National Consensus Conference on Community Paramedicine: Summary of an Expert Meeting

October 1-2, 2012
Atlanta Airport Hilton Hotel
Atlanta, Georgia, USA

NASEMSO·NOSORH
JCREC
Joint Committee on Rural Emergency Care

North Central EMS Institute

WWAMI RURAL HEALTH RESEARCH CENTER

prepared by

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Suggested Citation: Patterson DG, Skillman SM. *National Consensus Conference on Community Paramedicine: Summary of an Expert Meeting.* Seattle, WA: WWAMI Rural Health Research Center, University of Washington; Feb 2013.

This publication was made possible by grant number 1R13HS021055-01A1 from the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services (HHS). Its contents do not necessarily represent the official views of AHRQ or HHS.

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INTRODUCTION

Community paramedicine (CP) is an emerging healthcare delivery model that increases access to basic services through the use of specially trained emergency medical service (EMS) providers in an expanded role. CP 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. CP 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. Over the past decade, local healthcare gaps around the U.S. and internationally have been filled through CP programs that use EMS personnel to treat non-acute illness in community settings.

In 2010, the Joint Committee on Rural Emergency Care (JCREC), comprised of members from the National Association of State Emergency Medical Services Officials and the National Organization of State Offices of Rural Health, issued a discussion paper that identified both opportunities and challenges for CP in the areas of training, practice, regulation, medical oversight, reimbursement, integration, and

evaluation.[1] Though CP program successes have been reported,[2] objective, systematic research on the outcomes of these programs is lacking.

The North Central EMS Institute, in collaboration with the JCREC, convened a National Consensus Conference on Community Paramedicine on October 1 and 2, 2012, in Atlanta, Georgia. The meeting was sponsored by the Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services. The purpose was to identify areas of consensus on important policy and practice issues and to clarify the role of research in advancing CP. Meeting goals included encouraging wider adoption of CP, networking among interested stakeholders, sharing best practices, and setting an agenda to further the field nationally.

Ninety invited conference attendees (see Appendix B for a list) represented state EMS directors, state rural health offices, EMS professional organizations, local CP programs, several healthcare professions, government agencies involved in healthcare, healthcare economists, and other stakeholders. The meeting was also broadcast via webcast, with more than 350 views online during the two days from the U.S. and other countries. Meeting sessions were organized in six key areas (see Appendix C for a complete meeting agenda, including expert panelists):

- Education and Expanded Practice Roles.
- Integration of CP Providers with Other Health Providers.
- Medical Direction and Regulation.
- Funding and Reimbursement.
- Data, Performance Improvement, and Outcome Evaluation.
- Community Paramedicine Research Agenda.

Expert panels addressed the first five key areas, which were identified in the JCREC discussion paper. Following panel presentations, panelists and attendees discussed the current best practices and models related to each CP area, gaps to address in the development of CP, areas for further examination through research and other activities, and next steps for action.

In the sixth and final session, investigators from the WWAMI Rural Health Research Center[3] solicited attendee input to inform the development of a national agenda for research on CP, using the Interview Design Process,[4] a technique where attendees interviewed each other in pairs about three key research-related questions, followed by full group discussion. The questions and process are further described in the resulting research agenda document, "A National Agenda for Community Paramedicine Research" (Appendix A).

Nomenclature is evolving along with the CP field and there is not consensus on the most appropriate name or names for CP providers. CP providers can include emergency medical technicians (EMTs) as well as paramedics. Depending on their level of training, type of CP preparation, and local naming conventions, CP providers have been variously called advanced practice paramedics, extended role paramedics, and community paramedics, among other labels. This report uses the term "CP providers" to refer to the full range of EMS professionals that deliver CP services. "EMS" refers specifically to out-of-hospital EMS.

For each of the key agenda topics this report summarizes consensus themes related to current CP practices and resources, gaps to address for further development of the field, and opportunities for future collaboration and promotion of best CP practices.

EDUCATION AND EXPANDED PRACTICE ROLES

The discussion of education and expanded practice roles focused on what CP providers' expanded roles should encompass and how best to educate CP providers to fulfill these new roles, resulting in the following consensus themes and issues for further exploration.

CURRENT PRACTICES AND RESOURCES

- While not yet widely implemented, the concept of CP has a long history, with some notable early examples, such as the Red River, New Mexico, program in the early 1990s.[5] A number of CP models currently exist and more are in development. CP programs have tended to develop from the grassroots level to fill community healthcare gaps, in an integrated fashion with public health agencies, home health providers, hospitals, and others.
- CP programs address the following healthcare needs: wellness, prevention, and primary care for the chronically ill; post discharge care; connecting patients with social, community, and faith community support mechanisms; and compliance (e.g., to help patients adhere to medication schedules).
- The Community Healthcare and Emergency Cooperative (CHEC) has developed a CP curriculum, provided free of charge to colleges.[6] The curriculum covers CP roles in public health and healthcare; social determinants of health; cultural competency; community roles, including health assessment and community resources; personal safety; and professional boundaries. The clinical component addresses sub-acute, semi-chronic patient needs. Individual CP programs have also developed curricula tailored to their local needs.
- CP providers have expanded roles beyond their usual EMS practice that are generally performed without any change in their scope of practice. CP skills generally involve improved interpersonal communication skills and understanding of and integration with systems of healthcare and public health. With some exceptions, CP programs generally do not expand providers' scope of practice (e.g., providers do not usually exercise new psychomotor skills).

GAPS TO ADDRESS

- The public and other healthcare providers currently lack understanding of the range of activities EMTs and paramedics perform.
- There is no single definition or understanding of what CP providers do and no unified vision of what CP strives to accomplish. Specifying desired outcomes for CP is a necessary initial step for development of standards, curricula, and research agendas.
- Research to demonstrate value and impact and inform guidelines is lacking. Patient acceptance of and satisfaction with care from CP providers are unknown. Research is needed to address all areas of CP, including practice, education needs and modalities (including distance learning), and medical direction, as well as how CP functions in different contexts, such as fire department, municipal, and hospital based EMS systems.
- CP can be relevant to both rural and urban areas, but these communities have different capabilities and different needs.
- There is a tension between the desire for standards—in education, credentialing, practice, and outcomes—and the ability for CP to evolve and adapt to local circumstances. Establishment of core competencies and consistent education standards allows for accreditation of education programs and

certification or licensure of providers. Defining standards now may inhibit innovation. Establishing standards will also require more of an evidence base than currently exists.

