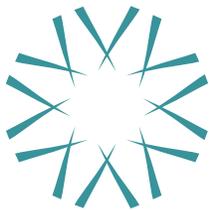


Rural Emergency Medical Services Integration

November 2019

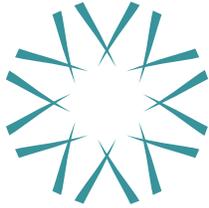


NATIONAL
RURAL HEALTH
RESOURCE CENTER

525 South Lake Avenue, Suite 320 Duluth, Minnesota
55802
(218) 727-9390 | info@ruralcenter.org |
www.ruralcenter.org

This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number UB1RH24206, Information Services to Rural Hospital Flexibility Program Grantees, \$1,100,000, 0% financed with nongovernmental sources). This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

This guide was prepared by:



NATIONAL
RURAL HEALTH
RESOURCE CENTER

525 South Lake Avenue, Suite 320
Duluth, Minnesota 55802
(218) 727-9390 | info@ruralcenter.org |
www.ruralcenter.org



The Paramedic Foundation
<http://paramedicfoundation.org/>

Contents

- Background2
- Introduction.....3
- Medical Direction, Medical Protocols, and Quality Reviews.....8
 - Integration of Medical Direction8
 - Integration of Medical Protocols..... 11
 - Integration of Quality Reviews..... 16
- Training and Continuing Education..... 20
- Operations..... 31
 - Written Policies..... 32
 - Equipment and Supplies 34
 - Leadership 38
- Public Information, Education, and Relations..... 40
- Safety 46
- Partnerships 49
- Conclusion..... 55
- References 57

Background

The emerging vision for the future role of emergency medical services (EMS) is to serve as an integral partner in a people-centered American health care system. *EMS Agenda 2050* (National Highway Traffic Safety Administration, 2019) explains, “A concerted effort to show how integration of information, communication, and care will improve outcomes needs to be undertaken to help bring EMS and its partners in health care closer together.” *EMS Agenda for the Future* (National Highway Traffic Safety Administration, 1996) previously stated, “Integration of health care services helps to ensure that the care provided by EMS does not occur in isolation, and that positive

effects are enhanced by linkage with other community health resources and integration within the health care system.”

This document is a practical guide for ambulance services (agencies) to use in their pursuit of sustaining effective and efficient delivery of patient care and developing into an integrated system with other agencies. Integration is intended to provide and sustain improved patient care by capitalizing on efficiencies. It will provide insights into various means, which have been used by agencies within the industry to promote integration between agencies to the benefit of the agencies, the staff, and, most importantly, to the patients.

This guide is created through the Technical Assistance and Services Center (TASC), a program of the National Rural Health Resource Center, with support from the Federal Office of Rural Health Policy (FORHP). TASC provides technical assistance to the Medicare Rural Hospital Flexibility (Flex) Programs in 45 states. One focus of the Flex Program is on sustainability of the systems of care in rural health, including EMS.

Introduction

Health care systems work tirelessly to improve care through tested standardized practices. Gone are the days in which a physician provides medical care thought best by a very limited, local understanding of medicine. The practice is increasingly based on science and best practices utilizing similar equipment, similar protocols, identical measures of time for critical medical episodes, and similar dosing of medications in medical systems EMS agencies interact with. The delivery of pre-hospital care by EMS agencies is also evolving and leaving behind independent, local practices. Today many ambulance services are designed and equipped to provide good emergency care and transport but are disconnected from the rest of the health system.

Why Integrate

Several factors contribute to the need for integration of EMS agencies:

1. Demands to maintain a level of readiness and ability to respond

2. Reduced number of volunteer or paid staff members
3. Financial pressures resulting from rising costs and tightening reimbursement
4. Changes in ownership

Changes in ownership are not addressed in this guide. Instead, this guide focuses on intentional actions agencies can take to provide the best care with increased demands and a shrinking workforce. EMS integration into the health care system of care can occur when agencies recognize the merits of working together to achieve their missions.

Integration of systems can increase efficiencies, improve effectiveness, and ensure system capacity. When multiple agencies use the same equipment and the same supplies, methods can be developed to purchase larger quantities of needed durable and disposable equipment and supplies at a more favorable cost. When multiple agencies use the same evidence-based medical protocols, effective care will be available to the patient and common training can be utilized between agencies to build and assure the necessary skills and knowledge base of practitioners.

Where to Start

A fundamental initial step for integration is an honest self-assessment of the agency's functions. The Wisconsin Office of Rural Health convened a national group of EMS leaders to create a tool to assess the capacity of ambulance services. *Attributes of a Successful Rural Ambulance Service* (Wisconsin Office of Rural Health, 2016) consists of a survey tool for conducting an internal self-assessment and a workbook that provides in-depth guidance on how to improve. A critical review of systems used, as well as, clearly identifying systems that are lacking will build a framework for integration between agencies.

Each agency has an existing set of standards or processes whether stated or implied. The standards and processes may be written or simply understood as a byproduct of the culture and history of an agency. These EMS processes become the focus for change to improve patient care. Perhaps, change is needed for an agency to become more efficient or because an agency is faced with issues threatening its ability to provide patient care. Agencies will

demonstrate areas of excellence in specific processes as well as areas of deficiency in others. Recognizing processes, which are both excellent and deficient, will be helpful as a starting point for integration. Processes which are excellent should be embraced by the agencies integrating; processes that are deficient should be considered for improvement.

As agencies individually and jointly engage in the effort of reviewing and developing common processes, it is necessary to have in place an agreed upon means of addressing differences of opinion and practice. Differences of opinion are welcome and help provide a comprehensive review of process development and integration. Differences ending in constructive results are a huge win for the agencies working together. Knowing how differences will be addressed, before the effort begins, is another necessary initial step. If multiple agencies rely on the same process to accomplish the same objective(s), those agencies are well on their way to successful interagency integration.

Find Leadership from Within

When change is desired or necessary, a uniquely equipped person or persons will likely be found embedded in the ranks of an agency. This will be a system-minded individual, who maintains a clear focus on the need to keep the patient at the center of all operational decisions. These individuals are ready to serve and, perhaps, are already serving as a champion of integration. Such champions are forward-thinkers who tenaciously advocate for the patient regardless of circumstances. This person may well enjoy reflecting on the uniqueness of the agency, but also has the capacity to look beyond the accomplishments and history of the agency to see the need to transform for the sake of the patients. This individual is worth their weight in gold and should be molded into a suitable role as an agency thinks through integration. Such an individual deserves the full support of the agency's leadership.

Develop Partnerships

Some of the stakeholders who depend on safe, effective, and efficient patient care are organizations who might become strong partners. Partnerships commonly fall into two categories. One category involves a working arrangement formed when two or more entities choose to collaborate in an informal mutually beneficial partnership. The other type of

partnership is a business arrangement commonly defined by formal business documents, which may specify levels of control, the flow of money between organizations, and details of how the partnership will be established and executed. These more formal partnerships will not be addressed in this guide. Less formal partnerships developed as mutually beneficial collaborative interactions are the focus of this guide.

Stakeholders should be included as members on advisory boards that stay in touch with the practices and nuances of the agency. Organizations that are most dependent on the agency's services— perhaps hospitals or health systems – are wonderfully positioned to form partnerships. These partnerships ultimately benefit the patients by strengthening the entire continuum of care.

Create an Integration Team

The best beginning point is for leadership of ambulance services interested in integration to establish a work group to consider a review of training, medical protocols, or operating guidelines. The integration team should include individuals from each service who understand the topics being reviewed and bring different perspectives. Champions from each service, as well as practitioners, training coordinators, and others who have a clear understanding of patient-centered care should be considered for this work group. For example, practitioners often have insight into the value of specific guidelines, while training coordinators have a valuable perspective on how the agencies can integrate training efforts. Eventually all members of the agency will need to be engaged and turf issues will need to be addressed and eliminated in favor of collaboration. Remember, the intent of this work is to improve patient care.

The agencies working on integration need to approach it as an art and apply what their unique situation requires. Finally, the agencies must agree on the individuals who will lead the integration team and establish an equitable process for making decisions. These discussions often challenge long held beliefs and attitudes about how an agency should function, which can cause discord. Agency leaders and those leading the integration team must recognize this and be prepared to work through those issues. Regular engagement with all agency personnel will help leaders to recognize those issues and diffuse problems.

Integration Work Group

When agreement, likely by verbal consensus, exists to pursue integration of medical protocols, a work group, and someone identified as the process owner or chair of the work group. The work group should be comprised of as few members as needed to commit to and accomplish the work. The work group will not benefit from having extra members who are not fully engaged. The medical director of each agency in the work group must be a member of the workgroup.

