needs and in collaboration with local public health departments and medical directors.[21]

While there is no universal definition, there are common themes which define both the field of community paramedicine and the role of the community paramedic:

- **An emerging field** in healthcare where Emergency Medical Technicians (EMTs) and paramedics operate in **expanded roles** in an effort to connect underutilized resources to underserved populations.[21] Community paramedics are also seen as part of an emerging concept of **mobile integrated healthcare** which proposes to integrate the larger spectrum of community healthcare and technology: telemedicine, mental health, social services, nurse triage lines, and public safety.[22]
- **A model of care** whereby paramedics apply their training and skills in "non-traditional" community-based environments (outside the usual emergency response/transport model). The community paramedic may practice within an "expanded scope" (applying specialized skills/protocols beyond that which he/she was originally trained for), or "expanded role" (working in non-traditional roles using existing skills).[23]
- **An organized system of services**, based on local need, which are provided by EMTs and paramedics integrated into the local or regional healthcare system and overseen by emergency and primary care physicians.[24] [20,21,25-37]

These definitions arise from numerous organizations, focus groups, and EMS-focused agenda documents which describe EMS systems and guide efforts to strengthen and improve EMS.[20,21,25-37] Two primary documents promoting the concept of community paramedicine are the 1996 *EMS Agenda for the Future*,[29] which called for EMS to be fully integrated with the overall health system, and the 2004 *Rural and Frontier EMS Agenda* report which emphasized the provision of a variety of EMS-based community health services as crucial to the survival of

rural and frontier EMS agencies.[24] These community health services include prevention, evaluation, triage, and referral—all within the paramedic's existing scope of practice.[24]

While the community paramedicine approach varies according to the unique needs of each community, it can be categorized in two principal models: the **primary health care** model, which focuses on providing services to help prevent hospital readmissions (post-discharge care, monitoring chronic illness, targeting specific high-risk patients); and the **community coordination** model, which aims to connect patients to a primary care physician (medical home model) and other social and medical services.[35,38,39] Many rural community paramedicine programs embody aspects of both these models. According to a recent survey of EMS professionals, community paramedicine programs that emphasize reducing readmissions were identified as one of the most common models in rural areas, with "primary care/physician extender" models most common in frontier areas.[40]

Community Paramedicine in Context

Community paramedicine is not the only model to fill the gap and provide coordination of care in rural areas. Other models include Community Health Aides,[41] Community Health Workers,[42] Community Care Teams,[43] and most recently, Primary Care Technicians,[44] all of which utilize care coordination to help improve the health outcomes of vulnerable populations, such as the chronically ill and the elderly, in rural areas. An innovative model which helped inform the evolution of community paramedicine is the Community Health Aide (CHA) program in Alaska, which grew out of a public health crisis in the 1940s and 1950s and provided volunteers from the villages with federal authority to dispense medications. The CHA program was implemented in 1968, providing training and direction for these CHA workers who provide emergency and primary care services under the daily direction of a hospital-based physician.[41]

Community Health Worker (CHW) programs provide another approach and currently operate in several states.[42,45,46] These trained individuals are primarily involved as frontline public health workers who provide culturally- and ethnically-appropriate health education and patient navigation services for individuals.[42,45-49] The overriding value of CHWs lies in their familiarity with their communities and their ability to bridge the cultural divide between the patient and the healthcare system.[47] A recent evaluation of rural CHW programs identified six CHW models in rural areas, in which CHWs are members of the care delivery team, health educators,

promotoras, outreach and enrollment service agents, community organizers, and care coordinators.[49]

An additional, emerging model of care coordination for high-needs patients, especially those with chronic conditions, is the Community Health Care Team (CCT). This model has been found to be effective in North Carolina, New York, Vermont, and Maine.[43] CCTs work closely with patient-centered medical home (PCMH) practices and are multi-disciplinary and community-based. Teams typically consist of a variety of healthcare providers, including dieticians, nurse practitioners, care transition coordinators, and also social workers, and work primarily with the Medicaid and Medicare populations.[50]

A recent article in *Health Affairs*[44] presents the case for using primary care extenders from the field of EMS as a new model to help fill the gap in primary care coverage. The authors present the case for PCTs basing their model on an existing EMS regulatory and scope of practice framework. Thus, the role and functions of these "primary care technicians" matches those of a community paramedic: they receive clinical training, provide in-home visits, work under medical direction, manage patients with chronic conditions, and help to prevent hospital readmissions. (See Appendix A for comparison of community paramedics and primary care technicians.)

Scope of the Problem: Issues and Challenges Facing Community Paramedicine in Rural Areas

One of the challenges facing the field of community paramedicine is the potential overlap with other healthcare professionals such as those mentioned above (CHWs and CCTs) as well as home healthcare professionals. Wang[51] notes that in pilot community paramedicine programs or those that are rapidly implemented, the lack of clarity on the expanded roles for the community paramedic may cause resistance from other healthcare professionals; these roles, therefore, need to be formalized and clearly defined. Communities can use a gap analysis or needs assessment to determine the most appropriate model of care coordination.

Issues of recruitment, retention, and medical direction are dominant in any discussion of rural EMS, as well as geographic barriers, and inadequate opportunities along with limited financial resources for training.[20,52,53] In addition, community paramedicine programs face issues of licensure, scope of practice,[54] integration, and importantly, reimbursement.

EMS services have predominantly focused on transporting patients with emergent conditions. Over time, however, the use of EMS and ambulance services for non-emergent, low-acuity situations (sprains, flu-like symptoms, etc.) has increased.[55] For example, 62% of all emergency transports in Nebraska in 2011 were considered non-emergent.[56] Although the Centers for Medicare and Medicaid Services (CMS) modified the Ambulance Fee Schedule in 2002 for EMS emergency transport to include inter-facility specialty care transport, the model for EMS still remains transport-based and reimbursed accordingly; non-transport services are not typically reimbursed by third-party payers. The concept of EMS providing a "treat and referral" or a "treat and release" service was not built into the EMS payment model, yet this type of service, in many cases, is currently being provided by rural EMS personnel.[25,29,53,57] Innovative financial models for non-emergency transport are also being considered at the federal level. A recent draft white paper jointly prepared by the National Highway Traffic Safety Administration and the Office of the Assistant Secretary for Preparedness and Response provides an analysis of a financial and service of care delivery model provided by EMS personnel focused on reducing preventable transports to the emergency department that could result in a system-wide cost savings of nearly $600 million.[57]