- The creation of standards will need to consider who is qualified and suitable to be a CP provider: not all EMS personnel are suited to the expanded roles, and it is not clear whether EMTs have or can obtain the necessary training.
- For all of the above reasons, some think that curricula should be flexible to address diverse needs. Curricula that exist have not been fully vetted and accepted nationally, for example, as part of the *Emergency Medical Services Education Agenda for the Future*.[7] Others advocate strongly for baccalaureate or more advanced education, which will raise the value of the profession and create loyalty. There is concern about a danger of "degree creep" as seen in other professions (increasing education requirements for credentialing and licensing). Increasing requirements makes it more difficult for remote populations to access education resources. It may be possible to design a national core curriculum that also includes elective modules to address a variety of needs.
- A different approach is to allow educational institutions to develop their own curriculum to meet proficiency or accreditation standards, as is done in other healthcare professions (e.g., nursing), and instead specify standard proficiencies that can be demonstrated via testing. This allows curricula to meet local needs while maintaining quality standards.
- Education needs to address the needs of medical directors and other community providers, including hospitals, public health, home health, and healthcare payors.
- As CP evolves, the roles of local and state regulators in medical direction, quality assurance, and licensure must be considered. Likewise, the role of the National Highway Traffic Safety Administration (NHTSA), particularly as sponsor of the *Emergency Medical Services Education Agenda for the Future*, must be determined. If CP is incorporated into the NHTSA agenda, then it will need to be decided whether the CP role should be a specialty certification, a subset of skills in an existing license, or some other kind of credential. State EMS offices and licensing bodies will also need to consider how to authorize practice for this provider type.
- EMTs and paramedics who are not trained or designated as CP providers also have a role to play in public and community health, especially since many EMS personnel already perform these kinds of services whether formally or informally. It is important to consider how non-CP EMS personnel can best be deployed as health systems evolve.
- A central repository of information about CP educational programs, certifications, and credentials would help inform the discussion of education and expanded roles.

OPPORTUNITIES

- The current emphasis on achieving the "Triple Aim" of decreasing healthcare costs, improving health outcomes, and improving patient experiences offers an unprecedented opportunity for an innovation such as CP.
- Examination of practice and supervision requirements for advanced practice nurses and physician assistants offers possible models for creating an advanced paramedic provider with a degree of autonomy.
- As broadband access becomes more widely available, technology can help reduce some of the need for additional CP provider training by allowing CP providers to serve as mediators for telemedicine consultation.

- Rural communities often rely on volunteer EMS personnel. CP may offer a more sustainable model for rural EMS through reimbursement of services and increased integration with the healthcare system. CP also offers an expanded career ladder within EMS.
- Of great concern to payors, an increasing segment of EMS call volume is non-emergent patients with low acuity illness. CP offers a potential solution to managing this population, and payors should be part of this discussion.

INTEGRATION OF COMMUNITY PARAMEDICINE WITH OTHER HEALTH PROVIDERS

The discussion of integration of CP with public health and other healthcare providers focused on (1) designing services to fill gaps and perform complementary, rather than duplicative, roles and (2) sharing of information for effective, coordinated patient care, resulting in the following consensus themes and issues for further exploration.

CURRENT PRACTICES AND RESOURCES

- Emergency care is the primary mission of EMS. CP can be developed in a way that does not compromise that mission.
- Identifying needs that CP providers can fill without encroaching on other providers' roles or scopes of practice can facilitate integration with other health providers.

GAPS TO ADDRESS

- Other health providers often do not fully understand the skills and expertise of EMS personnel, a barrier that must be overcome before introducing the concept of CP.
- Appropriate roles for CP providers, based on what they can do best, must be identified in discussion and partnership with local populations and officials as well as the health and medical communities.
- CP has been promoted by emphasizing that CP providers can expand their roles to offer services within the existing scope of EMS practice, but some of the activities suggested by the JCREC may involve an expanded scope of practice.[1] More clarity about the proposed range of services to be performed by CP providers is necessary when educating others.
- Some types of health professionals may be more receptive to CP than others if there are concerns about overlapping roles and scopes. Physicians, for example, are more likely to be receptive because CP providers can be used as physician extenders.
- State agencies and liability companies may resist recognizing CP providers due to concerns that the model is untested.
- CP providers can play an important role in care coordination. In this process, patients' perspectives—their wants, needs, and experiences of receiving services CP from providers—must be considered.
- Research is needed on how CP providers can work most effectively with other professionals, such as with frontline hospital providers, investigating both positive and negative impacts of CP on other providers. Evidence on the efficacy and cost effectiveness of CP is needed to establish credibility with other providers.
- As standards of care and protocols evolve with increasingly interdependent roles between CP providers and others in the healthcare system, it will be necessary to determine the specific aspects of care for which CP providers will be held accountable.
- Data sharing between prehospital EMS and other providers remains a challenge. Federal health information technology (HIT) initiatives should incorporate EMS as an integral part of the healthcare system.
- With dozens of different definitions of EMS providers in the U.S., adding a new CP provider type has the potential to increase confusion, particularly if each community or state creates its own CP

provider definition. A standardized approach across jurisdictions may help CP providers to attain recognition more easily if they can be deployed in a way that addresses unique local needs.

- Before integration with other providers is possible, CP needs to address the "six C's":
  - Community: addressing a current unfulfilled need.
  - Complementary: enhancement without duplication.
  - Collaborative: interdisciplinary practice.
  - Competence: qualified practitioners.
  - Compassion: respect for individuals.
  - Credentialed: legal authorization to function.

OPPORTUNITIES

- As primary care extenders, EMS can function as "eyes and ears" in patients' homes, an untapped resource that can benefit the entire healthcare system. Other healthcare providers and community members may become more receptive through education about what CP can offer.
- AHRQ has tools such as TeamSTEPPS®[8] that EMS and CP programs can use to foster safe, effective team-based care.
- Spurred on in part by changes related to healthcare reform, scope of practice boundaries are becoming more permeable, such that no single provider type has exclusive ownership of a particular skill or activity.
- CP providers can overcome resistance from other providers by offering complementary services that fill healthcare gaps. For example, CP providers can offer services to patients who are not eligible for reimbursed home healthcare services, or they can assess patients for referral to other providers, with appropriate memoranda of understanding.
- New patient data repositories, such as through quality health networks, offer the possibility for near real-time patient data sharing among providers. Technology can also aid integration with other providers.
- The history of advanced practice nursing offers lessons for CP about the challenges of building national consensus on standards, education, and practice and the confusion that a fragmented approach causes patients.
- Primary care medical homes (PCMHs) and Accountable Care Organizations (ACOs) offer opportunities for integrating CP with other providers. Hospitals need more education on the potential value of CP, since they will typically be the lead entities in establishing ACOs.

MEDICAL DIRECTION AND REGULATION

The discussion of medical direction and regulation focused on how CP programs can gain regulatory approval, if necessary, and effective medical oversight, resulting in the following consensus themes and issues for further exploration.

CURRENT PRACTICES AND RESOURCES

- Regulatory approval for an expanded role outside of 9-1-1 response may require legislative action in some jurisdictions, for example, if CP activities, such as treating patients at home or transport to a lower acuity facility, are interpreted to be an expansion of Medicaid services.
- In a state with a regulatory framework that does not support expansion of EMS roles, CP programs may lack access to ordinary reimbursement mechanisms and need to find other funding sources.

GAPS TO ADDRESS

- CMS is concerned about cost, duplication, supervision, and definitions of services for new provider types. To obtain regulatory approval, it is necessary to define carefully what services CP programs will perform and to clarify that CP providers operate under physician orders, with strong medical oversight. Medical direction under a primary care physician can help ensure coordination of care.
- Active medical oversight to ensure patient safety is important, particularly as a CP program becomes established. Adverse outcomes can threaten a new program before it has the chance to prove itself. Expectations must be managed carefully in the developmental phase.
- Medical directors will need education specific to the CP model.
- Medical direction requires bidirectional sharing of information between providers for patient follow-up and for building an evidence base that connects specific CP practices to more distal patient outcomes.
- Ensuring medical oversight is especially challenging in rural communities, where medical directors are more often volunteers and less often available for 24/7 real-time consultation.
- Other healthcare organizations have made more progress than EMS organizations in reporting quality metrics. CP programs need to define appropriate quality metrics in collaboration with partners and create systems for capturing and reporting quality data.