Processes to Integrate

This guide provides individual agencies with tools to increase effectiveness and efficiencies by sharing knowledge, expertise, and experiences with other agencies. This guide is not intended to be a comprehensive roadmap to direct “start to finish” completed integration, but rather a primer to help agencies get started. It should serve as a means to jumpstart the work of integration in your agency. This guide will focus on a select number of EMS processes that are most easily integrated between agencies and can have a significant impact on the care provided to the patients, specifically:

- **Medical direction, medical protocols, and quality reviews** – which is at the epicenter of patient care;
- **Training and continuing education** – necessary to support the medical practice laid out in the medical protocols;
- **Operations** – from leadership to written standard operating guidelines to the purchase of durable and disposable equipment and supplies necessary to assure delivery of the care prescribed in an agency’s guidelines. Operations include all support and control put in place to provide guidance for those who execute the cumulative focus of the agency in the delivery of patient care;
- **Public Information, Education and Relations** – to help shape the public’s understanding and use of the agency, as well as support needed by government entities; and,
- **Safety** – mentioned last, not because it is of low priority but just the opposite, it must undergird and permeate every aspect of the agency’s efforts.

This guide will examine how agency processes can be integrated with similar processes in another agency. The action steps to move that towards completion are key to this. This guide, while focusing on the processes noted above as examples, will familiarize agencies with a means of *moving ideas into action steps*.

Medical Direction, Medical Protocols, and Quality Reviews

Agencies can prepare for integration and can even begin by working together through development of medical direction, medical protocols, and quality reviews. Agencies rely on medical direction for the development of medical protocols and practices. Medical protocols define and describe the patient care provided by practitioners within the agencies. Quality reviews substantiate the efficacy of the protocols used and the practices deployed by the practitioners. Each of these is a major component in and of itself, yet they are interrelated and should be addressed as a single package.

"It wasn't until our neighboring service started calling us to transport some of their inter-facility transfers that they couldn't handle that we began thinking about what we could do to make sure the patients transported had access to the same type of care regardless of who did the transporting. We figured a good place to start was with our medical guidelines. That really opened some eyes and opportunities for us to work more closely with the other service!"

- EMS Manager (small rural service)

Integration of Medical Direction

Medical direction must be organized and effective. A good model of medical direction will:

1. Assure that medical directors are prepared to execute their role and responsibilities
2. Lay out the process by which medical directors authorize practitioners to execute the interventions and treatments prescribed by the medical director

3. Establish a framework of types of calls or responses the medical director wants to review and provide feedback to practitioners
4. Develop an evaluation mechanism to measure outcomes and refine processes

It is important that each agency have competent and engaged medical direction. Medical directors should receive training on their role and responsibilities as discussed later in this guide. In addition, individual agencies can develop their own medical direction process, as presented in the *Attributes of a Successful Rural Ambulance Service* (Wisconsin Office of Rural Health, 2016). Working jointly with another agency throughout this effort creates a model that has a commonality, preparing the agencies for integration.

Practitioner Authorization

Practitioners employed (or engaged) by agencies provide care as an extension of the medical director. The medical director must have assurance of the educational and practical background of each practitioner, as well as how they meet specific regulatory standards and use their skills.

Ideas: Practitioner Authorization Process

- Assure a written minimum standard of training and certifications is established
- Provide the medical director with a list of each practitioner associated with the agency by name, education, and occupational background and certification level
- Include a recap describing the process of verifying compliance of each practitioner
- Work with the medical director to determine what skills the medical director wishes to have the practitioners perform in a skills evaluation session
- Establish a skill testing process that can be replicated and used for all practitioners
- Provide feedback to practitioners and the medical director on performance results gathered during skills testing

Run Reviews

Identifying runs that the medical director will target for episodic, ongoing review creates the framework for the quality review, sometimes known as quality assurance (QA) or quality improvement (QI) efforts. The development and execution of a run review process must involve the medical director.

Integration Action Steps: Establish a Run Review Process

- Identify which calls will be reviewed 100% of the time (ST-Elevation Myocardial Infarction (STEMI), major trauma, stroke protocol, other time sensitive calls, as well as those with high risk interventions)
- Identify which calls will be reviewed each quarter (various categories such as pediatrics, geriatrics, lift assists, etc.)
- Develop standard reviewing and reporting tools (forms) to be used:
 - To record findings of the medical director.
 - To demonstrate receipt of feedback from the review by the practitioner
- Develop means to enable medical director to review the calls selected
- Provide feedback to practitioners and medical protocol development process

Ideas: Run Review Metrics to Report

- Total number of calls responded to
- Total number of calls reviewed
- Total number of calls reviewed that were 100% compliant with medical protocols
- Total number of calls reviewed and returned to practitioner(s) with feedback
- Total number of medical protocol changes recommended based on reviews

Integration of Medical Protocols

Medical protocols are the treatment directives established by the medical director, which the practitioners follow in the provision of patient care.

Medical protocols are in written form and must be accessible to practitioners in a variety of settings, such as in the ambulance, crew quarters, at the scene of an illness or injury, at special events, and any other setting the practitioners may be located. Many agencies have found it useful to have medical protocols accessible in several ways: electronically, on notebook computers used for patient charting, on apps accessible by practitioners across a wide array of devices, on desktop workstations, and other operationally significant locations.

Feedback loops for real time input and clarification of written protocols need to be available to the practitioners. Options may include a means for phone consult with a physician, immediate access by means of two-way radio to medical control, or messaging between the practitioner and the physician. When these patient care-related interactions occur, it is beneficial to have the incident details looped back into the quality system for review and inclusion in efforts to improve the medical protocols and care provided. Finally, respond to any inquiry or feedback provided by a practitioner with a succinct note of follow-up informing the practitioner of action steps taken to review the interaction and improve the system.

"Over the course of my career I have seen and experienced first-hand integration of medical direction for services several times. Most recently the integration involved services represented by eight different medical directors with ties to well established health systems. What really struck me is the collaborative power that we collectively brought to the table. Think of the insight, experience, and understanding of providing medical care for patients outside the hospital. My strongest advice would be stay involved! My input was never ignored or minimized. The patients benefit when we approach medical direction and the development of improved medical protocols from a collaborative standpoint."

– Medical Director (Advanced Life Support service serving urban and rural areas)

When two or more agencies collaborate to establish an integrated set of medical protocols the integrated set will be stronger than either of the previous independent sets of protocols. Integration, in a meaningful way, forces each agency to review, think through, discuss, and substantiate the need for each protocol. Engaging multiple medical directors and well-skilled

practitioners in reviewing medical protocols together allows incorporation of well thought out, ideally science-based decisions.

The process of medical protocol integration can begin as a result of something as simple as a well-informed practitioner speaking to a practitioner from another agency and suggesting, “*What if we had the same protocols?*” It may begin following an event that has been problematic because of the existence of contradictory medical protocols. It may begin as an agency facing the need to find a replacement for their medical director. The process of medical protocol integration can begin in any number of ways and may require two or more champions to move the process forward.

Integration Timeline

As with all interagency initiatives, it is helpful to establish a timeline for the integration process of medical protocols. Establishing a jointly agreed upon and reasonable timeline to accomplish a review, rewriting medical protocols, and developing new protocols will help keep the entire process moving and encourages accountability for work. The start-to-finish timeline will differ depending on the amount of work anticipated, the time availability of medical directors, and the availability of practitioners serving as practical content experts. Without consensus on a realistic timeline, the effort will stall out or fail.

Engage Medical Directors

Medical directors are responsible for the care provided by agencies working on integration. Medical directors must make decisions on what is in and what is out of medical protocols. Competent practitioners can suggest various formats for medical protocols, help prioritize which protocols to address first, and suggest which equipment and supplies are best to deliver care. However, medical directors must define what care is provided. Engaging medical directors face-to-face is ideal. This allows medical directors to discuss their opinions and positions on details. Expecting all medical directors to align schedules and make time necessary for face-to-face meetings is not realistic. The owner of this review should provide the medical directors with multiple options for staying highly involved in addition to face-to-face meetings. Commercially available options for online discussion groups, web-based document sharing and editing, and multiple

means of joining live meetings from a distance are available and should be used.

Existing Medical Protocols

Begin with an analysis of existing medical protocols. Create a combined exhaustive list of medical protocols used by each agency. Once the work group knows “globally” what the agencies have for written medical protocols, they can begin an examination of the makeup of each protocol. See below for an example of the action step, “Create an exhaustive list of existing medical protocols”.

Comparing protocols side by side will produce a list of medical protocols that are medically identical and those that are not. Place the existing medical protocols that are medically identical in a queue for conversion to an agreed upon medical protocol format. Place those that are not medically identical in a queue for further review. Compare protocols that are not medically identical for similarities and differences and compare them to other industry models and standards to transform each one into a science supported medical protocol.

Finally, review the list of existing protocols through the lens of “what is missing.” Use other agencies’ table of contents and sources from various EMS libraries and publications to identify protocols that are not included in the existing medical protocol list and decide whether such a protocol needs to be added. Place those deemed necessary into a “to be developed” queue and develop them within the previously agreed upon timeline.