Review of Community Paramedicine Literature

The literature on community paramedicine addresses many of the challenges noted above, providing contextual guidance to help EMS providers, communities, and states understand and meet these challenges. In 2009, a joint committee of rural emergency care was formed by the National Association of State EMS Officials (NASEMSO) and the National Organization of State Offices of Rural Health (NOSORH) to advance policy to ensure access to timely, affordable, and high-quality emergency care services in rural America. They produced a community paramedicine discussion paper which provided a synopsis of opportunities and challenges state EMS offices face regarding community paramedicine programs and personnel.[27] They highlighted the major issues raised by Rowley and others of high fixed costs, transportation-based reimbursement, recruitment and retention difficulties, dependence on a volunteer workforce, physician shortages, and lack of medical oversight.[24,32,53,58-60] They also addressed the related topics of integration, collaboration, data, and evaluation. As the concept of community paramedicine has gained traction among EMS providers, state and federal officials have sought to provide tools and resources to help both emerging and existing community

paramedicine programs.[21,25,35] In the fall of 2012, an internationally-representative group of community paramedicine stakeholders—including state EMS directors, directors of State Offices of Rural Health, healthcare and EMS providers, government agencies, and health economists—was convened to address the major issues facing community paramedicine programs: Integration with other healthcare providers; insufficient medical direction and regulation; a need for education and expanded roles; funding and reimbursement; and data, performance improvement, and outcome evaluation.[25] Participants at the conference discussed the current best practices in each of the identified areas, gaps to address, and areas for further research.[20]

A report prepared in 2013 for the California Healthcare Foundation also examined these issues within the regulatory framework for community paramedicine in California, concluding that while it is a potentially promising solution to filling some of the healthcare gaps, the issues are complex and the current regulatory framework of EMS precludes widespread adoption of this kind of program.[20,28] In a systematic review of the literature examining the scope of practice for community paramedics, the authors found that the challenge of carving out a role for community paramedics in the local health system persists.[54]

While there is an abundance of national reports encouraging the use of community paramedics, the peer-reviewed literature is sparse regarding evaluations and outcomes of community paramedicine programs in the United States.[54,61-63] This is due, in part, to the evolving nature of community paramedicine and the general lack of available funding. On the one hand, funders want evidence of the sustainability of a program, but the community paramedicine programs are not able to develop to the point of sustainability without the funding and therefore cannot be rigorously evaluated.

Programs in the United Kingdom, Australia, and Canada, however, which have a longer history of community paramedicine development and implementation, have been described more frequently in the research literature and provide a framework for understanding the complexity of establishing a community paramedic program in urban and rural areas.[54,64-69] The most notable rural example comes from Nova Scotia, where an innovative service delivery model incorporating community paramedics collaborating with registered nurse practitioners was implemented in the rural communities of Long and Brier Islands.[31,70] This model allowed the expansion of community paramedic services to provide wound care, congestive heart failure

assessments, fall prevention and home assessments, medication reconciliation, and community health promotion (among others), and was shown to be effective in reducing emergency room visits. These expanded community paramedic services have been incorporated into Nova Scotia's Emergency Health Service competencies. This model has provided a basis for stakeholder conversation in rural communities in the United States.[31,70]

In contrast to the paucity of peer-reviewed literature, the trade literature (e.g. *JEMS online, EMSworld*) consistently reports on community paramedicine and provides practical information on the approaches EMS providers have pursued in the development of community paramedicine programs and training of community paramedics.[22,61,71-80]

STATE AND LOCAL PERSPECTIVES ON COMMUNITY PARAMEDICINE

In the fall of 2012, we emailed a preliminary survey to directors of all state EMS agencies and state Offices of Rural Health to identify states with rural community paramedicine programs. Based on responses, we conducted phone interviews with key state and local stakeholders to gather further information about these programs. As of September 2013, we had interviewed 35 community paramedicine stakeholders in 17 states. Additionally, we interviewed Gary Wingrove from the International Roundtable on Community Paramedicine, and Chris Nickerson, Director of Provincial Programs for the Emergency Health Services in Nova Scotia, for background information on the development of community paramedicine programs (see Appendix B. Table of Respondents Interviewed).

In general, the majority of the rural community paramedicine programs that were the focus of our interviews are in developmental or pilot stages. Colorado has the longest history of rural community paramedicine development. Minnesota has the greatest number of developed community paramedicine programs, but they are primarily based in the metropolitan area around Minneapolis; they have recently expanded to rural areas. Maine launched 12 pilot community paramedicine programs in 2013, with all but two in rural areas.

We categorized our interviews with the states according to the following themes, which will be discussed in more detail below.

- Collaboration and Stakeholder Involvement
- Expanded Role vs. Expanded Scope, Medical Direction, and Legislative Barriers
- Education and Training

- Funding and Reimbursement
- Integration with Other Health Providers and the Rural Healthcare Delivery System
- Data Collection and Outcomes Evaluation
- Role of the SORH and the Flex Program

Collaboration and Stakeholder Involvement

Overall, we learned from our interviews with state officials and local EMS providers that stakeholder involvement and buy-in are essential elements in the successful implementation of a community paramedicine program. In Colorado, for example, a number of important associations are currently involved in discussions related to community paramedicine programs. The Colorado Department of Health and Environment is a key stakeholder; additional stakeholders include the Colorado Rural Health Center, the nursing association, and the medical society. The Colorado Rural Health Center, the administrative home for the SORH and Flex offices, has provided meeting facilitation and financial support to the community paramedicine program and has incorporated presentations from staff of the Western Eagle County Ambulance District (WECAD) community paramedicine program at their annual Rural Health conference.

Maine is an example of how existing state-level relationships have helped to quickly and substantially implement 12 community paramedicine pilot sites across the state. (See Appendix C for full list of the pilot sites.) Both the state EMS director and the director of the state's Rural Health and Primary Care program (SORH) reinforced the fact that their long-standing collaboration has allowed them to convene joint meetings of Critical Access Hospital quality improvement groups and EMS personnel to discuss issues related to community paramedicine.

In Georgia, stakeholder groups convened by the SORH have developed planning grants funded by the SORH for community paramedicine pilot sites. The Wisconsin SORH, working with the Baraboo County EMS, has obtained buy-in from stakeholders including the county and local public health departments, the visiting nurses association, the Ho-Chunk tribal nation, and, importantly, the local hospital, which has given permission to allow access to their electronic health records once the community paramedicine program is up and running.

In Nebraska, the Rural Nebraska Regional Ambulance Network (RNRAN) took the lead in moving the community paramedicine program along. The stakeholder group included the State EMS/Trauma program staff, paramedics, State EMS Medical Director, the director of Creighton University's EMS educational program, home health, EMS coordinator at a large urban hospital,

a community college representative, and Elkhorn Logan Valley Public Health department. The SORH was also included in this effort. Nebraska has three community paramedicine programs underway: one rural (Kearney), one suburban (Scottsbluff), and one urban (Omaha, which is currently under development).

Although the following states do not currently have community paramedicine programs underway, the SORH/Flex Program and/or the State EMS offices in Arizona, Iowa, North Dakota, and New Hampshire are each collaborating to bring interested parties together in their states to discuss community paramedicine issues, set strategies, and determine priorities for community paramedicine programs and pilot sites.