OPPORTUNITIES

- If CP providers can operate under their current EMS scopes of practice, it may be possible in some places to implement this model without additional approval from state EMS offices or physician boards.
- Federal reimbursement for CP through Medicaid is under consideration in Minnesota for health assessment, chronic disease monitoring and education, medication compliance, immunizations and vaccinations, lab specimen collection, hospital discharge follow-up care, and minor medical procedures approved by a medical director. These do not represent a scope of practice change, but rather a change to the list of Medicaid-approved services. This approach may offer a model for other states.
- Assigning responsibility for care that CP providers deliver to medical directors will allow greater flexibility to experiment and learn what works best in terms of safety and effectiveness.

- Regionalization of medical direction can ensure that CP programs with fewer resources have consistent oversight and access to specialty providers.
- The Health Resources and Services Administration (HRSA, U.S. Department of Health and Human Services) has developed the "Community Paramedicine Evaluation Tool" to assist with planning for CP implementation and quality assurance, including topics such as medical direction and regulation.[9]

FUNDING AND REIMBURSEMENT

The discussion of funding and reimbursement focused on how CP programs can demonstrate their value to justify short- and long-term financing, resulting in the following consensus themes and issues for further exploration.

CURRENT PRACTICES AND RESOURCES

- "Funding" is a short-term mechanism to support innovation, while "reimbursement" is long-term financing for successful practices.
- Value-based purchasing is gradually replacing fee-for-service reimbursement.
- Public and private grants and partnerships can help fund CP innovations. The federal government is spurring innovation through pilot funding (e.g., Centers for Medicare and Medicaid Innovation awards).
- EMS and other unscheduled care account for a quarter of downstream health expenditures in an environment where EMS calls are decreasing for most emergent conditions and increasing for low acuity calls.
- Most EMS agencies get fee-for-service reimbursement and municipal tax support, in varying proportions, with a small portion from donations and fundraising. Both municipal tax support and fee-for-service payments may decrease in the next decade.

GAPS TO ADDRESS

- Healthcare payor territories are larger than EMS service territories. CP programs need to target payors, not patients. An assessment of local market conditions needs to identify competitors offering similar services, costs, populations and services that CP programs can target to prove added value, and the market potential to cover program costs.
- Rural EMS providers may need to form regional partnerships to feasibly establish CP programs. Factors to consider include the minimum agency size needed to persuade payors to implement a program, and the availability and interest of other small agencies for partnering. Rural CP programs must demonstrate their monetary value to rural communities.
- In a fiercely competitive funding environment, evidence is needed to justify funding. CP finds itself in a vicious cycle whereby it needs evidence to demonstrate value but cannot collect evidence until programs are operational with funding.
- Changing the transport-based EMS reimbursement system will be challenging because it is defined in statute. There is also concern that decoupling EMS transport and reimbursement moves EMS in the wrong direction, toward a fee-for-service model. Response volume will continue to increase while transport volumes decrease. This will force EMS systems either to absorb costs or to convince payors that they can save payors money and provide value by providing safe care to patients in the home through CP, as an extension of the healthcare system. Meanwhile, some hospitals are interested in reducing hospital admissions for non-paying patients, but not for all patients.
- Research studies on CP costs should use a classification system for different service lines such as chronic care, home health, emergency, mental health, oral health, and public health and prevention. Breaking CP services into "departments," as hospitals do, allows comparison of the costs of CP

services vs. current services delivery models. This method also provides benchmarks for modeling new programs and services. Outcomes can then be examined in the context of costs.

- As Medicare Health Maintenance Organizations use risk adjustment based on illness severity to calculate capitated payments, CP programs will also have to use risk adjustment for detailed cost comparisons. These analyses are data and time intensive.
- CP does not have its own professional organization to influence reimbursement policies. Further deliberations about creating a formal CP organization need to consider the great number of EMS organizations that already exist and whether CP interests can be served through existing channels.

OPPORTUNITIES

- Healthcare market players can benefit from CP programs, and these opportunities should be emphasized. It is important to target each with an appropriate message about what CP programs can do:
  - Hospitals are currently incentivized to reduce uncompensated care visits and readmissions. They will increasingly be encouraged to reduce all avoidable admissions.
  - Insurance companies are increasingly promoting wellness to keep patients out of the highest cost areas of healthcare, hospitals and skilled nursing facilities.
  - Governments want to improve the quality of care, reduce costs, and ensure appropriate access to care.
  - Out-of-pocket markets, such as parents with newborns, may be willing to pay.
- CP programs that help healthcare systems reach targets may share in the resulting incentives. For example, by 2015, a third of hospital reimbursement incentives will be based on patient satisfaction, an area where CP programs may be able to help hospitals improve.
- Larger municipal EMS agencies may be able to fund CP themselves by increasing productivity and reducing workload to increase response time.
- It may be possible to change Medicaid reimbursement through regulation, without legislation.
- In addition to increasing patient access to cost effective, high quality healthcare, CP can bolster community resilience in preparation for public health disasters and emergencies.
- The healthcare system will shift away from fee-for-service models over the next decade, aligning incentives for the kind of optimal patient care that CP is intended to achieve. CP programs will need to know their detailed costs for services to be able to negotiate in the bundled payment systems that result from this realignment.
- Rural programs may need to consider completely new models to be cost effective, such as having patients visit the CP provider so that the provider can spend more time seeing patients instead of driving great distances.
- Logical partners for CP programs in rural areas include Critical Access Hospitals, Rural Health Clinics, and Federally Qualified Health Centers (FQHCs, in urban areas as well), particularly since FQHCs are being expanded to increase primary care access.

DATA, PERFORMANCE IMPROVEMENT, AND OUTCOME EVALUATION

The discussion of data, performance improvement, and outcome evaluation focused on the identification and development of data resources and metrics to improve quality and build the evidence base on CP, resulting in the following consensus themes and issues for further exploration.

CURRENT PRACTICES AND RESOURCES

- A number of sophisticated pilot studies of CP services are underway in communities around the country.
- Sources such as the Physician Quality Reporting System, AHRQ's Prevention Quality Indicators, and others can provide measures of effective, safe, coordinated, and patient-centered care, as well as access, timeliness, and efficiency.

GAPS TO ADDRESS

- The quality and patient safety movement means that reimbursement will be increasingly linked to quality indicators in stages, starting with extra pay for quality data reporting, followed by quality reporting requirements (with penalties for failure to report), and finally pay for performance. This is the process for established organizations, but new ones, such as CP programs, will begin with pay for performance.
- CP providers will have to demonstrate why they, rather than hospitals or clinics, should perform the services they offer. Data collection and performance assessment will need to address the advantages of CP providers' community knowledge and access to patients in their homes.
- Collecting comparable data across CP pilot studies and using common pre-existing measures that are meaningful to other healthcare providers is important for demonstrating impact in formats that others can understand. Data comparability is also encouraged across state and national systems, such as State Health Information Exchanges (HIEs) and the National EMS Information System (NEMSIS).
- Evaluation can be premature. It is important to ensure that programs are ready for evaluation—the right evaluation of the right program at the right time.
- Assessment should include carefully selected quantitative and qualitative measures of structure, process, and outcomes, including workforce variables such as levels and types of education and experience, impacts on CP providers, and impacts on patient satisfaction. It is also important to investigate unintended consequences and the real costs and safety implications of CP.
- Sparsely populated rural areas will exhibit a high degree of variance.
- Distal outcomes such as hospital readmissions must be linked to CP programs to show who and what was responsible for results.
- EMS has struggled with taxonomies, and CP adds another variation. Definitions are necessary to collect purposeful data for measurement, analysis, and improvement.
- Reporting to NEMSIS is inconsistent, resulting in a substantial amount of missing data. EMS organizations need to contribute data more consistently. Likewise, few EMS organizations always require EMTs and paramedics to record a complete quality record in the emergency department

before leaving. Perhaps EMS could benefit from an "EMS Compare" public quality reporting system like CMS' Hospital Compare.