Medical Protocol Format

Nearly every physician and practitioner will have a personal preference on the format for the medical protocols. Current formats used by the involved agencies should be considered; many and varied examples of styles of protocols are available online or by request from other agencies. Flow charts pervade some protocols, bulleted or numbered lists exist in others. The format must clearly convey step-by-step instructions for the practitioner to follow.

Measure, Record, and Report

Establish simple measures to demonstrate progress over time. Using measures to track progress will help move the entire effort forward within the established timeline. Measurement plays a role in establishing responsibility and demonstrating results as progress is made.

Keep in mind that the goal is medical protocol integration between two or more agencies. Each action step below can be identified as a clear strategy leading to the final desired product. Each objective can be reduced to a series of easily accomplished steps with responsible parties and clear timelines.

Integration Action Steps: Medical Protocols

- Recognize the value and need of medical protocol integration
- Initiate medical protocol integration
- Establish a medical protocol integration work group
- Create a start to finish timeline for medical protocol integration
- Engage medical directors
- Agree on common format for medical protocols
- Create exhaustive list of existing medical protocols
 - Identify those that are medically identical or nearly identical
 - Identify those that are medically different
- Move all medically identical protocols into the common format
- Discuss, debate, and revise medically different protocols into medically identical protocols
- Create list of new protocols to write
- Create new medical protocols in the common format
- Periodically measure, record, and report progress

Ideas: Protocol Integration Metrics to Report

- Total number of medical protocols
- Total number of identical protocols
- Total number of similar medical protocols
- Total number of differing medical protocols
- Total number of medical protocols to be created
- Total number of medical protocols in final form (format and content)

Example: Medical Protocol Objective and Step-by-Step Development

Objective #1: Create an exhaustive list of existing medical protocols.

Step #1a: By (specify date) a representative from each agency involved will review the protocols from their own agency and produce a list of all medical protocols they have and deliver to a designated individual, who has agreed to receive and compile the lists.

Objective #2: The medical protocol team will review the compiled list of medical protocols and determine which are medically identical, or nearly so, and those that are medically different.

Step #2a: By (specify date) the medical protocol review team will convene to compare the list of protocols from each agency.

Step #2b: By (specify date) the medical protocol review team will complete their work by constructing a list of medical protocols identifying which are medically identical, or nearly so, and which are medically different.

Step #2c: By (specify date) the designated person, on behalf of the medical protocol review team will deliver a list of medical protocols identifying which are medically identical, or nearly so, and which are medically different for the full integration team.

Integration of Quality Reviews

Patient care through the combined efforts of quality assurance (QA) and quality improvement (QI) processes. There are commercially produced systems which can be used for quality reviews and some that will aid tremendously by means of electronic comparison of data produced on specified types of runs. Commercially prepared software systems (e.g. data visualization tools, statistical analysis) can be found and compared as an agency works to implement a system that best meets the needs of the agency. Ample help is available from those marketing those systems to help an agency understand how they work and the advantages to the agency. However, this section will focus on the basic components of a quality review, which do not require agencies to use commercially produced software systems.

Small agencies that rely on volunteer staff, often struggle to create a quality review process. Two or more agencies working together to create quality review processes allows them to leverage all of the agencies' combined resources to create and implement a quality review process. This is another powerful opportunity to move towards standardization and best practices for the benefit of the patient through integration.

List and Compare

Forming a small team of champions from multiple agencies to create quality review guidelines enables each agency to effectively review patient care and recommend improvements using a standard process. The first step is to compare the QA/QI initiatives of each agency. The team should discuss and succinctly record what each agency does to review quality. The output of this first step is a written list of the quality review processes each agency uses.

Identify and Standardize

Next, understand how each initiative listed is accomplished. Conduct a critique of the processes outlined on the combined list. Provide detailed explanations of how the initiatives on the list are accomplished. To produce a common guideline, indicate how each agency executes the common quality efforts. Identify similarities and differences and reach an agreement on merging current processes. Group consensus discussion can be used to

ensure that each champion is given the opportunity to provide input to the standardization process.

Questions: Standardizing Tools for Quality Reviews

- What quality guideline format should be used?
- What roles need to be defined in the guideline?
- What forms or templates support the efforts of the quality review?
- How can the varied forms merge into one standard form?

Once the group has a list of questions and issues to address, draft an outline of the review work needed to merge similar quality review efforts into a common set of guidelines.

List Non-Similar Efforts

As a third step, list all the dissimilar quality efforts. There is no need to overwhelm the integration effort and cause delay in moving towards a common process by including all of these non-similar efforts at the beginning of the integration effort. Once the non-similar efforts are identified, those non-standard quality efforts should be set aside and addressed the similar ones are implemented. As additional quality review options come up, note them for a future discussion.

Incorporate Medical Director Initiatives

Medical director input needs to be included in developing the list. Obtain clarification from the medical director if the team of champions has questions on how the medical director inputs align with the other quality efforts on the list.

Establish QA/QI Workflow

Next, establish a plan to assure run reports flow regularly to activate the process on an ongoing basis. Create a roadmap outlining the process workflow by answering specific questions such as the ones listed below.

The small group of interagency champions working on this can brainstorm and come up with a variety of options to answer each question below.

Questions: Establishing a Quality Review Workflow

- How will runs be “flagged” for review?
- How will the necessary information get to the quality review individual?
- How will the necessary information be delivered to and returned from the medical director after review?
- How will feedback be delivered to the practitioner(s) who took care of the patient?
- How will input to the medical protocol review process be made to generate improvements based on the quality review?

Defer some solutions as future options if they require financial and durable equipment purchases. Other options may be as simple as identifying an individual to review or direct the flow of records and information as needed. The output should be a compilation of options, in written form, which takes the form of a guideline for use by each agency. Such guidelines will serve as a roadmap to move the necessary information to the appropriate individual for review and feedback, ultimately leading to improved performance and protocols. This will streamline effort where the same physician serves as medical director for more than one of the agencies involved.

Create Timelines

To establish a timely effort, agree on a timeline with major milestones. Each process noted (“List and Compare,” “Identify and Standardize”, etc.) should have a start date and end date. Within each section, list the tasks required to accomplish that step and who is going to do it. Doing this will set parameters for accountability and allow the team to celebrate accomplishments.

Measure, Record, and Report

Establish a framework to provide ongoing measures demonstrating the effectiveness of the quality review process.

Questions: Basic Quality Metrics to Report

- How many runs did each agency respond to during this period?
- How many medical director requested reviews were completed?
- What percentage of runs related to medical director requested reviews were completed within 30 days?
- How many general quality reviews were completed within 30 days?
- What percentage of runs reviewed were returned to the practitioner with feedback within 30 days?
- What percent of total runs were reviewed?

The above measures are not an exhaustive list of relevant measures, but an example of some possibilities. They can be recorded and tracked to assure timeliness of reviews to determine if a large enough percentage of calls are being reviewed. These measures will provide valuable information, which can be shared with partners who work with the agencies to provide excellent patient care.

Integration Action Steps: Quality Reviews

- List and compare QA/QI efforts used
- Identify identical and standardize similar efforts
- List non-similar efforts
- Incorporate run reviews specified by the Medical Director
- Determine how QA/QI will be done
- Create timeline for QA/QI integration
- Measure, record, and report progress

Training and Continuing Education

Training should focus on delivering content specific to medical and operational guidelines used by the agency. When agencies work together to review the current state of their training and share in the development and delivery of education agencies are able to glean good practices, and to adopt better training methods. Multiple agencies working together and pooling their resources and provide better training than each individual agency.

Each agency has the responsibility to assure their practitioners and staff have the education and competency necessary to execute the roles they are expected to fill based on the medical and operating guidelines of the agency. The content of the training and education should be directly related to the guidelines and needs of the agency. Curriculum and education plans can be jointly developed between agencies, and if already developed, easily shared between agencies. Interagency sharing will strengthen each agency's training efforts and will reduce effort required of each agency in developing training.

The first step to integrate training is to select the appropriate team member from each agency to participate in the collaborative effort. A strong choice to fill this role is the individual who has the greatest level of understanding of the training provided within each agency. This likely is not the chief; it may be the training officer or the champion who pays attention to training needs and invests time and effort in developing, assembling, and assuring the delivery of needed education.

Paramedic, EMT, and Emergency Medical Responder Training

Training that is directly related to patient care must receive the highest possible attention of each agency. In a successful agency, the training provided will be strategically aligned to support specific guidelines – medical or operational – with highest priority attention given to those which directly affect the patients served.

Assess Current State of Training

Many questions can be used to help an agency assess their current training. Some of those questions include:

Questions: Assess Education Content

- What training do practitioners need?
- How do you assess what training is needed for their practitioners?
- What training is being delivered to practitioners?
- What skills and behaviors are being taught? How does that align with medical protocols and operational guidelines?
- What process is followed to assure training is delivered in a systematic, well defined manner?
- How is training delivered? What mode of instruction is used?
- What leadership training is provided?
- What leadership training is needed for practitioners? For the agency's leadership?

