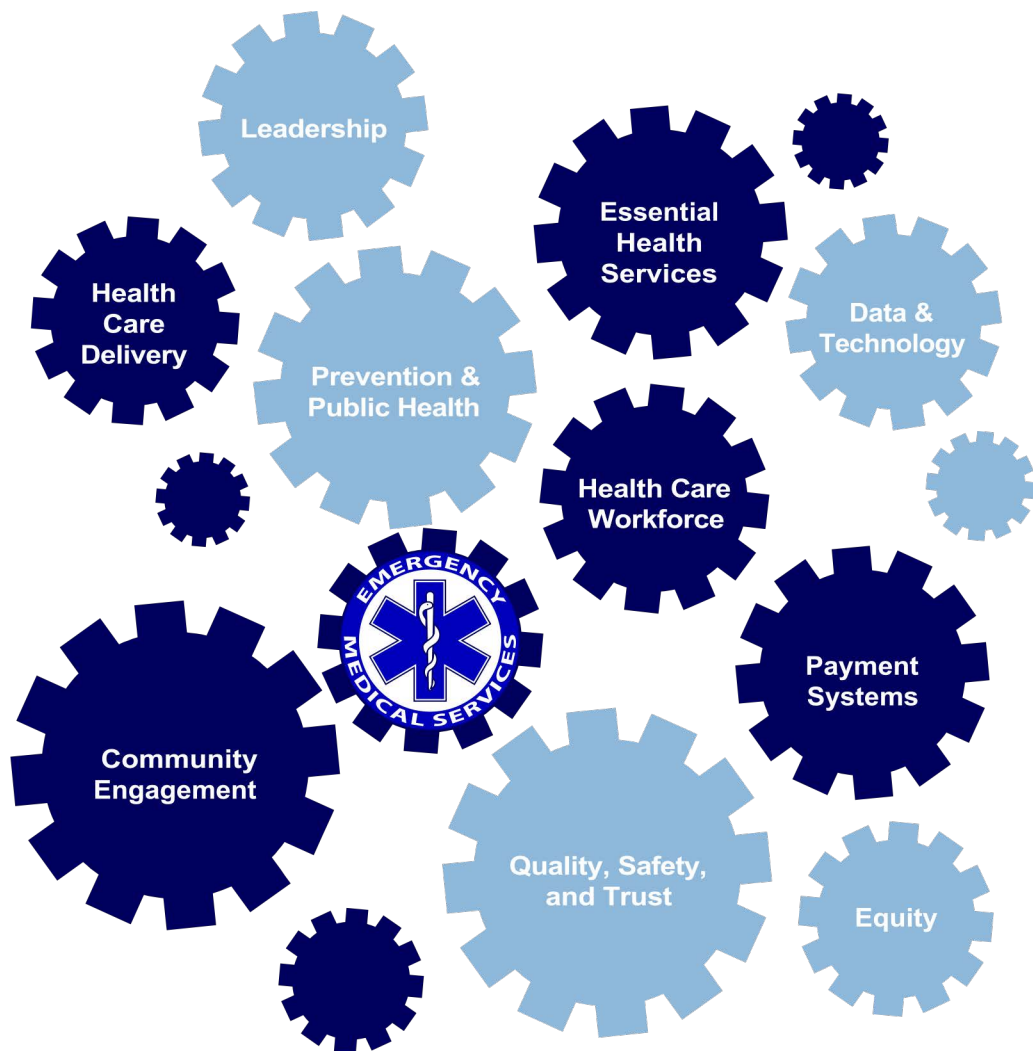


Engaging Communities to Preserve Access to Emergency Medical Services in Rural Maine

October 2020



We are: a group of concerned rural health experts and stakeholders from business, philanthropy, education, health, and social services.