Expanded Role or Expanded Scope, Medical Direction, and Legislative Barriers

There is some concern across the states that establishing a community paramedicine program might require authorizing legislation for a new scope of practice for paramedics, or, at a minimum, an additional level of licensure, as was the case in Colorado. Community paramedic services provided by the Western Eagle County Ambulance District (WECAD) were seen as encroaching on the home health professionals' scope of practice, and the Colorado Department of Public Health and Environment (which regulates both the program and the personnel) required WECAD to be licensed as a home health provider in order to provide community paramedic services in the patient's home. This necessitated a 7-month hiatus from community paramedicine activities while WECAD personnel received education and training on providing care plans and chart reviews, and other home health activities. Other ambulance services were reluctant to consider community paramedic services as a result. However, a new regulatory framework for community paramedics is under development, and Colorado expects to see 10-15 rural and frontier ambulance companies come on board once this is passed (personal communication, Chris Montera and Anne Robinson, April 5, 2013). Typically, patients referred to a community paramedic do not qualify for home health services. Community paramedics are filling the gaps and work alongside home health professionals. In Scottsbluff, Nebraska, the community paramedicine program was created jointly by the EMS and the Home Health agency (personal communication, R. Meininger, May 7, 2013).[81]

The majority of state EMS directors with whom we spoke are opposed to legislative changes regarding the community paramedic's scope of practice, and many note that their current statutes

allow for an expanded role—outside of emergency transport— for the paramedic. Both Basic and Advanced level paramedics are the primary personnel considered for community paramedic services due to the advanced training they receive. State EMS scope of practice regulations will determine the extent to which EMTs can perform these services. The key is to provide medical direction and oversight for the paramedic when providing community-based services. Medical direction is most often provided by the EMS Medical Director, a licensed physician who provides oversight and medical control for the paramedic. This level of oversight is built into all current community paramedicine programs, and medical direction can come from the EMS medical director, the hospital emergency physician, or the primary care provider (PCP). However, it is still an issue in some of the more rural areas where there is a shortage of full-time Medical Directors.[20]

At the local level, EMS chiefs and medical directors are also hesitant to increase the paramedic's scope of practice. They understand that, with additional education and clinical training on chronic disease management, paramedics can utilize their existing skills in a community or home setting. EMS providers and state EMS directors were both quick to assure us that this expanded role for community paramedics was not taking away jobs from other healthcare professionals, such as home health providers, but, rather, was filling the gaps in the healthcare delivery system to meet the specific needs of the rural community.

Maine and Wisconsin both required legislative action in order to authorize the development of community paramedicine pilot programs; no changes were made in paramedic licensure. Minnesota's legislature established a reimbursement mechanism through Medicaid for services provided by community paramedics. Minnesota's legislation changed the list of Medicaid-approved services. Nebraska also received legislative approval in 2012 to change the definition of EMS without expanding the scope of practice.

Education and Training

Community paramedicine is also viewed as a way of recruiting and retaining paramedics.[82] In many rural areas where call volume is low, it provides rural paramedics with a means to keep their clinical skills sharp. For those paramedics looking to further their career opportunities, several educational institutions (e.g. Colorado Mountain College in Colorado and Hennepin Technical College in Minnesota) have developed community paramedicine certificate

programs.[27] Most require a designated number of classroom (or online) hours in addition to a clinical rotation.[17] Hennepin Technical College's community paramedic curriculum includes 112 hours of classroom instruction (64 hours of face-to-face or via interactive television and 48 hours of online instruction) and 196 hours of clinical training, which can be arranged in eight EMS regions in the state. The Colorado Mountain College community paramedic curriculum includes seven focus areas; six didactic modules spanning 12-16 weeks, and one clinical module covering 100-200 hours. These modules include the role of the community paramedic in the healthcare system; social determinants of health; the role of the community paramedic in public health and primary care; cultural competency; the role of the community paramedic within the community; personal safety, self-care, and professional boundaries; and clinical care of the population's health gaps (tailored to the local community as identified in the community assessment).

In the case of Humboldt County, Nevada, EMS personnel take on-line courses through Colorado Mountain College and complete their clinical training at the local hospital. Three Abbeville County (South Carolina) paramedics as well as the agency's EMS director and deputy director have also taken the on-line coursework provided by Colorado Mountain College. Following their local clinical rotations, they completed their clinical training with MedStar Mobile Healthcare in Fort Worth, Texas. MedStar also provides a 2-day intensive training on community paramedicine for EMS personnel at any level, hospital administrators, and/or communications staff.

In Prosser, Washington, the local Critical Access Hospital which operates the EMS service worked locally with Heritage University in Yakima to develop its own training program. Heritage University patterned their program on the Colorado Mountain College curriculum, which emphasizes communication skills, disease-specific education, wound care, and patient education information.

In Maine's 12 recently-launched community paramedicine pilot projects, the local EMS agencies either provide the training in-house with their partner healthcare organization or have their paramedics take courses at nearby community colleges. Currently, there is no statewide training program or requirements.

Each of the pilot community paramedicine sites in Nebraska have completed approved national curriculum and training requirements.

Funding and Reimbursement

While there are many advantages to community paramedicine's approach to an integrated system of care, several challenges exist, chief among them start-up funding and reimbursement.[83] Funding is a short term tool to spur innovation whereas reimbursement is a long term tool to sustain the project.[20] Funding for many community paramedicine programs is provided primarily from local resources, with many local EMS agencies covering the cost of the community paramedic out of their operational budgets.

State support (funding and/or reimbursement) for pilot projects is either very limited or non-existent. Currently, only Minnesota has managed to secure state (Medicaid) reimbursement for community paramedic services. Some hospitals that own their own ambulance services provide financial support for their community paramedicine programs in the belief that they will ultimately generate cost savings through reduced readmissions (Nebraska, Nevada, and Maine are examples). South Carolina (Abbeville Area Medical Center and County EMS) and Washington (Prosser Memorial Hospital and EMS) are using foundation and federal grant funds, respectively, for their pilot community paramedicine programs. Colorado's funding stream for their community paramedicine program includes local foundation support; additionally, they are looking to local hospitals to reimburse for community paramedic services to offset the cost of an additional FTE community paramedic.

Each of the Maine community paramedicine pilot projects is self-funded according to the pilot project application guidelines. One pilot project, based in a municipal fire-rescue unit is funded by the municipality. Community paramedic personnel and equipment needs are funded through the general operating budgets of the hospitals in the case of EMS agencies that are hospital-owned. The stand-alone EMS-based pilot projects provide their own funding to support the project.

Concerns were raised in many of our interviews about the willingness of hospitals and stand-alone EMS agencies to continue to support community paramedicine programs in the absence of long-term secure third party reimbursement.

Another more promising reimbursement strategy is that of cost-avoidance—or shared savings, a strategy being developed in urban locations. This shared savings strategy is one in which the community paramedicine program shares the savings for reducing readmissions; if the patient is

readmitted within 30 days, the community paramedic program does not get paid. We learned that Lifeguard Ambulance Service is working with St. Vincent's Hospital in Birmingham, Alabama on a pilot hospital readmission prevention project with two urban and two rural hospitals. The participants are exploring different shared savings strategies including bundled payments and an at-risk payment methodology where Lifeguard would receive a percentage of the cost savings for each patient not readmitted within 30 days, with no payment if the patient is admitted within that 30-day window. Lifeguard's payment methodologies have attracted interest from payers and area hospitals in the Birmingham area. Additionally, Lifeguard is developing a "proof of concept" to submit to payers, which essentially builds the business case for the community paramedicine programs and includes quantifying the component costs for community paramedic services.