Each agency should critically review provided training. Agencies should encourage training for their practitioners by suggesting, mandating, paying registration fees, and providing time away from work for conferences, medical center events, or online events.

A retrospective review of training provided over a specific period of time can be established, see the "Representative List of Agency Training" below. The information gathered in such review will identify topics and guidelines addressed. Similarly, a review will show if there is an overabundance of training focused in limited areas. In time, a chart such as the one below driven by outputs from QA reviews that carry medical director recommendations will identify areas needing attention.

Representative List of Agency Training		
Topic	Guideline	Hours
Orientation	Onboarding	24
Practitioner Fatigue	Safety	2
Oxygen Administration	Patient Care #1.1	1
Sepsis	Patient Care #4.3	2
Power Cot Operation	Patient Care #6.2	1
Stroke and STEMI Care	Patient Care #4.5 and #4.9	3
Childbirth	Patient Care #4.14	2
Poisoning	Patient Care #4.17	1
Emergency Driving	Safety	3
Newborn CPR	Patient Care #4.16	2

Provided as an example only.

Gather Input

Gather input from practitioners on the quality and value of training provided, as well as categories of training most needed by the practitioners. An agency can seek input from recipients of training in a variety of ways. In addition, gather input from multiple agencies to serve as ideal targets to begin an integrated training effort.

“We asked our volunteers what we could do to help them do the job they were doing better. Every one of them said, ‘provide more training.’ That’s when we began the effort of connecting with the volunteer service about 22 miles from our station and found ways to share our training with each other.”

- Volunteer Training Officer

Ideas: Gathering Input on Education

- Provide an evaluation form (paper or electronic) to participants following the completion of training asking for written feedback (paper or electronic form).
- Make requests in writing or during face-to-face interactions asking specific questions about the training provided and future training needs. Periodically ask all practitioners, "what training would you like to help you do your job better?" and, "what training have you received in the past six months that was highly valuable to you?"
- After each one-hour presentation, gather feedback using two or three questions in simple format prior to the next hour of instruction.

Develop Training

Even if the agencies agree that all involved are providing adequate training independently, consolidating training modules into one common module allows the agencies to develop one set of supplies, curriculum, handouts, and instructors.

Furthermore, when training gaps are identified, the agency representatives working on this integration can choose to have one person develop training for each topic. For example, if three agencies are working together on creating training modules, and each agency agrees to work on a different, but perhaps complementary module to the other two, the result will be three usable training modules ready for presentation. This small step, which can take place for the most part by a small team, can measurably increase efficiency by reducing total development time per module created.

"I didn't know how important joint training was until we were part of the region's MCI exercise."

- Volunteer Paramedic

Delivering common training to practitioners is especially important in situations where multiple agencies are required to work together simply by the sheer size of the incident, such as a multiple casualty incident (MCI).

Find Educators

When multiple agencies consolidate their efforts, they have a larger pool of potential educators from which to choose. Education resources for EMS providers can be accessed from a number of external sources, including: state offices of EMS (National Association of EMS Officials (NASEMSO), n.d.), state offices of rural health (National Organization of State Offices of Rural Health (NOSORH), n.d.), and national EMS trade associations.

The search for educators is different than the search for the champions who lead the integration effort. A good place to start is identifying who the best educators are from the agencies shared experiences. The best educators are those who understand the education process and possess skills and behaviors that make them understandable, engaging, and dynamic. An educator must have the background necessary to develop and conduct the training desired by the agencies. Often educators will have an educational background of their own that supports the work they do, including but not limited to formal education from a technical school, college, or university. An educator ideally will have mastered the art of understanding the differences students have in assimilating the information as they expand their own knowledge base. Finally, an educator should have demonstrated lecturing capability as well as leading student involved practical sessions.

Agencies working together should formalize a job description for the educators they seek, including minimum qualifications and any specific education or certifications the agencies want the educator to hold. An example of Objectives and Step-by-Step Development to find and engage educators is below.

Example: Find and Engage Educators Objectives and Step-by-Step Development

Objective #1: Identify educators who may be candidates to serve.

Step #1a: By (date) designated individual will create a list of all organizations within 100 miles that provide EMS education.

Step #1b: By (date) same designated individual will gather names of educators from each of the organizations listed in step 1a.

Step #1c: By (date) same designated individual will engage a team including one individual from each agency participating to develop criteria by which to assess background information on each educator listed.

Step #1d: By (date) the criteria development group will make background assessments.

Step #1e: By (date) the criteria development group will make recommendations to the integration team on which educators to contact.

Objective #2: Identify educators who may serve the integrated agencies.

Step #2a: By (date) a Captain from a participating agency will contact each of the educators identified as a possible educator to determine interest and availability.

Step #2b: By (date) the same Captain from a participating agency will provide the integration team with the names of those educators who are interested and available to serve the integrated agencies.

Create a Calendar

A calendar of training opportunities should be constructed and made available to every practitioner in all agencies involved. Practitioners from one agency may find it more convenient to attend a training provided by another agency.

Determine Delivery Methods

Traditional classroom sessions remain a common option, but geography is a barrier for many rural agencies. One solution to this issue is providing training via webcast or some other distance education means. Technology allows for webcasts with interactive capability between the students and the instructor. Other methods include recorded training, which can be listened to as the student's schedule permits. In determining the means of delivery, the content should be carefully considered. There are some topics which the medical director may feel requires in person instruction to maximize face-to-face contact and observation of skills being practiced. Other sessions may be well served by less intimate presentations. The manner of delivery agreed upon should be the same for each agency using the training.

Deliver Training

Training should go on as planned for the benefit of the entire audience of students receiving the training. Local issues should not derail the training calendar. If an educator has an unplanned disruption that prevents participation, it is ideal to have a clear and effective back-up plan to avoid canceling the training.

Measure, Record and Report

As with all effort expended by an agency, training should be measured. A goal to provide more training, in a more effective and efficient manner can be measured and accomplished if agencies work together to maximize their investment in training. Seeking post-class perspectives is one measure that can be collected and reported. Perhaps even more important to know is how much knowledge was gained or how were skills improved through the training provided. One method of understanding this would be pre- and post-learning event testing.

- A pre-learning event test or pre-test is a measure taken before the learning activity begins. It is compared with the results of the same test given after the learning event to show the effects of the learning activity being evaluated. A pre-test is used to obtain baseline knowledge data.

- A post-learning event test, or a post-test, is a test or measure taken after the learning event has ended. It is compared with the results of the pre-test to show evidence of the effects or changes resulting from the learning activity. A post-test may occur multiple times after an activity to measure retention or behavior change over time.
- Example: send out a pre-test to all of the participants. Ask 10 questions related to the content planned to present. Instruct participants to not spend time researching the answers as the intent is to gauge their knowledge prior to the event. After the event, send out the same 10 questions and assess the change in scores to gauge knowledge gained from the event.

Metrics developed from results should inform agency leadership, as well as stakeholders the agency strategically decides to present the information to.

Questions: Education Metrics to Report

- How many hours of education were provided this month or quarter?
- How many students (practitioners) completed the training provided this month or quarter?
- What was the total cost of providing an hour of training this month or quarter [number of hours of training / (instructor + practitioner time + supplies + etc.)]?
- Number of classroom hours focused on medical protocols
- Number of classroom hours focused on practitioner safety
- Post class satisfaction expressed by students (1=poor to 5=excellent)
- Pre- and post-test knowledge and behavior change

Leadership Training

Training of leaders within an agency is important. How an agency functions day in and day out and how practitioners are encouraged and supported in their work is directly related to the effectiveness of the agency's leaders. Good leaders draw out good performance, but great leaders have the ability to enable the agency's practitioners to deliver great care. How a leader leads will affect every aspect of the agency from recruitment, to retention, commitment, care for equipment and supplies, and care for the patient. An

agency must review and deploy leadership training tactics just as an agency must review and deploy clinical training.

Agencies would do well to work towards standardizing the training provided to leaders. When agencies share a common leadership training commitment, similar to any other process established jointly, the agencies benefit when integration provides the opportunity for leaders to share and serve in leadership roles alongside other leaders. The consistency pays benefits as practitioners enjoy stability which sustains an environment in which they can excel.

Medical Director Training

To assure a medical director is prepared for their role, training specifically for medical directors is a priority, as indicated in the draft *Rural and Frontier EMS 3-Year Tactical Plan*. Medical director training tailored specifically for smaller, rural services may be lacking in availability. It is essential that the training be easily accessible and that all medical directors participate in training to effectively execute their roles and responsibilities.