Introduction

As rural hospitals close and other medical services centralize around urban hubs, rural emergency medical services (EMS) have become increasingly relied upon by the communities that they serve. The EMS personnel staffing them have always served as informal medical advice and care resources for their neighbors. In Maine, the percentage of patients who call 9-1-1 for an ambulance, receive treatment in place, and then aren't transported to a hospital has always been higher the more remote the setting. In over a dozen Maine communities, this non-emergency health role has been formalized as "community paramedicine" by EMS agencies to address otherwise unmet health needs. This growing non-emergency use is happening while preventable emergencies are increasing in number, presumably because primary care is less accessible. At the same time, the need to transport patients to or between more distant remaining hospitals adds to EMS demand. This growing burden threatens to crush services that grew from volunteer roots and are already encountering workforce and financial barriers.

This paper goes to the heart of assuring EMS response in emergencies: that EMS capabilities in a given community are understood by the community, that they are the type and level desired, and that they are adequately paid for by those who depend upon them.

The COVID-19 emergency will have underscored how fragile rural EMS resources are and how little the public knows of what they are and are not capable. COVID-19 is a particular threat to older individuals. The National EMS Assessment 2020¹ shows that the average age of EMS licensees is 60 years or older in 9% of the states reporting. EMS responders from 70 to over 89 years of age are still working, and experts believe that most of these older clinicians are part of rural volunteer systems. Maine is similar with almost 1 in 10 EM licensees over 60 years of age and 1 in 4 EMS responders over 50 years of age. The Town of Houlton experienced a threat to their EMS response when core crew members were diagnosed with COVID-19. Rural hospitals have experienced acute difficulty in arranging interfacility transfers when the local ambulance service refused to take COVID-positive patients.

As communities examine their emergency health preparedness in this and other health and medical emergencies, a process like Informed Community Self Determination (ICSD), as described in this paper will be invaluable. It proved beneficial in Jackman, Maine (an example cited below), despite COVID-related inability to hold in-person town meetings, because it aided voters in being informed about a complicated health clinic decision that they needed to make.

The Maine Rural Health Action Network (RHAN) is an initiative of rural health experts and stakeholders from business, philanthropy, education, health and social services which targets Maine's growing rural health care crisis. RHAN members believe that access to emergency medical services is a foundational component of the rural health system and consider EMS to be an essential building block of rural health access. EMS is addressed in a paper written by a RHAN member, *Building Blocks for Healthy Rural Communities: Guidelines and Foundational Services*.²

This paper focuses on rural EMS issues, and how ICSD might be implemented to address them in Maine. However, the issues are almost universally experienced in rural America and this tool has been developed and endorsed by national rural emergency care experts and groups. It is now being considered for use in several states.

Rural EMS Realities Don't Match Community Expectations

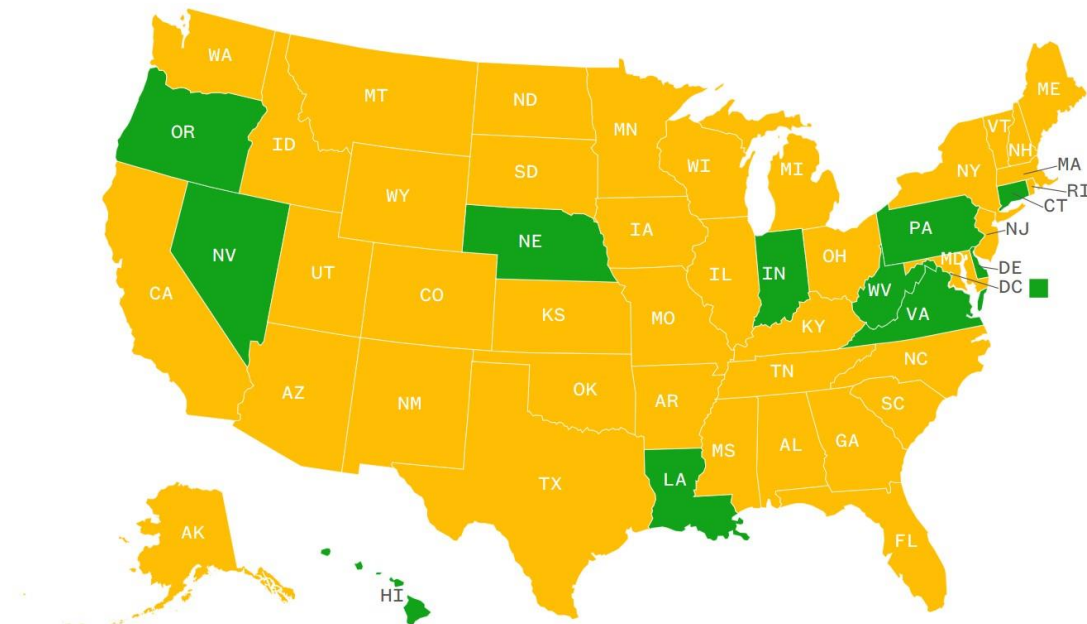
In more than a dozen rural communities in Maine, the continued availability of local emergency medical services is seriously threatened by challenging finances, workforce shortages, and other problems. In most cases, citizens expect that emergency medical services are available should they need them. Moreover, they expect those services to have a very high level of capability to handle complex, life-threatening problems.