Similarly, MedStar Mobile Healthcare, based in the urban Fort Worth, Texas area, has engaged in numerous discussions and negotiations on a shared savings model with hospitals, hospice agencies, and an ACO which has a risk-sharing arrangement with a Medicare managed care organization. MedStar is currently reimbursed through a "fee-for-referral" approach and is moving toward a shared savings model in which they would split the savings with the hospital 80/20 for preventing a readmission within 30 days.[84,85]

The only rural example of a negotiated shared savings arrangement that we are aware of is Colorado's Eagle County Ambulance District (formerly WECAD), which has an arrangement with an area hospital to recoup a portion of the savings that results from preventing readmissions. As mentioned previously, they are also pursuing reimbursement arrangements with another area hospital, which will allow for expansion of FTEs for community paramedics.

Integration with Other Health Providers and the Rural Healthcare Delivery System

One common theme that arose during our interviews was the importance of developing community paramedicine services within the context of a community's unique identified needs. Community paramedicine experts recommend undertaking a community health assessment prior to developing a program at the local level.[21,35] Using information on identified needs, community paramedics can work with their medical directors as well as local emergency department and primary care physicians, public health departments, home health agencies, and other providers to develop services to address those needs.

Based on our interviews, services commonly provided by community paramedics include physical assessment, medication compliance and reconciliation, post-discharge follow-up (within 24-72 hours as directed by the hospital, PCP, or medical director), chronic disease management (usually for congestive heart failure, acute myocardial infarction AMI, or diabetes), patient education, home safety assessment/fall risk prevention, immunization/flu shots, and referrals to either medical or social services (see Table 1 below).

Chris Montera, Chief of Clinical Services and Assistant CEO of Eagle County Paramedic Services in Colorado, shares this generic example of the type of service a community paramedic can provide:

> *Mrs. Jones is a 70-year-old woman in generally good health who lives alone. Her primary care physician recently noticed her blood pressure increasing, so he wrote her a new prescription. Because the doctor knows Mrs. Jones lives on her own, after a couple of days, he asks the community paramedic program to schedule a visit to her home to check her blood pressure and see how she is tolerating the medicine. When the community paramedic arrives, he checks Mrs. Jones and finds her blood pressure is still elevated and her ankles are swelling.*
>
> *When he asks her about the prescriptions, she responds that she stopped taking the pills because she couldn't tolerate their side effects. The community paramedic then calls the doctor, reports what is going on and requests a different medication. Because the paramedic drove to Mrs. Jones' home, he can also drive by the pharmacy to pick up the new prescription.*
>
> *Also, during his visit, the community paramedic notices some uneven floor surfaces in her home. He also notes that she could use a safety bar in her bathroom to help her get in and out of the bathtub. The community paramedic offers to send over some local firefighters to address these home safety issues because falls are one of the biggest medical issues for the elderly. Both a potential ambulance call and trip to the emergency room were thus prevented.*[86]

Table 1. Community Paramedic Goals and Services

GOALS
Care coordination
Preventing hospital readmission
Reducing non-emergent 911 calls and transport
SERVICES
Assessment
Blood draws/lab work
BP/Vitals
Chronic Disease Management
Diabetes Care
EKG
Falls prevention assessment
Flu shots
Gait assessment
Home safety assessments
Immunizations
Medication administration
Medication reconciliation
Newborn wellness checks
O2 saturation checks
Patient education
Referral (medical or social services)
Transportation to doctor appointments
Weight monitoring (CHF fluid retention)
Wellness screening
Wound care

Source: Interviews

According to our respondents, care coordination is the focus of many integration activities between community paramedics and other local healthcare providers. For example, the Abbeville Area Medical Center (a CAH in South Carolina) is collaborating on activities with Abbeville County EMS to provide expanded care coordination services including the use of community paramedics for community and home-based care. Community paramedics will conduct physician-ordered home visits for patients identified by the hospital or EMS.

Prosser Memorial Hospital in Washington, also a CAH, is the recipient of a three-year Centers for Medicare and Medicaid (CMS) Innovation Grant to implement a hospital-based community paramedic program, targeting patients at high risk of readmission, who were then placed into one of three cohorts: 1) Patients who had been hospitalized 5 or more times in the past 18 months. 2) Surgical patients with high risk of infection, and 3) Patients the doctors considered to be at high risk for readmissions. Initial results showed that nearly one-third of the patients identified across the three cohorts needed some type of intervention from the community paramedic, with the most common being reminders to take medications and helping schedule follow-up doctor visits.[87] Additionally, the program realized a significant decrease in the number of patients in cohort 2 due to the follow-up wound care provided by the community paramedics.

The goal of Eagle County Ambulance in Colorado is to integrate community paramedics into the local system of care; for example, trained community paramedics will assist the primary care provider to ensure patients receive proper follow up care. To that end, Eagle County Ambulance prepared a Community Paramedic Protocols Manual[88] to guide community paramedics in their work with PCPs. Eagle County community paramedics are trained to assist with wound care, post-discharge follow-up, chronic disease management (asthma, diabetes, obstructive sleep apnea, etc.) and provide home visits/assessments in response to a medical provider's order. They partner with home health providers, and link the patient information back to the PCP or connect the patient to a PCP if they don't have one.

Maine's 12 pilot community paramedicine programs, still in the early stages of operation, plan to provide a variety of care coordination services, from chronic disease management to medication reconciliation and home safety checks. All 12 programs have identified the need to work with

PCPs and the hospitals to address the ongoing needs of patients with diabetes, congestive heart failure, chronic obstructive pulmonary disease, and asthma as a way to help reduce hospital admissions or readmissions. (See Appendix C for full list of Maine's pilot program activities.)

Data Collection and Outcomes Evaluation

Results from our interviews suggest that data collection and program evaluation are important considerations for community paramedicine providers and state policymakers in the development of local programs. Evaluation data on program performance and outcomes are necessary to demonstrate program value to funders, hospitals, and third party payers and build an evidence base for community paramedicine programs. Ideally, our respondents noted that this should be done during program development to establish required data elements, relevant outcomes, and data collection strategies.

As they work on the development and implementation of their community paramedicine programs, states and localities are also working on their data collection efforts. The data collected for these programs depend on the type of services provided, and whether they are affiliated with a CAH or hospital system. (See Table 1 above for list of community paramedic services, and Table 2 below for types of data collected.) Some programs focus on process measures such as patient satisfaction,[62] and ensuring that all patients served by community paramedics without a medical home have one within a certain number of visits. Other programs look to reduce hospital readmissions, reduce the risk of injuries sustained in falls among elderly patients, decrease office visits, and reduce medical and prescription costs; as such, their data collection strategies will reflect the desired outcomes of their programs.

One approach to data collection and use is seen in New York's rural Livingston County, where EMS providers use data from 911 calls to identify older adults with non-emergent needs and track whether patient needs have been identified, the number of in-home assessments, referrals, and patient satisfaction.[62,63] This program has been taken up by New York's Office for Aging, which is a statewide program providing locally-based point of entry for long-term services and supports.