Integration Action Steps: Medical Director Training Development

- Construct a directory listing each agency medical director by name of agency
- Identify which medical direction training each medical director has completed
- Engage medical directors who have completed medical direction training in a discussion to establish which medical direction training is best for the population served
- Develop a means to assure all medical directors have access and the opportunity to complete the training identified as best for the population served
- Work with the medical directors to identify and schedule medical direction training

Integration between agencies is effective if each medical director involved has participated in training and has a similar framework from which to work. Establishing a common platform for medical direction creates a solid

foundation for medical care and integration. Each of the action steps listed below can be recorded and communicated to provide clear direction and understanding of each step.

Each objective listed below can be accomplished by a series of easily accomplished action steps with responsible parties and timelines clearly laid out.

Example: Medical Director Training Objective and Step-by-Step Development

Objective #1: Identify medical director training that has been completed by all participating agencies.

Step #1a: By (date) a Captain from one of the participating agencies will construct a directory listing each agency medical director by name.

Step #1b: By (date) the same Captain will work with each medical director to create a "*curriculum vitae*" for each medical director documenting medical director training which has been completed.

Step #1c: By (date) the same captain will construct and present a list documenting medical director training completed or not completed, by individual medical director to the integration team.

Objective #2: Engage the medical directors who have completed medical director training in a discussion to establish direction related to what medical director training is best for the population served.

Step #2a: By (date) a Captain from one of the participating agencies will establish a meeting date and location for the medical directors meet.

Step #2b: By (date) the same Captain will lead the meeting of the medical directors and use necessary procedures to gain input, insight, and direction.

Step #2c: By (date) the same Captain will recap in writing the output from the medical director meeting identifying medical director training needed.

Objective #3: Develop a calendar to assure all medical directors have access and the opportunity to complete the training identified as necessary.

Step #3a: By (date) a Captain from one of the participating agencies, with medical director input, will construct a calendar listing times and location of training.

Objective #4: Work with the medical directors to identify and schedule a time for completion of the medical director training.

Step #4a: By (date) a Captain from one of the participating agencies will confer with all medical directors to assure all are enrolled for the training and that no barriers exist that will prevent completion of the training.

Each strategy requires individuals to agree to complete a specific task(s). The team will need to establish appropriate check-in points to ensure completion and course correction, as needed.

Integration Action Steps: Education and Training

- Identify and empower an individual to lead the effort
- Assess current state of training
- Gather input from practitioners who receive the training
- Find or develop training
- Find and engage educators
- Create a training calendar
- Determine delivery methods
- Deliver the training
- Monitor, measure, record, and report progress

Operations

Three specific areas of integration within operations will be considered in this section of the guide:

- (1) Written policies,
- (2) Equipment and supplies management, and
- (3) Preparation of leaders.

Other areas of operations can integrate by replicating the methods noted in this section and changing the variables for an area of an agency's operations.

"As EMS providers, we invite the public to literally trust us with their lives. We advise the public that, during a medical emergency, they should rely upon our organization, and not any other. We even suggest that it is safer to count on us, than the resources of one's own family and friends. We had better be right. Our moral obligation to pursue clinical and response time improvement is widely accepted. But our related obligation to pursue economic efficiency is poorly understood. Many believe these are separate issues. They are not. Economic efficiency is nothing more than the ability to convert dollars into service. If we could do better with the dollars we have available, but we don't, the responsibility must be ours. In EMS, that responsibility is enormous...it is impossible to waste dollars without also wasting lives."

Jack Stout, "Father" of High-Performance EMS

Written Policies

Written policies are necessary to establish and maintain coordinated functioning of an agency. Individual agencies can benefit from having an understanding of policies used by other agencies, especially agencies located close geographically. A comparison of written personnel policies (e.g., minimum shifts covered, agency meeting attendance, performance standards, accepting or declining an inter-facility transfer) provides valuable insight into each agencies' policies and provide a basis for the development of a set of policies based on "best practices." Full integration of policies and guidelines related to things such as mutual aid, multiple casualty incidents, and after incident care for practitioners serve as examples that allow agencies to serve patients in a similar fashion.

Potential Work Group Members

All members of the agency will eventually need to be engaged. It is valuable to have a team member who is deeply involved in identifying needs and developing training as part of the work group. This person's expertise is valuable in planning for presenting the integrated guidelines to all practitioners. Keep the work group small.

Integration Action Steps: Written Policies

- Define what the benefit of common policies is to the agencies and how that impacts the patients served
- Construct a list of existing policies for each agency
- Divide the list of existing policies into two groups: (1) similar policies, and (2) dissimilar policies
- Undertake a policy-by-policy review of each similar policy noting all that is common in the agency-specific policies. Ask “will this work?” to resolve the differences found
- Rewrite the similar policy to eliminate slight differences discovered
- Move the re-written similar policy to the pending approval file
- Repeat for all similar policies
- Determine if any of the dissimilar policies can be modified to make them similar
 - If yes, rewrite the dissimilar policy transforming it to a similar policy following the steps above
- Present the re-written policies, including those from both the similar and dissimilar policies to the agencies’ administration for review and approval
- Review the remaining dissimilar policy list and determine which policies should be retained and used as an integrated policy
- Monitor the process and adjust as needed
- Measure, record, and report progress

Measure, Record, and Report

In each integration effort, progress can be tracked and reported. Progress is often aided when measures are clearly defined and reported – made available for all to see – on a regular basis. A variety of different recording and reporting methods can be used; they do not have to be elaborate.

Ideas: Written Policy Metrics to Report

- Total number of existing written policies
- Total number of similar policies (This number will increase as the next measure number decreases.)
- Total number of dissimilar policies
- Total number of policies (similar, rewritten) waiting final approval
- Total number of similar and rewritten policies approved for all agencies

Sample Measure Reporting Chart

Date of Measure	09/19	10/19	11/19	12/19	01/20
Total number of written policies	42	42	42	42	42
Total number of similar policies	18	23	25	29	31
Total number of dissimilar policies	24	19	17	13	11
Total number policies waiting approval	18	23	11	15	5
Total number of policies approved	0	0	14	14	26

Equipment and Supplies

Equipment and supplies are addressed as a separate sub-section within this guide because, as basic as the topic may be, it is a commonly overlooked issue. Agencies frequently use the quickest access point to acquire equipment and supplies, which often means overpaying.

Agencies can realize significant savings by forming or joining a purchasing co-op or consortium and taking advantage of large group purchasing power. Purchasing co-ops or consortiums save on initial

“Purchasing consortiums and groups are available to provide access to large scale purchasing discounts. In addition, regional preferences for specific equipment should be taken into consideration when an agency makes initial purchases to enhance interagency standardization.”

- Regional EMS Program Director

purchases as well as on preventive maintenance, repair, and the replacement of capital equipment. Co-ops should consider the operational advantages and the types of equipment favored by its members. Simply seeking out and becoming part of a purchasing group, especially if neighboring agencies join the same purchasing group, will aid in integration.

Specific types of supplies and equipment used are dictated in part by the medical protocols followed by an agency. Once medical protocols are integrated, the supplies and equipment agencies purchase will support the medical protocols. Even prior to fully integrated medical protocols, agencies can move towards utilization of common supplies and equipment by sharing supply and equipment lists with the other agencies and creating standard lists.

"Amazing as it may sound, for agencies to respond and work together, the much-needed starting point is for every agency to have an actual printed list of supplies and equipment, including vehicles which they own or have available for their agency to use."

- State EMS Official

Integration of equipment and supplies will extend from the "5 cent 2X2 compress" to a "\$180,000 ambulance." Full integration of equipment and supplies is a huge job. It includes assessment of the current state, comparison of current equipment and supply lists with that needed to support medical protocols (i.e., direct patient care), need and number of current and future ambulances and vehicles, and much more. This also includes creating and providing reports on actual and future expenses associated with supplies and equipment. This effort may require a temporary expenditure of finances to set up a model, which can be used by multiple integrating agencies.

Integration of supplies, equipment, and fleet can start small. Agencies can realize expense reduction and economy of scale benefits with very small steps. An individual or team can be tasked with some very achievable and beneficial tasks.

"The first thing we needed to tend to as we sought ways to handle our integrated fleet most effectively was to find a way to compare the reliability of our vehicles. Learning how to compare our fleet served as a catalyst to make well informed decisions on fleet usage and replacement."

- Director of Fleet

The following Integration Action Steps use disposable supplies as an example.

Integration Action Steps: Disposable Supplies

- Establish who will lead the effort: chosen, volunteered, or appointed
- Create a disposable supply list for each agency
- Conduct a side-by-side comparison of the disposable supply list for each agency
- Create a single comprehensive disposable supply list to be used by all of the integrating agencies
- Identify purchasing groups the integrated agency can join
- Join the purchasing group and generate a common supply ordering list for use by each agency
- Monitor purchases and further consolidate supply inventories
- Monitor and report specific metrics to demonstrate progress

Measure, Record, and Report

Using supplies as the example, measures can be established to demonstrate the progress of implementation and the advantage of integration. Once a co-op identifies a common source for purchasing supplies, purchasing information can be obtained directly from the purchasing consortium or co-op for the member agency(s).