It would be a surprise to many, however, that with very rare exceptions (estimates vary between four and fourteen states), emergency medical services are not considered an “essential service” assured by state statute or by other incentives such as fire department rating impact on the cost of homeowner’s insurance.^{3,4,5} Indeed, as indicated by one study illustrated below, only 11 states have laws designating EMS as an “essential service”. Yet, if rural citizens were asked what local health services they consider most important, EMS would likely rank at the top of the list.

EMS services deemed essential in only 11 states

Unlike fire and police departments, EMS agencies are not considered an essential, or required, service in more than half of the country.

■ EMS is essential ■ EMS is not essential



Source: NBC News “Inside the collapse of America’s emergency medical services.” <https://www.nbcnews.com/health/health-care/there-s-shortage-volunteer-ems-workers-ambulances-rural-america-n1068556> (state data sourced from state health departments and state EMS agencies).

In 1993, a consumer survey conducted for Maine's Office of Emergency Medical Services revealed that 87% of respondents expected that a 9-1-1 call for a heart attack would be answered by the highest level of equipped and trained paramedics. Popular media representation of EMS has reinforced these expectations. In most urban areas, EMS agencies run by municipalities, health systems, or private companies have developed capabilities that meet these expectations. In rural communities, however, mostly volunteer-based EMS providers have struggled to remain viable, let alone meet the very high standards of urban-based EMS systems.

Rural EMS Capacity Has Evolved Unevenly

In rural areas, volunteer ambulance services have tended to be the foundation of ambulance response. While rural communities throughout the 1970s seemed to generate an adequate supply of community members willing to take first aid, first responder, and EMT courses and serve for a variety of personal reasons, the 1980s brought new pressures that threatened the rural volunteer-based model. Changing economic circumstances required families to pursue more than one paycheck, reducing their ability to volunteer their time. In addition, while advanced EMT and paramedic life support capabilities offered the temptation for ambulance services to do more for patients with enhanced equipment, the requisite training, experience, staffing, and continuing education to provide advanced care became almost prohibitive on a volunteer basis.

A declining supply of volunteers precipitated the need to pay staff, often token amounts, to be on call and/or for their time while on calls. If this model failed to produce sufficient volunteers, many rural ambulance agencies then had to adapt their staffing models from completely volunteer-based to a mix of paid and volunteer staff. Patient billing and local government subsidy revenue were then often added to that generated from traditional volunteer-run bake sales and community suppers to enable agencies to pay staff.

While many Maine EMS agencies have transitioned to a purely paid or mixed staffing model and are able to provide paramedic response, progress has stagnated in many rural communities. This is largely because of increasing workforce challenges. Lower volume services are often unable to generate sufficient patient-based revenue to meet the pay requirements to compete for advanced EMTs and paramedics. They settle for providing solely basic EMT level care, or basic level supplemented occasionally with advanced care when such staff are available.