- CP programs could benefit from a clearinghouse of definitions, measures, and findings.

OPPORTUNITIES

- CP measures could be added to NEMSIS, though records still follow the patient through transitions of care, making tracking difficult.
- State health information exchanges (HIEs) will offer opportunities for data sharing through a central repository of patient encounters, so it will be important to ensure that EMS and CP are included.
- A software vendor could help facilitate building data collection systems.
- Academic researchers can help guide pilot research and conduct systematic reviews across all programs.
- College consortia can collaborate in education and assessment of CP professionals in needed skills and competencies.
- The federal government can assist with formative evaluation, creation of a data clearinghouse, and other evaluative activities, as HRSA has already done with the Community Paramedicine Evaluation Tool.[9] Federal funding for future conferences is needed to further develop data and metrics that can build the evidence base.

GLOBAL THEMES

Some global themes emerged over the course of the two-day meeting, most of which focused on next steps to advance CP:

- Meeting attendees showed great interest in continuing collaboration to advance CP, including a future meeting to follow up on action items and opportunities identified in this meeting.
- With transformations occurring in healthcare, particularly with implementation of the Affordable Care Act and attention to patient-centered care, now is the right time for the innovations offered by CP. Momentum around CP is growing, and at the same time, the window of opportunity to establish CP as a critical part of the healthcare system may be limited.
- CP has the potential to foster more cooperation and regionalization as a way of (1) sustaining small and rural EMS and healthcare organizations while improving patient outcomes and (2) organizing systems around patient needs rather than EMS providers' need to transport patients for reimbursement.
- Now is the time to identify a leadership entity to assume the responsibility of advancing CP. The Joint National Leadership Forum, facilitated by the National Association of EMS Officials, along with the Joint Committee on Rural Emergency Care (sponsored by the National Association of State Emergency Medical Services Officials and the National Organization of State Offices of Rural Health), may be a natural group to spearhead these efforts. It is important not to isolate these efforts under an exclusively rural umbrella.
- CP is beginning to make inroads into policy discussions, but more education and marketing are needed. Public and stakeholder education efforts need to do more than describe CP; it is clear that greater understanding is needed of the role of EMS more generally in the healthcare system.
- Planning should involve careful stakeholder engagement that describes important participants and audiences, their interests, and the intersections between their interests and the interests of CP. Using this information, an action plan to address education, public relations, and communication about CP with these groups can be devised. Future national CP meetings and educational activities to achieve these goals should include, but not be limited to, representatives from health plans and payors, firefighters, medical directors of medical homes, and organizations such as the American Public Health Association, Centers for Disease Control and Prevention, Association of State and Territorial Health Officials, and National Association of City and County Health Officials.
- Standard nomenclature and definitions are needed relating to types of CP providers and their training. Standardization efforts should be sensitive to the fact that CP programs and providers must respond to local healthcare needs.
- While funding of CP programs is primarily a local activity, and early adopters are finding ways to begin CP programs, national funding is needed for larger development of CP as a field. National funding sources can include federal and foundation support (e.g., Centers for Disease Control and Prevention, HRSA, AHRQ, Macy Foundation). Funding for future meetings to advance on these fronts should be pursued through the current meeting sponsor, AHRQ, as well as other funders with an interest in healthcare delivery innovations.

- Creation of a national and international clearinghouse on CP programs would promote the dissemination of information about program policies and practices, materials, research and evaluation findings, and best practices.
- Venues to publicize this work include AHRQ's "Research Activities" online newsletter, journals such as *Prehospital Emergency Care* and the *Journal of Rural Health*, and web sites hosted by the Rural Assistance Center and Heath Workforce Information Center.

National Consensus Conference on Community Paramedicine

Appendix A: A National Agenda for Community Paramedicine Research

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APPENDIX A: A NATIONAL AGENDA FOR COMMUNITY PARAMEDICINE RESEARCH

At the National Consensus Conference on Community Paramedicine on October 1 and 2, 2012 in Atlanta, Georgia, sponsored by the Agency for Healthcare Research and Quality, investigators from the WWAMI Rural Health Research Center[3] facilitated a session to inform the development of a national agenda for research on community paramedicine (CP). This appendix presents the findings from that session, including research-related content and comments offered throughout the two-day meeting.

The facilitators began the research agenda session with a brief presentation to orient attendees to the similarities and differences between quality improvement, program evaluation, and research. The goal was to focus discussion on ways to foster rigorous evaluation and research on community paramedicine. After the presentation, 60 meeting participants[10] interviewed each other in pairs using a structured round robin format (called the Interview Design Process[4]) so that each person had the opportunity to respond to three questions about research on community paramedicine. Interview partners recorded each other's responses on paper, which WWAMI investigators later compiled. This technique allowed for rapid collection of a large amount of information with all meeting attendees contributing their perspectives. A group discussion followed to elicit any additional comments arising from the paired interview process, concluding the session.

Here we summarize the collective comments of the community paramedicine stakeholders at the meeting, including research-related topics mentioned in the five prior panel sessions. The summary is organized by the three Interview Design Process discussion topics: (1) research priorities, (2) research challenges, and (3) research resources and opportunities. The findings reported here represent a first step to stimulate continued discussion and collaboration aimed at building a national evidence base on community paramedicine.

1. RESEARCH PRIORITIES

Meeting attendees identified an extensive list of research priorities in response to the following questions. This list also incorporates topics mentioned over the course of the two-day meeting. Further work with stakeholders will be needed to refine and prioritize this list.

For community paramedicine services to gain widespread acceptance and qualify for reimbursement, evidence of impact is needed.

What are the **top priority research questions** about community paramedicine that will demonstrate its impact on healthcare processes and outcomes in terms of…
- …effectiveness (does it produce the desired effect)?
- …value (does it reduce costs with comparable or better outcomes)?
- …safety (does it reduce patients' risks)?
- …access (does it connect patients to needed care)?

Program Development

- Survey current CP programs on basic program descriptors (geographic and organizational settings), objectives, interventions/services provided, resource and equipment needs, workforce, finance, promising practices, and program leader opinions on how CP should develop nationally.

- Inventory state regulations to identify factors that facilitate or discourage development of CP.
- Create a central repository of detailed data CP program data for development and implementation evaluation and research.
- Create a national and international clearinghouse for sharing information about CP program policies and practices, materials, best practices, and research and evaluation findings.
- Conduct research to develop CP program definitions and create a typology of program models.
- Determine CP program models that are most appropriate for various geographies (rural, urban, suburban, regional), organizations (fire-departments, hospitals, stand-alone or "third service" EMS agencies), and types of staffing (volunteer, career/paid).
- Identify sustainable funding models for different reimbursement and regulatory environments.
- Identify best practices for effective stakeholder engagement.