Ideas: Supply Management Metrics to Report

- Current month: Total dollar amount of supplies purchased
- Six-month rolling average: Total dollar amount of supplies purchased
- Six-month rolling average: Total cost of supplies per billable call
- Number of non-standard supply purchases made in the current month of calls reviewed were returned to the with fee
- What percent Sample Measure Reporting Chart calls were reviewed?

Date of Measure	09/19	10/19	11/19	12/19	01/20	02/20
Current Month: Number of Billable Calls	50	47	62	53	59	45
Current Month: Total supply expense	\$310	\$206	\$220	\$110	\$180	\$108
Six Month Average: Total supply expense	-	-	-	-	-	\$189
Six Month Average: Supply cost / billable call	-	-	-	-	-	\$3.59
Current Month: Number of non-standard purchases	0	3	1	0	1	2

Similar processes can be established for any equipment purchases. Metrics can be used to demonstrate cost and reliability of equipment.

Leadership

An often-expressed concern by agencies is their perceived financial inability to train and retain qualified agency leaders. It can be costly for a small agency to send their leaders to meaningful leadership education training. It can be even more costly when poor leadership results in poorly designed systems, poorly conveyed leadership messages, increased turnover, or worst of all, inability to maintain necessary staffing to respond to calls.

Leadership is responsible for engaging in planning, effective and efficient deployment, and comprehensive recovery of all operations after a service is provided. It requires an aptitude for managing people, strategic thinking, and an ability to quickly adapt to changing circumstances.

Agencies can and certainly must prepare the leaders of each agency for leadership roles, but the agency cannot execute leadership. Individuals entrusted with leadership within an agency depend in large part on the individual's commitment to the patient, to others, and to their ability to understand and encourage team members.

"Our ambulance manager grew into her position serving as a volunteer and then as a paid EMS practitioner. I think we are doing her a disservice by not encouraging her, maybe even providing her, with the opportunity to gain formal leadership training."

- City Administrator

Preparing the Agency

It is important that supervisors have extensive clinical experience and certification at the highest level of care provided by the agency. Ideally, the supervising officer should have or be working towards an associate degree. A manager should have also current clinical certification at the highest level of care provided by the agency and ideally should have or be working toward a bachelor's degree. Finally, the chief officer should meet the same current clinical certification of the other leaders and ideally should hold or be pursuing a master's degree related to paramedicine, management, communications, or similar. The agency needs to be responsible to articulate

and implement these requirements into job descriptions and requirements. If existing leaders do not meet these requirements, the agency should jointly bear the responsibility to assure they are attained. Leadership of an agency is dependent on the ability of those in leadership positions.

As agencies prepare to integrate, they should establish similar nomenclature, so each has a like title for the same or similar leadership positions. As integration moves forward, the agencies can expect to enjoy the operational effectiveness and efficiency of merging some leadership positions while likely adding additional positions to assure the practitioners are adequately supported.

Preparing the Individual

Through training tailored for existing leaders, the agency can help the leader expand formal education. This starts by assessing the formal leadership training and educational background each leader has. If certifications or degrees are lacking, the agency can work with the leader to map a course from the present to the future, including where the training can be obtained, reasonable goals for completion, ideally one of shared funding, on how the leader will finance the training. If the individual is not able or capable to engage in the leadership development plan, timelines should be established to allow the leader to gracefully leave the position occupied. Any new posting for the position must include the requirements discussed.

Integration Action Steps: Leadership Education and Training

- Know the needs of the agency
- Assess leader's background preparation
- Develop understanding of industry leadership training standards
- Identify gaps in training
- Identify sources to obtain needed training
- Establish individual leader plan(s) to obtain needed training
- Consider participation in interagency learning group for leaders
- Measure, record, and report progress
- Monitor progress and adjust as needed

Measure, Record, and Report

Individual progress reports can be created for each leader who does not meet the standards for the leadership preparedness the agency embraces. Major steps, such as obtaining a bachelor's degree, can be broken down to detail progress needed, perhaps by semester. The leader can provide the agency with documentation of successful completion from the accredited educational institution. If a specific board expects updates, the progress can be reported in a general format without unnecessarily identifying the individual.

Ideas: Leadership Education Metrics to Report

- Number of leaders holding all required certifications and degrees
- Number of leaders without all required certifications and degrees who made agreed upon progress on their individual goal this period
- Anticipated time until all leaders have attained their leadership education goals

Public Information, Education, and Relations

For over half a century, with few exceptions, local governments and communities have chosen to embrace a fee-for-service method of supporting EMS agencies. This is different when compared to typical funding for fire and law enforcement agencies that have historically been viewed as essential services. In order to obtain ongoing, additional financial support, EMS needs to keep the community informed of who they are, the critical role filled, level of service provided, cost of services, financial support, dependence on volunteer or low paid staff, and other critical issues.

To gain the public's confidence and build public support of the agency, the public must be provided with the information necessary to form accurate perceptions of the agency. Nearly all agencies experience similar critical issues challenging their ability to provide exceptional quality care. Things such as lack of funding, lack of critical equipment, staffing deficiencies, and

more are common among agencies. When multiple agencies begin to understand and tackle these common problems, it becomes clear to them that sharing resources appropriately, working to establish meaningful partnerships, capturing untapped efficiencies, developing similar strategies for community engagement, and delivering jointly developed messages as by-products of integration is a worthwhile and effective effort. As integration occurs between agencies numerous opportunities surface to deliver important and engaging public messages.

A Public Information, Education, and Relations (PIER) plan delivers messages in an overlapping fashion so that the various components of the audience hear the message more than once. The message delivered, while carrying the same themes, is tailored to the group it is reaching. For example: a message delivered to the parents and coaches of youth hockey will likely be drastically different than a message delivered to a group of nursing home or rehab center staff members, but the key messages embedded in each delivery will be similar. Similarly, messages employed in an effort to form a partnership with a local health care facility will be quite different than from messages focused on engaging local elected officials. A well-developed and executed PIER can provide value to the agency but in a delayed, sometimes indirect and longer-term fashion.

An agency has a finite amount of time to invest in developing a PIER plan. The agency likely has equally restricted access to funds to invest in development and execution. A well-constructed and executed PIER plan can serve multiple agencies without the corresponding effort and financial support needed if each agency

"The public just doesn't seem to understand who we are or what we do. All they know is what they see when the ambulance goes by. Our Captain says we don't have any money in the budget to do ads in the media. That's kind of a demoralizing factor for all of us."

- Volunteer EMT

were to construct their own PIER plan. Work on a PIER plan is a prime target for collaboration. Collaborating here leads to integration within the agencies involved and in the perception of the communities served.

The Purpose of PIER

Reaching the public with information is a small part of an effective PIER plan. Engaging the public is the goal. Built into the messages delivered are a

variety of themes, which are important to the agency as they work to achieve the primary goal. The goal of PIER is to connect the agency to the public in a manner that creates emotional and community ownership in the agency. This includes items such as enlisting the public to be part of the pre-arrival team to establishing a community-based group of advisors to inform the agency on issues important to the community.

In the development of a PIER plan, the agencies involved need to clearly identify and establish the objectives they desire to achieve through their work.

Basic PIER Components

It is first important to establish the objective(s) of a PIER plan. An effective PIER plan does not need to be complicated or overwhelming. What do we want to say; whom do we want to say it to; how will we say it; how will we know if it was understood; when will we repeat it?

Questions: PIER Plan Components

- Who is our audience?
- What do we want to convey to them over the next 12 months?
- What are three ways we can engage our audience?
- What could a community advisory board do to help?
- Who would make good members of a community advisory board?
Does this represent our entire community?
- Do we have a budget? How many dollars; how much time can we invest?
- Does the public know how to call our agency?
- Does the public know what to do for a patient after they call the agency and before the agency arrives?

Key Messages

Embedded in each effort associated with engaging the public are key messages. Key messages may vary depending on the audience. However, some information about the agency and about EMS in general will need to be conveyed every time the public is engaged. It is important for the agencies working together to collectively decide what that is. Perhaps it is to make it second nature for the public to know “paramedics are ready to help.” Maybe it is “help is as close as your phone.” Do community members know the paramedics are professionally trained because the agency “cares about their community”? Perhaps it is something deeper that causes the public to think of the hope brought to their side by a response. Although EMS nationwide fills similar roles, the role the agencies in your integrated system fill may be recognized differently than those of other agencies. Work to discover the messages most valuable and informative for your communities.

Questions: Key Messages

- What do our stakeholders need to know about us?
- What messages need to be conveyed that directly support patient care?
- How would the public know one of our practitioners is part of our agency?
- Does the public know what to do for a patient after they call the agency and before the agency arrives?
- Does the agency know how many calls it responds to each month?
- What messages will convey the needs of the agency?
- Does the public know where our funding comes from?
- Does the public know what purchases are made; what expenses are covered by the revenue we receive?
- What is the value of the donated (volunteer) time given to the agency?
- With integration, should the public expect to see a neighboring ambulance in our service area?
- Are there others already doing what we are thinking of that we could learn from?