In most cases, rural EMS has evolved haphazardly. Its very existence is largely based on the generous donations of time, self, talent, money, and energy of community volunteers. Its fate thereafter balanced these nurturing factors with complex and sometimes destructive ones. These included staffing pressures, increasing requirements for training and equipment to meet perceived needs to provide more advanced service, lack of management training for volunteer leaders, local politics and personalities, conflicts among local EMS leaders, and other local factors.

State and national EMS leaders periodically provided tools such as volunteer agency management training, as well as recruitment and retention resources. EMS agency leaders did take advantage of these when available, but over time these resources would wane and those who had used them faded from the system. This left newer generations of leaders to pursue band-aid fixes as issues or needs arose, typically without a longer-range plan for ensuring the sustainability of local emergency medical services.

The Fate of Rural EMS Is Linked to Other Rural Health Services

Adding to the challenge of assuring rural EMS, a growing number of rural communities in Maine have lost or are at high risk of losing key components of their health care system, including community hospitals and specialty medical offices.

The remote community of Jackman, Maine, and its local EMS are currently facing a potential reduction of hours and services at the community's health center. For over two decades, Maine EMS has allowed the Jackman ambulance to transport patients to the health center's 24/7 emergency facility, despite the absence of an attached hospital. This saved the volunteer ambulance service many 90-minute transports to hospitals for conditions that could be handled locally. Any scaling back of local health center operations will mean more long transports that create an added burden on EMS volunteers, as well as extended periods when the ambulance is not present in the community to respond to other emergencies. Ironically, with decreased availability of the health center, more ambulance calls will also result.

More and more rural EMS agencies are experiencing increased call volumes from patients who are underserved by primary care. These agencies have more calls for issues which primary care might have prevented, longer transports to remaining health care facilities when local services close, and are increasingly being called upon to do interfacility transfers between distant facilities for patients from the community.

All of these pressures exacerbate the challenge of providing adequate EMS response to a citizenry that may be unaware of the response limitations that increasingly exist. In the extreme, the public's first awareness of an EMS problem occurs when the ambulance service closes its doors. This occurred in Ellsworth in 2018 where, with eight days' notice, the community lost its EMS provider, leaving Ellsworth and 17 other Maine towns without service. A Bangor regional EMS agency stepped in to cover that area, but the resulting solution for some of those towns remains uncertain as they debate continuing to use Ellsworth-based resources or trying to support their own.⁶ Similar issues have evolved even more recently in central Aroostook County and in the Knox County area.

Federal and State Resources Are Not Enough to Solve Rural EMS Challenges

It is often said that all politics are local. The same can be said of EMS. Despite federal and state EMS training, wide dissemination of workforce recruitment and retention tools, volunteer ambulance service leadership development, and other improvement programs, few have successfully mitigated the on-the-ground challenges that local EMS agencies and rural communities face.

In addition, ambulance certification/accreditation programs, which ensure some level of quality response, are not financially practical for most rural EMS agencies. Defining and establishing a standard "minimally acceptable" EMS response capability has been discussed nationally for decades, failing to gain traction because of debate over the definition of "minimally acceptable" and the looming objection to unfunded mandates.

Similar issues revolve around having states declare EMS to be an essential service like police response. The end result is that many EMS agencies lack the capacity to provide adequate basic or more advanced services to meet their communities' expectations of what will be available when they dial 9-1-1.

Recognizing this growing problem, state and national EMS leaders have proposed a different approach to helping rural communities evaluate and plan for building a more sustainable local EMS capacity and services. The model, labeled “Informed Community Self-Determination” (ICSD), engages citizens in rural communities to work with EMS experts to develop a plan for local emergency medical services. With expert support, ICSD engages community members in an evaluation of their EMS system capacity and, based on an assessment of specific options, what they could expect in the future, and at what cost.