Table 2. Data Collection

Type
Modified Run Report (with basic patient demographic info, diagnosis, referring physician, etc.)
Patient Satisfaction with CP/EMS
Provider Satisfaction with CP/EMS
Number of scheduled PCP visit within 7 days
Number of referrals to other services
Number of hospital admissions within 30 days
Number of home visits
Number of assessments for fall risk
Number of prevented admissions for non-emergent conditions
Number of ambulance transports for non-emergent 911 calls
Number of 911 calls from frequent users
Number of patients provided medication reconciliation
Number of patients provided disease specific education and treatment management

Source: Interviews

Several EMS agencies have modified or are in the process of modifying their run reports to allow for documentation of the community paramedic home visit. Eagle County Ambulance ties their community paramedicine visit information on their run reports into the regional Health Information Exchange (HIE). Maine is working at the local and state levels to incorporate EMS information into HealthInfoNet, the state's Health Information Exchange (HIE). Georgia's State Office of EMS and Trauma has created a separate electronic EMS pre-hospital care report for community paramedics, based on non-transport issues, which can be emailed or faxed to the hospital or the PCP, depending on where the initial order originated. It is also logged into the state-run report database.

The Abbeville, South Carolina CAH is using its two-year grant from the Duke Endowment to implement a community paramedicine project in partnership with the local EMS agency. They plan to track individual health outcomes on an anticipated patient population of 100-300 residents of Abbeville County who are frequent users of inpatient, outpatient, emergency department, and EMS. Patients will be identified by a physician in these settings (inpatient, outpatient, ED, EMS) who will write an order for a specific follow-up visit by the community paramedic. They will also track realized cost savings. Specifically, they project a 6% increase in

patient satisfaction rates, a 20% reduction in the number of non-emergent 911 ambulance transports, and savings of more than $25,000 for prevented ED admissions for non-emergent conditions. The South Carolina Rural Health Research Center will be conducting the program evaluation.

Role of State Offices of Rural Health and State Flex Programs

State Flex Programs are required to include at least one of the following activities in their work plans under the core area of Health Systems Development and Community Engagement:[89]

1) Support CAHs, communities, rural and other hospitals, EMS, and other community providers in developing local and/or regional health systems of care;
2) Support inclusion of EMS into local/regional systems of care and/or regional and state trauma systems;
3) Support CAHs and communities in conducting or collaborating on assessments to identify unmet community health and health service needs.
4) Support CAHs and communities in developing collaborative projects/initiatives to address unmet health and health service needs.
5) Support the sustainability and viability of EMS within the community. [Optional Objective]

In 2010-2011, five state Flex programs undertook community paramedicine activities as part of their work plans to support rural health systems development and EMS. In 2012, the number nearly doubled, with nine states including community paramedicine initiatives in their state Flex Grant applications. Six of those states provided targeted funding for community paramedicine training and training materials; all nine provided facilitation of stakeholder meetings and outreach efforts.

According to our interviews, partnering with SORHs is helpful in all phases of community paramedicine program development, but is especially useful in early development and outreach efforts. SORHs can help provide seed funding, technical assistance, outreach, and facilitation of stakeholder meetings.

Additionally, our interviewees noted that partnering with local, regional, and state stakeholders not only provides buy-in for community paramedicine programs, but also establishes a network of resources to support the implementation and sustainability of local community paramedicine programs, with continuity and potential replication across the state.

Role of the State Offices of Rural Health and Flex Programs

- Assist with community health needs assessment efforts
- Assist with community paramedicine outreach efforts
- Encourage stakeholder involvement
- Ensure data collection and evaluation efforts
- Provide resources for training and training materials for community paramedics

POLICY CONSIDERATIONS

Community paramedicine programs have the ability to fill gaps in rural healthcare delivery systems, assisting in the care coordination of patients at risk for hospital readmission and filling unmet needs of the rural community where there is a shortage of primary care providers. Integrating community paramedics into the delivery system is the challenge. State EMS agencies and SORHs are vital players in disseminating information about community paramedicine programs and bringing stakeholders to the table, including local EMS agencies, home health agencies, public health departments, social service agencies, Critical Access Hospitals, Rural Health Clinics, and Federally Qualified Health Centers, among others.

Financial support for community paramedic services is a significant challenge, especially in rural areas. SORHs and State EMS agencies can work together with local and regional hospitals, primary care providers, and insurance companies to develop incentive structures and reimbursement mechanisms which would allow community paramedics to assess and treat patients in their homes. Securing Medicaid reimbursement for services provided by community paramedics may require changes in state legislation or regulation. The Minnesota experience provides a model for such changes, in which only the list of Medicaid-approved services was changed to encompass those provided by community paramedics. An approach which does not require legislative changes is the shared savings model currently in use by Eagle County Paramedic Services in Colorado and MedStar in Texas, and under consideration in Alabama. This negotiated contract approach provides incentive to prevent hospital readmissions.

Patient centered medical homes (PCMHs), health homes, and ACOs may offer opportunities to integrate community paramedics into the healthcare delivery system. Collaboration appears to be an important key for the success of community paramedicine programs based on our interviews. Additionally, partnering with a hospital may provide more options for reimbursement strategies.

Data collection and evaluation strategies are crucial elements to be considered during the development of a community paramedicine program and necessary to document the value of the service to the local delivery system as well as for policymakers, funders, and third party payers. An evaluation plan focusing on initial, intermediate, and long-term process and outcome measures will provide important data necessary to develop long term support for community paramedicine programs. These evaluation results will also contribute to the development of the evidence-base for community paramedicine, and thus provide SORHs and Flex programs with documentation and models to support the facilitation and viability of community paramedicine programs.

In order to demonstrate cost-savings and value to rural communities, community paramedicine programs will need to quantify the detailed costs for their services, and understand the local market conditions and service territory.[20] Additional important data elements include numbers of visits, types of visits, percentage of readmitted patients, and numbers of ED transports avoided.

Finding a "home" to serve as a public repository for information on all aspects of community paramedicine is necessary for the growth of this emerging field. Such a repository will be of interest to other state and federal agencies and local communities. Information and resources relevant to community paramedicine posted to a publicly available website could include data and resources on medical direction, data collection, regulatory and statutory issues, and funding and reimbursement issues.

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APPENDICES

Appendix A. Community Paramedic or Primary Care Technician: What's in a Name?

	Community Paramedic	Primary Care Technician*
GOALS		
Reduce overuse of Emergency Department	x	x
Decrease preventable hospitalizations	x	x
POPULATIONS SERVED		
Low-income	x	x
Rural	x	x
Elderly	x	x
People with chronic diseases (Diabetes, Asthma)	x	x
Patients who lack primary care provider	x	x
SERVICES		
Basic preventive care	x	x
Treat minor illnesses and injuries	x	x
Promote health	x	x
Screen for mental health problems	x	x
Home assessment	x	x
Facilitate medical adherence	x	x
Available for 9-1-1 calls	x	
Refer to social/community services	x	
EDUCATION:		
Basic exam and treatment skills	x	x
Clinical hours required	x	
Knowledge of medical terminology	x	x
Core competencies from social/behavioral sciences (motivational interviewing, etc.)	x	x
Basic paramedic level	x	
MEDICAL DIRECTION/OVERSIGHT		
Tied to a supervising medical provider	x	x
Access to mobile health information technology (EHR)	x	x
Instant online consultation to medical provider	x	x
LEGISLATION		
EMS legal framework	x	x
Scope of Practice	x	x

*Source: Kellermann et al. *Health Aff (Millwood)*. November 2013;32(11):1893-1898.