Messages on integration efforts should be included in the PIER plan. When the decision has been made to engage in integration with other agencies there is great value in delivering key messages to the public and other users of the agency. Efforts to inform and engage the public early on in the process of integration with well thought out messages will prepare the community and ideally help them understand the value integration brings to those who rely on each agency.

Any information woven into key messages that support patient satisfaction will serve the agencies well. Messages need to convey (anonymously as necessary to protect the patient's personal information) the relief, the hope, the sense of security, and the reliability experienced by the patient and demonstrated by the agency.

Integration Action Steps: PIER

- Develop objectives for the PIER
- Recognize opportunities to inform and educate the public
- Determine key audiences to connect with
- Create messages for key audiences
- Identify opportunities and engage with key audiences
- Evaluate effectiveness and success of efforts
- Measure, record, and report progress; adjust as needed

Each step taken in building and deploying a PIER can be directed by effectively using a simple strategy and tactic model.

Example: Determine Key Audiences Objective and Step-by-Step Development

Objective #1: Determine key audiences to connect with.

Step #1a: By (date) (who) will engage a group of 10-12 individuals to create a list of stakeholders using a nominal group process.

Step #1b: By (date) (who) will work with a group consisting of three-to-five members from each integrating agency to validate the list of stakeholders.

Step #1c: By (date) (who) will present the final list of key stakeholders to the larger integration work group.

Lack of information presented to those who knowingly or unknowingly rely on EMS for their own well-being can impede the delivery of care that group may need. In a similar fashion, lack of properly conveyed messages to policy makers and those who serve in various political positions can threaten the existence of an agency when those policy makers are unaware of critical information about the service provided by the agency.

Ideas: PIER Metrics to Report

- Objective(s) for the overall plan are in place; Yes or No
- Number of key messages developed this period
- Number of key audiences identified to be reached
- Number of key audiences reached this period
- Feedback reviewed from each effort

Measure, Record, and Report

Knowing the status of your PIER is important. Understanding what has been completed, left incomplete, and knowing the reach of the efforts will help those working on the plan and those responsible for the agency to stay on track and be prepared to provide support.

Safety

There is likely no other aspect of pre-hospital emergency care that is more difficult for an agency to deal with than their own safety.

It is time consuming and often difficult to assure an agency is establishing and maintaining a clear perspective on safety and prevention. Part of that effort is having well-guided safety policies in place to set direction for all operations. Identifying current and future threats, developing plans to reduce those threats, participating in and drawing from national reporting systems, and continuing to do so in the ever-changing environment of society is a daunting task for any agency. An agency has an improved opportunity to positively impact issues that threaten the well-being of their patients and their staff if they work collaboratively with other agencies and integrate knowledge from outside agencies.

“Threats to EMS practitioners continue to change and sadly seem to be increasingly focused on harming the individual by means of physical attacks on the practitioner, in large part due to impairment of the patient caused by drugs, alcohol, and mental health crisis. While that in and of itself is alarming and significant, the threats of vehicle crashes, equipment malfunctions, as well as unsafe practices by agencies and practitioners remain significant.”

- Near Miss Data Coordinator

Near-Miss Reporting

Knowing what the industry is facing is crucial to an agency’s safety policies. The local environment is applicable to the development of their policies; however, the changing landscape of EMS nationwide mandates a broader review of potential issues and concerns. Until agencies understand what threats exist, it is difficult to develop a means to counteract immediate and potential threats. Combining and comparing an agency’s efforts with other agencies by participating in a large nationwide reporting effort can help. Joining a national reporting system allows the agency to review national reports and compare with their own experience.

Collaborating in Safety

Integration of agencies is can have a positive impact in regard to safety. Agencies can formally or informally align and interact to build solutions to

counteract specific threats. Although not exhaustive, some examples of threats to the safety of patients and practitioners include:

- Violence against practitioners: National data indicates violence against practitioners is increasingly common (LaCroix, 2019). Safeguards necessary to reduce and ideally prevent such violence is not unique to a specific agency. Agencies can benefit from reporting and sharing specific information related to types of incidents reported. Once reported, summary data can be valuable in establishing best practices as well as defining equipment and training needs.
- Vehicle-related accidents and injuries: Tapping into existing data to recognize established benchmarks and applying them to integrated agencies minimizes time and resources. Gaining a picture of a site-by-site record is valuable but having comparison information is critical to mitigate hazards.
- Near miss incidents involving equipment: Knowing your agency had an issue with a particular piece of equipment that could have injured a patient or practitioner can lead to preventative actions. Sharing that information with a broader national audience anonymously or in a protected environment provided by a patient safety organization (PSO) multiplies the impact by creating awareness. Like-minded agencies are able to compare data and vendors are made aware of similar events. The non-profit Center for Leadership, Innovation, and Research in EMS (CLIREMS) has such reporting mechanisms:
 - The Emergency Medical Error Reduction Group (EMERG) is a federally listed PSO whose vision is “to facilitate a cultural shift within the emergency medical community to embrace a fully integrated, rapid, and continuous improvement effort that reduces the occurrence and impact of accidents and preventable errors on providers, patients, and the populations served.” (Center for Leadership, Innovation, and Research in EMS, n.d.).
 - The EMS Voluntary Event Notification Tool (E.V.E.N.T.) (Center for Leadership, Innovation, and Research in EMS, n.d.) is North America’s only paramedic service oriented anonymous patient safety, paramedic near miss, and violence against paramedics portal. E.V.E.N.T. publishes quarterly and annual summary statistics on anonymous reports.

Integration Action Steps: Safety

- Identify safety policies and initiatives of each agency
- Identify most prominent safety threats of each agency
- Develop a plan with achievable goals to reduce specific threats
- Identify a regional or national reporting system in which to participate
- Develop a plan to use regional or national agency data to monitor risk
- Monitor the process; create and execute new plans as needed
- Measure, record, and report progress

As part of a larger objective, the strategy below, when fully executed, will provide meaningful input into a developing plan.

Example: Back Injury Reduction Objective and Step-by-Step Development

Objective #1: Assess our present experience related to back injuries.

Step #1a: By (date) (who) will research best practices used by 12 other agencies to reduce back injuries.

Step #1b: By (date) (who) will identify what activities were being engaged in when injuries occurred over the past 36 months.

Step #1c: By (date) (who) will engage our practitioners and collect input on what they recommend we do to decrease back injuries.

Step #1d: By (date) all three groups will construct and present a recap of their findings to the “back injury reduction team” for inclusion in our “Back Injury Reduction Effort.”

Measure, Record, and Report

Measuring progress in safety initiatives can be as varied as the agencies involved. The measures do not have to be complex. If something is measured, focus is established on the issue with responsibility to progress and inform stakeholders.

Ideas: Safety Metrics to Report

- Current number of safety policies standard among participating agencies
- Number of vehicle accidents this period
- Number of vehicle accidents per 100,000 miles, 12-month rolling average
- Number of back injuries this period
- Number of back injuries per 1,000 billable calls, 12-month rolling average

Partnerships

The topics already covered in this guide, including the embedded call to move towards standardization and integration in each of the sections, are fundamental in preparing for a partnership. Partnerships develop when more than one organization focuses on patient care and find ways in which to improve patient care by working together. Partnerships can be developed out of necessity. Partnerships can also develop as agencies consider how they may align to form a solid, interagency response to needs of the patients in the community. Whether strictly EMS-related or related to a partnership in which EMS skills are valuable and easily translated into an expanded function, partnerships serve the patients and agencies well.

However, partnerships inherently must and do measure and account for financial need, which may cause the developing partnership to either thrive or die. Finances must consider the downstream positive impact of investments made in the operational costs of developing partnerships.

Questions: Partnerships

- What could patients in our area benefit from if we did things a little different?
- What needs do other agencies near us have that we might be able to help with?
- What other agency can we work with to compliment care provided and systems developed?
- What agency could best use our core competencies to enhance their efforts?
- What formal or informal partnerships exist between various health care agencies in our agency's service area? How about between similar agencies in neighboring service areas?
- Who would be a contact within another agency interested in thinking through possible patient-benefiting partnerships?
- Are there others who are already doing what we are thinking of that we could learn from?

Why Partnerships

A variety of established partnerships focus on specific needs within a community. Partnerships can be as varied as the agencies involved and the communities served. Examples of partnerships formed could include:

- Three small independent ambulance services announced they were consolidating with each other under a newly created leadership design to streamline their work with a goal of becoming more effective.
- In a mostly rural county, 21 agencies with a wide array of services formed a partnership to build a system that would allow exchange of important medical information, so the patients could gain access to needed services.
- A mental health professional group and local advanced level ambulance service formed a partnership to provide a response to local patients experiencing a mental health crisis. This allowed the patient to access the care needed without starting at the beginning of a lengthy, burdensome process as a patient relying on a 911 response

and subsequent emergency department, hospital admission, and ambulance transfer to a facility that could provide the needed care.