Technology

- Identify appropriate existing and emerging technologies for communications, mobile telemedicine and remote diagnostics, and health information management and data sharing.
- Identify information sharing needs between CP programs and other healthcare entities, and ways to promote collaboration.

Workforce: Education and Competencies

- Create an information clearinghouse on CP educational programs, curricula, certifications, and credentials to inform decisions about education and expanded roles.
- Identify needed knowledge and competencies for CP providers in various settings and with varying levels of pre-existing EMS credentials (e.g., EMT or paramedic). Is there a core set of content in primary care and public health that all CP providers need? What content should be optional and customized to local needs?
- Investigate the effectiveness and potential reach of different educational modalities for CP providers, such as distance learning and patient simulation.

Workforce: Supply

- Identify the characteristics of EMS personnel that may facilitate recruitment into CP, such as interest in primary care or public health, appropriate career stage, background in EMS or other healthcare experience, and other factors that may make CP a desirable career path.
- As the CP workforce expands, track educational and professional trajectories into CP and identify potential recruitment opportunities, such as military veterans.
- Study the effect of CP on provider job satisfaction, retention, and career aspirations, and compare with that of similarly situated personnel in EMS organizations without CP programs.
- Identify and track CP provider safety hazards and reductions, both direct and indirect. For example, do fewer 9-1-1 responses improve safety for EMS personnel and the public through reduced EMS driving accidents?
- Model the impacts of recruiting EMS providers into CP on overall EMS personnel supply.

Workforce: Demand and Utilization

- Analyze CP provider utilization in EMS organizations to understand relative percentage effort devoted to CP versus traditional EMS response roles. Examine variation in utilization by type of service provided across different types of agencies (e.g., volunteer or career staffing models) and practice settings (e.g., rural/suburban/urban?).
- Study the impact of introducing a CP program on overall community EMS demand, and identify CP services that reduce demand.

Medical Oversight

- Identify appropriate models for providing medical direction with varied CP settings and services provided, and link to patient safety and quality outcomes.

Team Approaches and Integration with Other Providers

- Conduct organizational research on how best to integrate CP providers with other healthcare and public health providers and effective team care approaches in support of Primary Care Medical Homes, Accountable Care Organizations, and other systems of care.
- Document both positive and negative impacts of CP on other care providers, including their perceptions of CP provider roles and satisfaction with CP providers.
- Investigate acceptance of CP providers and whether or not hospitals and other providers make appropriate referrals to CP programs.

System Impacts and Value

- Design studies to compare current (baseline) patient care and disease management practices performed by other providers, costs, and patient outcomes with changes that result from implementation of CP. Examine impacts in rural and urban settings.
- Identify target patient populations, conditions, and care settings where the use of CP providers can yield the greatest cost savings. Potential cost savings to investigate include reduction of:
  - Urgent care and emergency department visits and hospitalizations.
  - Length of hospital stays.
  - Total hospital readmissions or early readmissions for conditions such as congestive heart failure or pneumonia.
  - Clinic visits.
  - 9-1-1 calls for preventable conditions and acute episodic care.
  - Avoidable or inappropriate referrals.
  - Unnecessary treatments.
- Identify services that CP providers can provide to add value in public health systems including:
  - Improving immunization rates.
  - Conducting health promotion.
  - Provide health screenings.
- Document unintended consequences (positive or negative) to EMS systems, other health system organizations, patients, and communities.

Patient Access and Satisfaction

- Identify patient populations and conditions for which CP providers can improve access to timely, appropriate care, such as the uninsured, underinsured, and high risk populations.

- Identify CP services that result in improvements in access (e.g., via reduced wait times to receive care) to primary care, chronic disease management, pain management, referrals to other providers, and receipt of other healthcare and supportive services.
- Study patient expectations, perceptions, and satisfaction with CP services compared with other care from other providers and in other settings.

Patient Safety and Health Outcomes

- Conduct comparative studies of patient safety and risk (e.g., medical errors, adverse events) and health outcomes for patients. Compare usual sources of care, including traditional EMS response, with CP provider care, including (1) treatment at home (treat without transport), (2) transport to the hospital, and (3) transport to alternative destinations. Can CP providers properly triage patients to distinguish those who need a higher level of care? Are patients at home safer by avoiding the risks of hospitalizations, such as hospital acquired infections?
- Identify patient populations and conditions for which CP can improve safety and those for which CP can cause greater harm compared with usual care.
- Identify short- and long-term patient outcomes that are appropriate for measuring the success of a variety of CP interventions, including:
  - Home assessments (e.g., safety).
  - Patient resource need assessments (e.g., food).
  - Chronic disease management (diabetes, CHF).
  - Assisting patients to manage their own healthcare.
  - Acute care response to reduce hospitalizations.
  - Supportive care for assisted living populations.
  - Support for family caregivers.
  - Post-discharge follow-up to prevent readmissions.
  - Medication reconciliation and compliance.
  - Behavioral health follow-up to increase attendance at appointments.
  - Assessment with triage and referral.
  - Vaccinations.

Data and Methods for Research and Evaluation

- Determine appropriate definitions, measures, and instruments—using existing ones wherever possible—for studying CP impacts on patient access, safety, health outcomes, satisfaction, and overall healthcare costs.
- Evaluate CP programs in terms of structure, process, and outcomes to understand program development, functioning, and impacts.
- Carefully define appropriate comparison services (e.g., no intervention, other care delivery models) and patient populations for cost/benefit analyses.
- Refine methods to identify the causal connections from specific CP interventions to intermediate and distal patient outcomes, and to assess resource utilization and costs.
- Develop a classification system for CP service lines such as chronic care, home health, emergency care, mental health, and prevention. Compare the relative value, in terms of outcomes and costs, of these service lines with that of current services provided. Use risk adjustment based on patient characteristics for relative cost comparisons.

2. RESEARCH CHALLENGES

Meeting attendees identified barriers to research in response to the following questions. This list also incorporates topics mentioned over the course of the two-day meeting.

> Research requires funding sources, topics of interest to funders, research expertise, collaborators, study sites, data, and appropriate methods.
>
> What are the **top barriers to conducting research** on Community Paramedicine? To enable research to happen, what specific resource needs must be addressed?

Identifying Research Priorities

- Challenges in formulating feasible research questions that will provide the information needed to advance clinical knowledge and shape policy.
- No single lead EMS or CP organization to set priorities and marshal resources.

Research Funding, Infrastructure, and Human Resources

- Lack of research funding CP in the context of scant funding for EMS research generally.
- Lack of EMS research infrastructure, including academic research centers, analytical resources, and study sites, upon which to build CP research.
- Lack of research expertise among EMS practitioners and insufficient training opportunities.
- Lack of health researcher expertise in EMS and CP.
- Lack of CP program staff time for conducting research.
- Differences in priorities between funders and researchers.