Appendix B. Table of Respondents Interviewed

State	SORH/Flex	State EMS	Local EMS	Other	Notes "other" personnel
AL	x		x	x	QI director, St. Vincent's Hospital
AZ	x	x			Flex Coordinator and SORH director
CO	x		x		
GA	x	x		x	President, GA EMS Assoc.
IA	x	x			
ID					email from local EMS to NASEMSO
ME	x	x	x	x	Pilot project coordinators
MN	x				SORH Director plus 3 other SORH staff
ND	x				
NE			x	x	Scottsbluff EMS director; NE Region EMS specialist written response
NH		x			written response on behalf of SORH
NV			x		
NY				x	Physician, U-Rochester Medical School
PA	x				
SC	x		x		SORH written response re: Duke Endowment grant
TX			x		Director, MedStar Mobile Healthcare
WA				x	QA director, Prosser Memorial Hospital (CAH)
WI	x		x		
Nova Scotia		x			Director of Provincial Programs, EHS, Dept. Health & Wellness
Community Paramedic.org				x	Co-Founder

Appendix C. Maine Community Paramedicine Pilot Programs

Maine Community Paramedicine Pilot Programs	Affiliation	Date of Operation	Urbanicity	Activities
Calais Fire and EMS	Municipal (Fire-Rescue)	June 2013	rural	In-home management of chronic diseases (CHF, COPD, hypertension); physical assessments/vital signs; medication reconciliation/compliance; home safety assessments, blood draws; 12-Lead EKG
Castine Fire Rescue	Volunteer	August 2013	rural	Focus on prevention; chronic disease management; monitor vital signs; home safety checks; medication reconciliation; diet/weight monitoring; wound care; other physician-directed care/treatment within scope of practice
Charles A Dean EMS	Hospital-based	December 2013	rural	In-home management of chronic diseases (CHF, COPD/Asthma, Diabetes); medical assessments; wound care/assessment; medication reconciliation/compliance; home safety assessments, phlebotomy, blood glucose analysis; non-emergent cardiac monitoring and infusion maintenance. All within ME Scope of Practice
Crown Ambulance	Hospital-based	September 2013	rural	Chronic disease management/monitoring (Diabetes, CHF, post MI conditions and other coronary syndromes; COPD/Asthma); blood glucose testing; wound assessment; routine eye exams; draw labs as needed; weight monitoring; medication reconciliation; spirometry testing and management of O2 delivery services
Delta/Winthrop EMS (2 services combined)	Private EMS Service	March 2013	urban	Address needs of recently discharged patients and recovering surgical patients; episodic assessment of patients with multiple comorbidities (i.e. CHF, COPD); weight/O2 saturation assessments; home safety assessments for at-risk patients; wound assessment;
Lincoln County Health Care	(mix of hospital and healthcare system and several local EMS services)	January 2014	rural	Post-discharge services; monitoring of chronic illnesses (i.e. Diabetes, CHF); readmission preventions; wound care assessments; diagnostic testing
Mayo EMS	Hospital-based	September 2013	rural	Address needs of cardiac (including post MI/Cardiac rehab)and diabetic patients with routine screenings, ECGs, medication reconciliation; blood glucose measurements/trends
North Star EMS	Hospital-based	September 2013	rural	Reduce # of ER visits and hospital admissions by monitoring at-risk patients with multiple medical conditions; patient education; post-discharge surgical patients without home health services; home safety assessment; medication reconciliation; episodic assessments of weight, BP, oximetry, heart rate

Northeast Mobile Health	Private EMS Service	May 2013	urban	Reduce hospital admissions/readmissions by monitoring patients with chronic diseases and those with high risk of traumatic injury; patient evaluation/assessment; fall risk assessment; patient education; well-being checks
Searsport	Private EMS Service	September 2013	rural	Develop and implement fall prevention program; facilitate immunization and dental clinics; track patients with chronic diseases (esp. diabetes); well-check visits and assessments as directed by physician
St. George EMS	Volunteer (some paid staff)	September 2013	rural	Address identified community needs of diabetes, respiratory distress, hypertension, post-surgical/post discharge patients; blood draws; episodic assessment/care; medication reconciliation/compliance or other services directed by the PCP
United Ambulance	Private EMS Service	August 2013	urban	Focus on non-emergent 911 callers to decrease the number of time the ambulance is utilized for these situations; work to reduce re-hospitalization rates for chronic disease patients (CHF, COPD, Diabetes); well-being checks; home safety inspection (including fall risk assessment); blood glucose monitoring and patient assessment

Source: Personal communication from Dan Batsie, Education Director, Atlantic Partners EMS, and Maine State EMS, October 2013.

Contact information: Dan Batsie, dbatsie@apems.org

Appendix D. Resources

Source	Web Address	Description
Community Paramedic website	http://www.communityparamedic.org/	Links to information and resources on community paramedic courses and curriculum
Community Paramedicine Insights Forum	http://cpif.communityparamedic.org/	Monthly webinars on practical experiences and issues related to community paramedicine
Community Paramedicine: A Promising Model for Integrating Emergency and Primary Care	http://www.ucdmc.ucdavis.edu/iphi/Programs/CAHPF/resources/IPHI_CommunityParamedicineReport_Final%20070913.pdf	Provides a brief history of EMS in California, overview of community paramedicine nationally and internationally, and summary of California stakeholder discussions on role of community paramedicine in the state
HRSA Community Paramedicine Evaluation Tool	http://www.hrsa.gov/ruralhealth/pdf/paramedicevaltool.pdf	Community assessment tool for developing a community paramedicine program
International Roundtable on Community Paramedicine	http://ircp.info/	Website to promote international exchange of information on community paramedicine
MedStar Mobile Healthcare: AHRQ Service Delivery Innovation Profile	http://www.innovations.ahrq.gov/content.aspx?id=3343	Summary of MedStar's urban mobile health programs using community paramedics
Minnesota Community Paramedic Initiative	http://gatheringofeagles.us/2013/Saturday/Contera to-CP.pdf	Conference presentation in 2013 providing background and information on the Minnesota CP program
Mobile Integrated Healthcare/Community Paramedicine online interactive map	http://paramedicfoundation.org/jnemslf-survey/	Map and description of all community paramedicine programs reported through the survey by NAEMT. Locations organized by urban, suburban, rural, and super rural
NAEMT Community Paramedicine/Mobile Integrated Healthcare Survey	http://www.naemt.org/Files/11.1.13_CommunityParamedicineReport.pptx	Powerpoint summary of the MIH/CP survey; See link to interactive map above