- In a rural setting, specially trained paramedics use their skills to work closely with population health in a health care market that has 60% shared risk population. The goal of the work is to help the patient, understand how their diet, weight, medication regimen, and personal choices affect their overall well-being. This is done by two to three visits each week by a paramedic.
- Four volunteer EMS agencies, serving relatively small populations, rely heavily on each other to assure a response is activated within set timelines while recognizing that none of the four agencies have the ability to staff their agency for immediate response 24-hours a day, seven days a week.

These examples serve as illustrations of unique partnerships established between agencies. They are quite different from each other in terms of why they were developed, and roles filled by various participants in the partnership.

It is prudent for each agency to be thinking ahead about developing partnerships. Presently, the Centers for Medicare and Medicaid Services (CMS) is establishing pilot programs as part of the Emergency Triage, Treat and Transport (ET3) (Center for Medicare and Medicaid Innovation, 2019) initiative that may lead to significant reimbursement strategies for agencies that transport patients covered by their programs. The pilot programs require collaboration between agencies and a variety of health care practitioners as a functional model in the future. Having established partnerships and knowing capabilities various practitioners bring to the table is the backbone to enhanced patient care. Establishing partnerships now and making improvements in those partnerships is necessary to develop a model for a CMS demonstration project.

Recognizing the Need for Partnerships

When a need is recognized, a responsive agency will attempt to address the need and look to find solutions. Quantifying the need is a reasonable starting point. When an agency is able to report “this situation occurs three times every week,” or “this group of patients are transported routinely on the third day they are home from the hospital,” direction for the next step can be set.

Ideas: Identifying Potential Partners

- The community health or population health staff in a specific medical group would like to know that the agency has identified three things patients who have been recently discharged from a hospital are having difficulty with.
- The mental health crisis team would benefit from knowing circumstances around the last mental health transports the agency provided that may have been mitigated at home if resources were made available to the patients.
- Your neighboring agency may be equipped to make better decisions if they were provided with a status report of your availability when they are low on volunteers.

Sharing Information

An effective way to begin the effort of building a partnership is to share information. Sharing information (data) also conveys openness, which is not always inherently present between agencies. Progressive agencies move past the concern of holding their information tightly.

Investing Effort in Development

Agencies involved in exploring improvement through integration and building partnerships have the ability to see the greater good that lies behind effort. There may be no immediate return on the effort invested in development of a partnership addressing needs. It may very well be that four out of five such efforts will never mature. However, the payoff in terms of benefits to the patients and to those building the partnership are great when that one effort does mature.

The agencies involved will need to provide the necessary staff time to engage in brainstorming, all the while allowing for as many varied and even conflicting ideas be presented. The more ideas presented, the greater the possibility a plan will succeed. The goal of improving patient care and the systems being served needs to be kept in focus.

Develop Plans

The team needs to lay out plans that include the role of each partner agency. The role filled will be most effectively executed when each agency is tapped to use a core competency they bring to the partnership.

Plans must be in writing. Boundaries defining functions of roles must be clearly laid out. Outcomes at each step of the plan must be articulated. Expectations of handing off information and coordinating efforts must be included.

Moreover, clear and concise goals of the partnership should be put in writing. These goals can be simple, they can be operationally oriented, but they should show benefit to the patients served as well as what the partners are hoping to see from their agency's perspective (i.e., decrease in readmissions from this patient group; decrease in ambulance transports for this patient group; increase in post-discharge medication compliance, etc.).

Agreement on funding for a trial period or an initial implementation period must be understood. Oftentimes the initial funding is aligned by determining which partner normally would do which piece of the work and then gaining agreement that each partner will bear the financial obligation for the part they do for a specified period of time. A financial document detailing the original and on-going costs (including in-kind costs) of the partnership needs to be created and maintained. This will be useful when other funding sources are found, or long-term commitments need to be made.

If a plan doesn't work, it is generally because the plan was not clearly laid out or fully documented. This area of the developing partnership must be done with painstaking care. All details need to be documented, including need, publicity so patients know of the availability of the service, requests received, dispatch or deployment of services, care provided, planned follow-up, and service recovery and resiliency.

Align Resources

Each partner approaches a partnership with strengths, core competencies, and recognized unique capabilities. Each partner approaches it knowing they are not solely equipped to assure the plan is executed fully and that they

must rely on their partner(s) for help. In a strong and developing partnership, each partner contributes from their strengths and receives help in areas where they have a deficit in expertise, knowledge, and clinical competency. Recognizing this, the team developing the plan will easily see who is best suited to fill which role. As resources are aligned, it is important to formally state which partner will fill a specific role.

Deliver Service

Once the steps noted above have been completed, it is time to deliver the service which has been planned. By now, as part of the planning, it is known who the market is, how those identified will access the service, and what the response will be when the service is requested.

Measure, Record, and Report

Knowing which goals have been met or are on target, as well as knowing which goals have not been met allows the partners to focus efforts appropriately. Based on the goals originally created, the foundation of the work is laid. Modifying those goals appropriately, including adding or eliminating goals, demonstrates a maturing plan. Changes should be made based on outcomes, anticipated changes, and identified needs.

Patient satisfaction feedback is an important component of monitoring service delivered. If a partner has a process for obtaining feedback from endpoint users, that existing process could be used.

Having a small number of metrics to measure and report on over an extended period of time is to describe the success of the partnership to the community and stakeholders.

Integration Action Steps: Partnerships

- Identify unmet needs of patients and agency
- Identify possible partner(s)
- Invest effort in beginning the partnership
- Develop plans, including clear and concise goals
- Align resources held by partners in appropriate ways
- Deliver service
- Monitor and improve delivery and the function of the partnership

Conclusion

Integration within EMS occurs as systems mature and continue efforts to sustain and improve patient care. A variety of factors lead to and demand integration. Changing demographics, evolving reimbursement models, refined quality standards, and operational goals all cause individual agencies to discover improved means to continue providing patients with excellent care. Clinical effectiveness and operational efficiencies can be maximized when agencies integrate.

While integration can be a complex and overwhelming effort, approaching integration in a carefully prescribed manner enables a large effort to be accomplished through manageable steps. Content of this guide is intended to provide guidance on a select number of topics. Methods presented within this guide for use with a specific process or topic can be extracted and applied to other areas of integration not addressed.

Attempting to accomplish integration in one sweeping motion may be desirable for many reasons, and some situations require that. More often it is wise to approach integration in a thoughtful, deliberate, and measured manner. Addressing a limited number of processes to work through initially allows those serving in leadership roles in the integration to monitor, measure, and adjust. The work implied and the methods referred to in this guide should be viewed as an art, something to be fashioned, as compared to a mechanical undertaking. People are involved, from patients to practitioners, and the impact on every group involved can be large. Moving slowly and orderly while communicating the essence of every effort will pay

dividends as the integrated agencies emerge as a newly combined entity, first in one process, then in two, and eventually in its entirety.

Focusing on the value such work brings to the patient will serve as a solid foundation for integration.

References

Center for Leadership, Innovation, and Research in EMS. (n.d.). Retrieved from EMS Voluntary Event Notification Tool (E.V.E.N.T.): <http://event.clirems.org/>

Center for Leadership, Innovation, and Research in EMS. (n.d.). Retrieved from Emergency Medical Error Reduction Group (EMERG): <https://www.emerg.org/>

Center for Medicare and Medicaid Innovation. (2019). *Emergency Triage, Treat, and Transport (ET3) Model*. Retrieved from <https://innovation.cms.gov/initiatives/et3/>

LaCroix, B. (2019). *National Association of EMTs (NAEMT)*. Retrieved from [http://naemt.org/docs/default-source/2017-publication-docs/3-naemt-news-summer-2019-06-27-19-\(1\).pdf](http://naemt.org/docs/default-source/2017-publication-docs/3-naemt-news-summer-2019-06-27-19-(1).pdf)

National Association of EMS Officials (NASEMSO). (n.d.). Retrieved from <https://nasemso.org/about/state-agencies/>

National Highway Traffic Safety Administration. (1996). *Emergency Medical Services (EMS) Agenda for the Future*. Retrieved from <https://www.ruralcenter.org/resource-library/ems-agenda-for-the-future>

National Highway Traffic Safety Administration. (2019, January). *EMS Agenda 2050*. Retrieved from <https://www.ems.gov/projects/ems-agenda-2050.html>

National Organization of State Offices of Rural Health (NOSORH). (n.d.). Retrieved from <https://nosorh.org/nosorh-members/>

Wisconsin Office of Rural Health. (2016). *Attributes of a Successful Rural Ambulance Service*. Retrieved from <http://www.worh.org/attributes-successful-rural-ambulance-service>