Stakeholder Support and Involvement

- Lack of awareness, understanding, respect among patients, healthcare providers, and public health providers regarding the EMS profession and the potential benefits of CP.
- Lack of EMS and CP research support from essential collaborators including insurance companies, healthcare system partners, and community stakeholders.
- Lack of EMS agency participation as research study sites; competition and lack of trust between EMS agencies; lack of communication between researchers and EMS practitioners.
- Resistance or competition from other health professions and interest groups that may feel threatened by the development of CP, such as nursing, home health, and unions.
- Lack of quality reporting systems to engage the public in holding EMS accountable for outcomes (e.g., an "EMS Compare" system like CMS' Hospital Compare).

Data

- Lack of accessible information documenting the basic characteristics of existing CP programs.
- Lack of data and data coordination on patients, interventions, costs, and outcomes to track patients across systems of care and compare CP care with usual care.
- Lack of systems to capture essential data (e.g., EMS data collection is focused on patient transport).

- Inconsistent reporting and missing data in existing systems such as NEMSIS.
- Lack of access to existing data that is proprietary or protected by the Health Insurance Portability and Accountability Act (HIPAA).
- Lack of central data repositories or comparable data elements for CP pilot studies.
- Inability to distinguish services performed by CP providers from those performed by supervising physicians in healthcare claims data.

Methods

- Diverse CP programs and settings that have not been well described for the purposes of identifying research study goals, populations, and program dimensions that may influence outcomes.
- Difficulty demonstrating causal connections between CP interventions and outcomes.
- Identification of appropriate and validated measures to show impact on quality of care and cost.
- Lack of standard definitions of CP program models, data elements.
- Sampling challenges: small numbers of programs and patient sample sizes (especially for specific conditions and rural areas), identifying appropriate comparison groups, selection biases and generalizability.

Government and Regulatory Issues

- Government regulatory and quality assurance requirements that discourage piloting new CP programs and, by extension, CP research.
- Demonstrating to legislators the need for CP programs and research funding.
- HIPAA restrictions on sharing patient data.
- Difficulty of obtaining institutional review board (IRB) approval for experimental or quasi-experimental research in a non-traditional medical setting.

3. RESEARCH RESOURCES AND OPPORTUNITIES

Meeting attendees identified examples of research resources and opportunities in response to the following questions. This list also incorporates topics mentioned over the course of the two-day meeting.

> What **resources and opportunities** are available now that could be used to advance Community Paramedicine research? Where can we find funding sources, research expertise, collaborators, study sites, data (in addition to NEMSIS), methods, or other important resources?

Academic Resources

- Academic researchers (universities, academic medical centers) can seek CP research grants, conduct or guide pilot studies, and conduct systematic reviews across all CP programs. Promising candidates include institutions with EMS or rural health research expertise, or a rural healthcare mission. A partial list of academic institutions and centers mentioned by attendees in this area includes:
  - University of Minnesota School of Public Health.
  - University of North Texas.
  - University of New Mexico.

  - University of Tennessee.
  - Louisiana State University.
  - EMS Performance Improvement Center (University of North Carolina, Chapel Hill).
  - EMS Agency Research Network (University of Pittsburgh).
  - Center for Research on Emergency Medical Services (University of Pittsburgh and Center for Emergency Medical Services of Western Pennsylvania, Inc.).
  - Rural Health Research Centers (e.g., WWAMI RHRC), which are federally funded by the Office of Rural Health Policy.
- Academic EMS journals.

Government Institutions

- Potential state and local government partners with interest in CP and research expertise (e.g., epidemiologists) include:
  - Departments of health and public health.
  - State EMS offices, including state EMS for Children programs, injury prevention programs, and trauma registries.
  - State offices of rural health.
  - 9-1-1 systems.
- The federal government can sponsor and encourage formative evaluation, creation of a data clearinghouse, and other CP evaluative activities. Federal funding can provide support for meetings to further develop data and methods to build the CP evidence base. Federal partners include the U.S. Departments of Health and Human Services (HHS), Homeland Security (DHS), and Transportation (DOT). A partial list of interested federal agencies and initiatives includes:
  - Agency for Healthcare Research and Quality (HHS/ARHQ):
    - Patient-Centered Outcomes Research Institute (PCORI).
    - Comparative Effectiveness Research (CER).
    - "Research Activities" online newsletter.
  - Health Resources and Services Administration (HHS/HRSA):
    - Office of Rural Health Policy (ORHP).
  - Centers for Disease Control and Prevention (HHS/CDC).
  - Centers for Medicare and Medicaid Services (HHS/CMS):
    - Innovation Grants.
    - Healthcare claims data.
  - Assistant Secretary for Preparedness and Response (HHS/ASPR).
  - National Institutes of Health (HHS/NIH).
  - National Highway Traffic Safety Administration (DOT/NHTSA).
  - Office of Health Affairs (DHS/OHA).

EMS Organizations

- Center for Leadership, Innovation and Research in EMS (CLIR).
- Emergency Medical Services for Children (EMSC) National Resource Center:
  - National EMSC Data Analysis Resource Center (NEDARC).
- International Roundtable on Community Paramedicine (IRCP).
- Joint Committee on Rural Emergency Care (JCREC).
- National Association of EMS Officials (NASEMSO).

- National Association of EMS Physicians (NAEMSP) (EMS Fellowship Curriculum).
- National EMS Management Association (NEMSMA).
- National Registry of EMTs (NREMT).
- North Central EMS Institute (NCEMSI).
- EMS agencies.
- Existing CP programs, both U.S. and international, for study sites, data, models, and, benchmarks. Consortia of EMS agencies can partner to sponsor research. A partial list of examples includes:
  - Ada County Paramedics, Idaho.
  - MedStar Mobile Healthcare, Fort Worth, Texas.
  - North Memorial Healthcare, Minnesota.
  - Regional Emergency Medical Services Authority (REMSA), Reno, Nevada.
  - Western Eagle County Ambulance District (WECAD), Colorado.

Other Healthcare Organizations

- Health systems, including hospitals (e.g., Critical Access Hospitals, teaching hospitals), Accountable Care Organizations (e.g., CMS' Pioneer ACO Model), Level I trauma centers, and system-affiliated EMS agencies (Allina Health EMS).
- Home health, telehealth, behavioral health, long term care, and hospice providers.
- National Quality Forum (NQF).
- National Organization of State Offices of Rural Health (NOSORH) and National Rural Health Association (NRHA).
- Heath Workforce Information Center (http://www.hwic.org/).
- American Hospital Association and state hospital associations.
- Health professional associations (e.g., American Nurses Association).
- Healthcare payors.
- Private industry partners:
  - Pharmaceutical companies.
  - Durable goods suppliers.
  - Health information technology (HIT) vendors.
  - Software vendors to build CP data collection systems.
  - FISDAP®.
  - Medicare and Medicaid contractors.

Other Interested Organizations

- Rural Assistance Center (http://www.raconline.org/).
- International Association of Fire Chiefs (IAFC).
- EMS unions.

- Non-profit organizations and foundations (e.g., the Robert Wood Johnson Foundation, Bill and Melinda Gates Foundation), including those not historically involved with EMS that have related interests.
- AARP.