National Agenda for Community Paramedicine Research	http://depts.washington.edu/uwrhrc/uploads/CP_Agenda.pdf	Goal was to discuss ways to foster rigorous evaluation and research on community paramedicine
National Consensus Conference on Community Paramedicine: Summary of an Expert Meeting	http://depts.washington.edu/uwrhrc/uploads/CP_Report.pdf	Conference attendees representing EMS, SORH, local CP programs, healthcare professions and organizations, met in 2012 to identify consensus areas of policy and practice around six key issues for community paramedicine
State Perspectives Discussion Paper on Development of Community Paramedic Programs	http://www.nasemso.org/Projects/RuralEMS/documents/CPDiscussionPaper.pdf	Published by the Joint Committee on Rural Emergency Care (JCREC), National Association of State Emergency Medical Services Officers (NASEMSO) and the National Organization of State Offices of Rural Health (NOSORH)
Western Eagle County Community Paramedic Program Handbook	http://www.naemt.org/Libraries/NAEMT%20Documents/WECAD%20Community%20Paramedic%20Handbook.sflb	Provides guidance for local EMS agencies to partner with local public health department to develop a community paramedic program

Appendix E. State and Local Involvment in Community Paramedicine

State Office of Rural Health/Flex Program and/or State EMS involvement in any of the following	AL	AZ	CO	GA	IA	ME	MN	ND	NE	NH	SC	WI
Pilots/Projects. The state has either pilot projects or has projects up and running.	Hospital-based program	N	EMS-based program	Y	N	Y	Y	N	Y	N	Y	N
Collaboration												
Convene Interested Parties. SORH or EMS bring interested parties together to discuss CP issues. SORH and/or EMS are engaged in setting strategies and determining priorities for CP programs/pilots.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
EMS/SORH Partnership. EMS/SORH work together in a collaborative manner. Both seem to be involved in the development of the model.	N	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y
Funding/Reimbursement												
Applied for Grants/Funding. SORH and/or EMS have applied for federal, state, and/or foundational support for CP programs.	N	N	N	N	N	N	N	Y	N	N	Y	Y
Involvement in Reimbursement Issues. SORH and/or EMS have been involved in discussions about how EMS agencies can be reimbursed for CP services.	N	N	N	N	Y	N	Y	N	N	N	Y	N
Planning Grants. The state provides planning grants to agencies interesting in developing CP pilots or organizations that will provide TA for CP.	N	N	Y	Y	N	Y	Y	Y	N	N	N	N
Training												
Provide TA. The SORH and/or EMS provides TA to agencies interested in starting a CP project or implementing one.	N	N	N	N	N	Y	Y	Y	N	Y	Y	N
Provide Training Resources and Approve Training Programs. SORH and/or EMS provides training and/or resources to help local EMS agencies get prepared to offer CP services. SORH and/or EMS develops and/or approves training curricula/programs for community paramedics.	N	N	N	N	N	N	Y	N	Y	Y	N	N
Licensure/Scope of Practice												
Involvement in Licensure. SORH and/or EMS has a role in licensure of CP programs and/or practitioners.	N	N	Y	N	Y	N	Y	N	N	Y	N	N
Data Collection/Evaluation												
Evaluation/Data Collection. The state has a data collection process/ evaluation of CP programs in place.	N	N	N	Y	N	Y	N	N	Y	N	Y	N

Appendix E, continued. Local level involvement in Community Paramedicine

	AL	CO	ID	ME	NE	NV	NY	SC	TX	WA	WI
	St. Vincent's Hospital Birmingham area (2 urban & 2 rural hospitals)	WECAD, now Eagle County Paramedic Services	Ada County; Bonner County	11 pilot sites	Valley Ambulance; Kearney Scottsbluff, Kearney	Humboldt Cty EMS	Livingston County	Abbeville Area Medical Center and EMS	MedStar Ft. Worth	Prosser Memorial Hospital Prosser	Baraboo
Reimbursement and Funding. What is the status?	Lifeguard Amblance provided funding for 6 month pilot study; Working on a payment methodology for cost-avoidance sharing	Funded through tax dollars and grants. Current hospital serviced by WECAD will reimburse CP services. Looking to get reimbursed by a 2nd hospital.	funded internally by ambulance services	Pilot sites fund their own	Regional West Medical Center (Scottsbluff) pays for CPs	Critical Access Hospital funds the program and owns the ambulance service	EMS not getting payment. Costs absorbed by Office for Aging	Critical Access Hospital received two year grant from Duke Endowment to cover CP care coordination with EMS	Contracts with providers on a cost-avoidance-sharing model. (Moving away from fee-for-referral)	Received $1.5 million CMS Health Care Innovations 3 year grant. All CP visits are covered by the grant.	Currently using EMS operational funds. State has approved 3-year pilot study
Supervision and Medical Oversight. How are decision made?	FT paramedic working with hospital NP. Paramedics are coordinating services with care transition nurse.	CP to get referral from multiple sources - adult protection, PCP, hospitalist, pediatrician, PH nurse, how care. Goal is to link the information back to PCP	Orders come from Medical Director or physician	Orders come from hospital, PCP, or Medical Director	Orders come from hospital, PCP, or Medical Director	Hospital physicians, contracted doctors, hospitalists, and PCPs all can give order; oversight by Medical Director	Nurse/Social Worker determines follow-up based on EMS screening of 911 call	Patients enrolled in program as directed by PCP, ED doctor.	Work with ED physician and Medical Director for patients enrolled in one or more of the Mobile Healthcare Programs	CPs already work as ER technicians at PMH	DHS has to approve scope of practice changes. Medical Director provides supervision. Referrals would come from physicians.
Staffing and Scheduling. What staff (CP and affiliated healthcare partners) are involved?	Currently 2 CPs; hospital to hire LPN for rural area	1 CP, but working on funding for additional FTE. Referral for CP visit can come from PCP, Home Health, Hospitalist, Adult Protection, Public Health nurse, pediatrician, EMS crew (via 911 calls)	4 CPs in Ada County; 3 CPs in Bonner County	Depends on the Ambulance Service and the Pilot program;	all paramedics in Valley Ambulance Service participate in CP program; work with comparison group of home health nurses for scheduling visits. CPs go in ambulance between 911 calls; CPs staff the weekends	CPs schedule home visit within 24 hours post-discharge; follow-up visits determined by PCP; CPs talk with PCPs on a monthly basis to determine frequency of visits	EMS 911 dispatch handles initial calls	5 ambulance/day and 4 at night. Budgeted CPs to be on 7 days 12 hours a day. Grant will allow them to hire 2 FTEs to allow the the CPs to focus on CP.	Scheduling and staffing dependent on program.	PMH has 12 CPs. Doctor refers patients through the Case Manager to CP program. CPs schedule in-home visit within 3-5 days post-discharge.	Currently only 1 CP. Scheduling dilemma: how CPs can be on shift and do home care visits. State law prohibits a crew being pulled off 911.
Training. What kinds of training do the community paramedics receive?	St. Vincent's NP and EMS Director helping to train paramedics, especially regarding chronic disease management.	Would like to have pre-requisite of an associates degree. Like to have them have 5 years of experience before coming a CP. Training is online with local clinical hours.	Ada: Colorado Mountain College online;Bonner CPs through Hennepin Tech Colleg; clinicals through local healthcare partners	Some providing localized training with healthcare partners; Northern Maine Community College CP program; Hennepin and Colorado Mountain College online CP curriculum	Creighton University & North Central EMS Inst developed CP curriculum, but not yet adopted by EMS; Currently using home health nurse trainings	Colorado Mountain Cologe program; clinical hours through hospital and local EMS events	U-Rochester School of Medicine, Geriatrics Education for EMS (GEMS) course.	Colorado Moutain College online; Field training in TX with MedStar.	MedStar provides 2-day onsite training in CP for Chiefs of Services, Med Directors, Field providers, etc.	Heritage University (local) provides 96 hours training through their nursing program; (Nursing instructor also works in ED). Colorado Mountain College curriculum provided by hospital. Clincal hours through the hospital.	Original intent was to have 6 people receive CP training. UW would provide the clinical training.

Sources of information: Phone interviews; Email and written responses; Webinars; NHTSA internal document; Reports

Appendix E, continued. Local level involvement in Community Paramedicine

Affiliation. What type of organization is the CP program affiliated with? Is the ambulance service hospital-owned, private, muncipal, or volunteer?	Private for-profit ambulance service. Partnering with St. Vincent's Hospital in Birmingham	Municipal/County EMS. Merged with Eagle County Ambulance to form the Eagle County Paramedic Services (operational by July 2013).	Municipal/County EMS	Mix of hospital-owned servcies; private; municipal; and volunteer	Stand-alone ambulance service; Scottsbluff working with Regional West Medical Center; Kearny with Buffalo Cty Community Partners	onwed by Humboldt General Hospital	NY State Office for Aging.	County-based EMS	Private service	Ambulance services owned by CAH	County-based EMS. Also, working closely with U-Wisconsin on CP curriculum, training, and grant writing.
Services. What kinds of services does the program provide?	Prevent hospital readmission through in-home visits, assessments, patient education	Care coordination and patient navigation. Goal is to link patient and information back to PCP. Home safety assessments; wound assessment; med compliance/reconciliation, social support evaluation. See new Commu nity Paramedic Protocols Manual (available for download at: www.ircp.info)	Ada: care coordination; assessments (home environment; falls); medication reconciliation, education, management; connecting with PCP; Bonner: filling the gap for those who don't qualify for home health; "eyes and ears" for PCP in rural/remote areas and working to decrease time to Cath lab for STEMI patients	Most working with patient management initiatives to prevent readmission; chronic disease management and education; home safety checks; medication reconciliation	Preventing hospital readmission for targeted patient population (CHF, pneumonia); med rec and management; discharge education; assessment; weight monitoring; Kearney also using 'patient navigator' approach	transportation and connection to PCP; disesase management education; medication reconciliation; wellness checks; assessment; connection to community services	EMS does the screening of the older adult on the 911 call. Now includes open free-text box on the form ("What concerns do you have regarding this patient?") for EMS provider to fill in. Results go to Office for Aging for follow-up with specific interventions as needed.	Care Coordination	911 Nurse Triage; EMS Loyalty Prgram (frequent 911 users); CHF Readmission Avoidance; Hosptice Revocation Avoidance; Observation Admission Avoidance	Goals: Reduce # visits and facilyt costs by 20%. Tracking 3 patient cohorts. CPs follow-up with cohorts on medication compliance, wound care, fall risk, and home assessments.	Applied to the state and received a pilot designation to practice outside scop of practice. Surgical wound assessment, chronic disease care, newborn wellness checks safety checks, fall prevention

Sources of information: Phone interviews; Email and written responses; Webinars; NHTSA internal document; Reports

Appendix E, continued. Local level involvement in Community Paramedicine

Data and Evaluation. What types of data are being collected?	Hospital tracking patient data for 4 hospitals. Lifeguard Ambulance tracking costs of CP service for proof of concept toward potential reimbursement options.	WECAD hired a health economist and an MPH as outside evaluator. Report data into the Regional Health Information Exchange.	Ada: forms and tracking mechanisms created (measure, assess, follow-up, etc.)	Working to collect individual pilot program as well as system data, including reduction in readmission rates, ED visits, patient satsifaction	Tracking readmission rates, patient satisfaction; using modified EMS run report for CP visits; tracking cost savings	Looking at costs saved through CP visits on 911 tranpsorts and interfacility transports; use EMS run report to track	handled under the Office for Aging	Goals: **Patient satisfction**: 6% increase in hospital score, CP program scores >85%; **Quality Measures** tracked: # patients with list of current meds >80%; number of patients screend for fall risk >90%; **Ulitization/Cost Saving Measures** tracked: reduction in # and cost of non-emergent 911 ambulance transports, # prevented ED admissions >10%, Cost ED admissions prevented >$25,000, reduction in hospital readmissions; and #/cost post-acute days prevented >10%/$25,000. SC Rural Health Research Center contracted to do program evaluation.	Created their own Electronic Medical Record for tracking	Modified the CPSI Electronic Medical Record to inlcude specific CP questions. Patient satisfaction surveys and doctor satisfactions surveys to be conducted as part of the grant.	UW would like ot evaluate the pilot as long as they get funds. Data collection would hinge on what UW wants. Run reports, interfacility transports.
Challenges. What challenges have been encounterd, what still remain?	Rural hospitals are biggest challenge: travel and socio-economic needs	Regulatory hurdle requiring home health licensure. CO Dept of Public Health & Environment led new regulatory framework for CPs, developed in April 2013 and still waiting approval.	Ada: finding partners for the clinical rotations; need for more community education on role of CP; sustainability of program	Sustainability of programs	(Scottsbluff) use of ambulance for CP creates neighborhood "fuss"; need to do more public education on CP role	some territorial issues with Home Health; getting insurers to the table	Initial pushback from residents refusing screening. Livingston County transitioning from volunteer force to a paid staff. EMS may need some additional training in geriatric assessment. Integration with PCMH.	Sustainability/Reimbursement	working with 4 hospital systems in Ft. worth area to streamline patient information	Addtiional training hours needed for disease management and patient communication. Tracking down patients actual phone numbers. Sustainability	Retention. Funding. Training. Scheduling/staffing for 911 and CP calls.

Sources of information: Phone interviews; Email and written responses; Webinars; NHTSA internal document; Reports

Appendix E, continued. Local level involvement in Community Paramedicine

Successes. What notable accomplishments has the program achieved?		HH licensure has enabled WECAD to get to know HH agency better. CO Dept of Public Health & Environment led new regulatory framework for CPs, developed in April 2013 and still waiting approval. 2-year evaluation reprot (36 patients, 97 total patient visits) saw overall cost savings of $1,200/visit.	Ada: increased flu vaccination rates 12%; ~$4,000 saved in costs to either the patient or EMS system on the 911 CP Program in the first 2 months	too early to tell	First 3 months of program (Scottsdale): no readmits for those enrolled	too early to tell	Sustainable program (Program has been around since the 1990s.) and integration with State Office for Aging.	too early to tell	Since 2009, saved more than $3.3 million in healthcare expenditrues and reduced 911 use by 86.2% in 12 months post-enrollment	Already expereincing a major decrease in ED visits.	Got buy-in from the county and local PH department.
Catchment Area. What geographic area does the CP program serve?	Urban and Rural	Rural	Rural	Mostly Rural	Scottsbluff: Micropolitan; Kearney: Rural	Rural	Suburban/Rural	Rural	Urban	Rural	Rural

Sources of information: Phone interviews; Email and written responses; Webinars; NHTSA internal document; Reports