Data and Methods Resources

- Potential data sources:
  - Health departments.
  - Electronic Patient Care Reporting (ePCR) and Computer Aided Dispatch (CAD) data.
  - Electronic Medical Records/Electronic Health Records (EMRs/EHRs).
  - Emergency departments.
  - Patient data repositories, such as through quality health networks, state health information exchanges (HIEs).
  - Discharge mapping data.
  - State and local health statistics databases and linked patient registries.
  - Council on Library and Information Resources.
  - CMS healthcare claims data.
  - National EMS Information System (NEMSIS), with addition of CP-related measures.
- Develop research collaborations among multiple CP programs and partners to increase quantity and quality of available data, including creating a national CP data repository.
- Use existing measures of effective, safe, coordinated, and patient-centered care, and measures of access, timeliness, and efficiency from sources such as the Physician Quality Reporting System or AHRQ's Prevention Quality Indicators.
- Use independent evaluators to conduct objective internal clinical reviews and audits and compare with non-CP systems/communities.
- Explore the feasibility of innovative methods, such as tracking lawsuits to measure patient satisfaction as compared with traditional patient surveys.

Resources Within Community Paramedicine

- Community Paramedic website (http://www.communityparamedic.org/).
- International Roundtable on Community Paramedicine (http://www.ircp.info/).
- Community Paramedicine Evaluation Tool.[9]
- Future stakeholder meetings to collaborate and build consensus.

National Consensus Conference on Community Paramedicine

Appendix B: Conference Attendee List

October 1-2, 2012
Atlanta Airport Hilton Hotel
Atlanta, Georgia, USA

NASEMSO·NOSORH
JCREC
Joint Committee on Rural Emergency Care

North Central EMS Institute

WWAMI RURAL HEALTH RESEARCH CENTER

prepared by

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APPENDIX B: CONFERENCE ATTENDEE LIST

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National Consensus Conference on Community Paramedicine

Appendix C: Conference Agenda

October 1-2, 2012
Atlanta Airport Hilton Hotel
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NASEMSO·NOSORH
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WWAMI RURAL HEALTH RESEARCH CENTER

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Susan M. Skillman, MS

UNIVERSITY OF WASHINGTON
SCHOOL OF MEDICINE
DEPARTMENT OF FAMILY MEDICINE

APPENDIX C: CONFERENCE AGENDA

National Consensus Conference on Community Paramedicine

Atlanta Airport Hilton Hotel, Atlanta, Georgia, USA

Agenda

Monday, October 1, 2012

0800-0830 **WELCOME**
Gary Wingrove, President, North Central EMS Institute

INTRODUCTIONS AND OVERVIEW
Jim DeTienne, NASEMSO President, Co-Chair, Joint Committee on Rural Emergency Care (JCREC), Matt Womble, Associate member of NOSORH, past co-chair of JCREC, and Douglas Kupas, MD, Principal Investigator

Overview: Nationally, the historical structure and philosophy of Emergency Medical Services (EMS) has been built around the idea of rapid response, stabilization, treatment and transport of patients with life threatening illnesses and injuries. Community Paramedicine represents one of the most progressive evolutions in the delivery of community-based healthcare by using EMS providers within their current scope of practice in an expanded role. While this expansion in focus has been trialed in many different settings over many years, relatively little evidence exists that can be used to understand all the nuances of how this model can improve the quality of care, health of patients and decrease the overall cost of care.

It is critical for the purveyors of the Community Paramedic models to track, assess, monitor and constantly improve care, not only to ensure that the benefits are maximized, but also that the risks of *not* taking *all* patients to the hospital are mitigated. The purpose of this session is to disseminate the current knowledge, practice and tools used to improve the outcomes, quality, access to and cost and utilization of health care services. Conference objectives will also be examined including the need to identify metrics and rigorous methodologies that will effect positive change.

0830-1015 PANEL 1: EXPANDED ROLE (PRACTICE)/EDUCATION

Facilitator: Matt Womble

Panel members:

- *Drew Dawson, Director, National Highway Traffic Safety Administration, Office of Emergency Medical Services, Washington DC*
- *William Raynovich, NREMT-P, EdD, MPH, BS, Associate Professor and Director, EMS Education, Creighton University, Omaha, NE*
- *Anne Robinson, RN, BSN, Public Health and Community Paramedic Nursing Consultant, Eagle, CO*
- *Johnathan Smith, Chief, Community Paramedic, Brighton Volunteer Ambulance, Rochester, NY*
- *Michael Wilcox, MD, Medical Director, Scott County Public Health Dept., Shakopee, MN*

Areas of Examination:

a. **Current practices:** What is the current state of education and training of Community Paramedics in the areas of medical care, referral practice and documentation (including overview of national curriculum and status of receiving college credit)
b. **Discussion of gaps**: How should the expanded role of the community paramedic be defined (skill sets, practice setting, medical oversight, paramedicine specialty)? What type of education is needed to support this skill set? What are the CP educational needs considering clinical, social, physical and emotional demands of the CP patient population? How can additional education and training use current models to assure patient satisfaction (HCAHPS model), incorporate the provider perspective (AHRQ provider safety survey, employee satisfaction) and teach assessment of integration with family and other social support structures? How can rural areas have reasonable access to education and training?
c. **Research questions/Identification of metrics and methodologies**: What are the standards for community paramedic training and education? What methodology should be used to evaluate and, if necessary, credential the curriculum? What are the competencies of a community paramedic and how should individuals be evaluated?
d. **Documentation/dissemination of results** (Who, What, When, Where, How)

1015-1030 BREAK

1030-1215 PANEL 2: INTEGRATION WITH OTHER MEDICAL PROFESSIONS

Facilitator: Douglas Kupas, MD

Panel members:

- *Debbie Dawson Hatmaker, PhD, RN-BC, SANE-A, Chief Programs Officer, Georgia Nurses Association, Atlanta, GE*

- *Ann Marie Papa, DNP, RN, CEN, NE-BC, FAEN, Clinical Director, Emergency Nursing, Hospital of the University of Pennsylvania & Penn Presbyterian Medical Center, PA*
- *Jim Parrish, FACHE, FACMPE, CEO/Administrator, Humboldt General Hospital, Winnemucca, NV*
- *Anne Robinson RN, BSN, Public Health and Community Paramedic Nursing Consultant, Eagle, CO*
- *Kathy Robinson, RN, EMT-P, Program Manager, National Association of State EMS Officials and President, Danville Ambulance Service, Danville, PA*
- *Drew Werner, MD, Medical Director, Western Eagle County Health Services District, Community Paramedic Program, Eagle, CO*

Areas of Examination:

a. **Best Practices:** Where is service integration already occurring and what are the elements that make it successful?
b. **Discussion of gaps**: How to approach the integration of community paramedics, so that services are a community benefit and not competition to other providers such as: 1) Defining roles, responsibilities, relationships and data sharing issues (e.g., referrals, protected health information and electronic health records/health information exchange) with other community-based providers and services (primary care, public health, hospitals, home health, etc.); and 2) How to improve the sharing of outcomes, quality metrics and integrated quality improvement processes?
c. **Research questions/Identification of additional metrics and methodologies**: What is needed in terms of guidance or standards to assure that community paramedics are filling gaps and not duplicating services?
d. **Documentation/Dissemination of results** (Who, What, When, Where, How)

1215-1330 LUNCH (on your own)

1330-1515 PANEL 3: MEDICAL DIRECTION/REGULATION

Facilitator: Douglas Kupas, MD

Panel members:

- *Mike Bachman: Program Director, Wake County EMS, NC*
- *Troy Hagen, Director, Ada County Paramedics, Boise, ID*
- *Drew Werner, MD, Medical Director, Western Eagle County Health Services District Community Paramedic Program, Eagle, CO*
- *Michael Wilcox, MD, Medical Director, Mdewanketon Sioux Tribal EMS/Fire Department, Shakopee, MN*
- *Will Wilson, MPP, Grant Supervisor, Minnesota Department of Health, Office of Rural Health and Primary Care, MN*

Areas of Examination:

a. **Current practices:** What types of medical oversight, quality assessment, performance improvement and outcome evaluation (clinical and financial) are medical directors using? How are states currently regulating these programs? Is

there a state regulatory model in existence that could be the standard for replication?

b. **Discussion of gaps**: What processes are needed to facilitate provider oversight of clinical quality assessment, error reporting, clinical handoffs, etc.? How can medical oversight be assured in rural communities that lack provider resources? How can states prepare to sufficiently provide for or allow the regulatory oversight and support necessary for the expanded role that community paramedicine may practice?
c. **Research questions/Identification of metrics and methodologies**: What are standard quality of care measures and methods for evaluation? How can state regulators use quality of care measures to help them determine how to regulate community paramedic programs?
d. **Documentation/Dissemination of results** (Who, What, When, Where, How)

1515-1630 DAY ONE WRAP-UP

The facilitators for each panel will lead discussion of key points.

Tuesday, October 2, 2012

0800-0945 PANEL 4: FUNDING/REIMBURSEMENT

Facilitator: Jim DeTienne

Panel members:

- *Gregg Margolis, PhD, NREMT-P, Director, Division of Health Systems and Health Care Policy, Office of the Assistant Secretary for Preparedness and Response, U.S. Department of Health and Human Services, Washington, DC*
- *Christopher Montera, Chief, Western Eagle County Health Services District, Community Paramedic Program, Eagle, CO*
- *Dan Swayze, DrPH, MBA, MEMS, Vice President of the Center for Emergency Medicine of Western Pennsylvania, Inc., Pittsburg, PA*
- *Ryan White, Health Economist, Eide Bailly, Lone Tree, CO*
- *Matt Zavadsky, MS-HSA, EMT, Associate Director of Operations, MedStar EMS, Fort Worth, TX*

Areas of Examination:

a. **Current practices:** What methodologies exist for tracking short-term and long-term financial impacts of Community Paramedic services (for example, comparing the costs of an acute care-driven model vs. a primary care medical home for target patient populations)?
b. **Discussion of gaps:** What could be a framework for the consistent reporting of costs/savings and measured impact by patient and by population(s), to show the value to payer systems? What are next steps toward developing systems for Medicaid and Medicare reimbursement of services?

c. **Research questions/Identification of additional metrics and methodologies**: How to rigorously evaluate and document the cost-savings of community paramedic programs, in order to leverage payment from payer sources?
d. **Documentation/Dissemination of results** (Who, What, When, Where, How)

0945-1000 BREAK

1000-1145 PANEL 5: DATA, PERFORMANCE IMPROVEMENT AND OUTCOME EVALUATION

Facilitator: Gary Wingrove

Panel members:

- *Dia Gainor, MPA, Executive Director, National Association of EMS Officials*
- *Gregg Margolis, PhD, NREMT-P, Director, Division of Health Systems and Health Care Policy, Office of the Assistant Secretary for Preparedness and Response, U.S. Department of Health and Human Services, Washington, DC*
- *Kevin McGinnis, MPS, WEMT-P, Chief, CEO, North East Mobile Health Services, Scarborough, ME*
- *Lori Spencer, RN, CCEMT-P, Captain, Baraboo District Ambulance Service, Baraboo, WI*
- *Ryan White, Health Economist, Eide Bailly, Lone Tree, CO*

Areas of Examination:

a. **Current practices:** What scientific data already exists to inform the implementation, operations, outcomes, and quality assurance/performance improvement of community paramedic programs?
b. **Discussion of gaps:** What type of empirical research is still needed to inform the field? Given the expanded role of EMS programs, what standard types of data should programs be collecting?
c. **Research Questions/Identification of metrics and methodologies:** In building a national research framework, what types of methodologies and standard metrics are still needed to measure health outcomes, program outcomes, cost savings, performance improvement and systems review? What are feasible methodologies to provide rigorous evidence that can link community paramedic programs to improved health outcomes , efficiencies, and cost savings?
d. **Documentation/Dissemination of results** (Who, What, When, Where, How)

1145-1300 LUNCH (on your own)

1300-1430 Community Paramedicine Research Agenda

Facilitators:

- *Davis Patterson, PhD, Research Scientist, WWAMI Rural Health Research Center/Center for Health Workforce Studies, University of Washington*
- *Sue Skillman, MS, Deputy Director, WWAMI Rural Health Research Center/Center for Health Workforce Studies, University of Washington*

Pre-hospital EMS research: What is research vs. evaluation vs. quality improvement? Insights from the 2012 International Roundtable on Community Paramedicine.

Identifying fundable research topics to advance community paramedicine:
- Potential research questions and priorities (quality, effectiveness, value)
- Collaborators
- Study sites
- Design issues
- Data sources
- Feasibility considerations
- Dissemination/publication

Next steps: Drafting a Community Paramedicine Research Agenda, building consensus on top research priorities based on need/impact and feasibility

1430-1500 WRAP-UP/CLOSING REMARKS
Speaker: Douglas Kupas, MD, Principal Investigator

POST MEETING DISCUSSION: *Steering committee members and researchers will meet to develop a paper to identify a national research agenda on community paramedicine.*

Conference Documents

Funding for this conference was made possible in part by grant number 1R13HS021055-01A1 from the Agency for Healthcare Research and Quality (AHRQ). The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

NOTES

1. Joint Committee on Rural Emergency Care, National Association of State Emergency Medical Services Officials, National Organization of State Offices of Rural Health. State perspectives discussion paper on development of community paramedic programs. http://www.ruralcenter.org/tasc/resources/state-perspectives-discussion-paper-development-community-paramedic-programs. Accessed February 8, 2012.
2. National Conference of State Legislatures. Beyond 911: state and community strategies for expanding the primary care role of first responders. http://www.ncsl.org/issues-research/health/expanding-the-primary-care-role-of-first-responder.aspx. Accessed December 8, 2012.
3. At the University of Washington School of Medicine; "WWAMI" is an acronym for Washington, Wyoming, Alaska, Montana, and Idaho.
4. Cohen C, Patterson D. Carolyn Cohen and Davis Patterson on Interview Design Process. http://aea365.org/blog/?p=6495. Accessed February 8, 2013.
5. Shoup S. Red River Project. Expanded scope program for New Mexico medics. *JEMS.* Dec 1995;20(12):43-47.
6. North Central EMS Institute. Community Paramedic: colleges. http://www.communityparamedic.org/Colleges.aspx. Accessed February 20, 2013.
7. Emergency medical services. Education agenda for the future: a systems approach. http://www.nhtsa.gov/people/injury/ems/EdAgenda/final/. Accessed February 20, 2013.
8. Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services. TeamSTEPPS home page. http://teamstepps.ahrq.gov/. Accessed February 20, 2013.
9. Health Resources and Services Administration, U.S. Department of Health and Human Services. Community paramedicine: an evaluation tool. http://www.hrsa.gov/ruralhealth/pdf/paramedicevaltool.pdf. Accessed February 20, 2013.
10. Three persons viewing the meeting via Webcast also contributed their responses.