In the remainder of this paper, the ICSD model and its applicability to rural EMS in Maine are described. The final section presents discussion of the community engagement approach used in the ICSD model and how it might be offered in Maine with the goal of ensuring continued access to emergency medical services in Maine’s rural communities.

ICSD: A New Community-Centered EMS Planning Model

The *Rural and Frontier EMS Agenda for the Future*, a book published by the National Rural Health Association (NRHA) in 2004⁷, proposed the informed community self-determination model of community-engaged planning to help communities and local EMS agencies co-design services that fit with local resources and capacities and that reflect community preferences.

Most simply stated, ICSD is designed to credibly inform taxpayers regarding the type and level of EMS they currently have, reveal flaws or limitations for the agency to address, explain alternative levels of basic or advanced care and types of response that could be available, approximate the cost of adopting those alternatives, and facilitate a taxpayer decision to fund their current coverage or adopt a new plan. The ICSD process also provides the basis for discussion of comprehensive and innovative financing models, including out-of-community subsidies by state or county governments for essential levels of service.

Specifically, ICSD provides a process in which:

- An outside expert or entity conducts an objective evaluation of the EMS agency using a standardized evaluation tool;
- The evaluator reports openly on the level of care, method/speed/availability of response, and any issues which affect those factors;
- The evaluator reports to the agency leadership any deficiencies which jeopardize service performance in order that they can be addressed immediately by leadership or entered into the ICSD discussion as indicated;
- Based on accepted national practices and state EMS law and regulations, options are presented and their implementation and financial impacts explained in terms of costs, projected revenues, other sources of funding, and the effects of changes on local, tax-based subsidies; and
- The community holds one or more meetings of taxpayers and/or their representative decision-makers to select a level and type of service it desires and establish the level of funding needed to implement and sustain it.

The 2004 NRHA report describes the aspiration of ICSD:

As a result of informed self-determination, communities without access to systems of advanced levels of care, and/or that have difficulty raising sufficient crew to always respond, devote financial resources and/or find alternative methods of making more effective use of existing resources (e.g., community paramedicine approach or combination of other community jobs) to increase levels of care and staff availability. Annual EMS system evaluations are done by a local team including community members and local leaders, using the standards, recommendations, and baseline data contained in the original community EMS system assessment report. These evaluations are shared with the community, along with public education on the appropriate use of the EMS system.

A basic premise of the 2004 NRHA report and the proposed ICSD model is that every rural community should have the opportunity to have a community EMS system assessment conducted by an objective technical assistance team from outside that community. The model presumes that the assessment team would conduct a local, on-site evaluation to provide a baseline review for community and agency leaders of their local EMS system's current capabilities. The baseline would be adjusted and the adjustments funded by the tax base or other resources, and used to measure progress in future bench-marking for the EMS agency.

Community Self-Determination in Maine

The informed self-determination principles and process have been used to some degree in several ambulance service evaluations. In Maine, they were used successfully in planning efforts throughout Franklin County in 2001 to 2003 and in St. George in 2010.⁸

Franklin Memorial Hospital was tasked with integrating five ambulance services that covered Franklin County into one hospital-based service. It accomplished that, but was faced with converting the reimbursement methodology for those services under Medicare from independent ambulance services to hospital services. The towns in Franklin County had paid ambulance subsidies previously but the hospital, faced with the new less advantageous reimbursement reality, was forced to request substantial subsidy increases. To provide some options, ICSD was employed to offer different levels of service at different subsidy rates (basic EMT or paramedic levels). Over a year, the choices were explained to town budget, town select board, and general town meetings. All towns eventually selected coverage at the paramedic level.

In Saint George, the local volunteer EMS agency was faced with an inability to provide paramedic coverage to five villages spread along a peninsula. A secondary challenge was the significant elderly population living at home who, without community support, were transitioning to long term nursing care outside the community at significant distance. The economic goal was to see if the project could keep nine residents safely at home for at least nine additional months. The long-term tradeoff to MaineCare would more than cover the cost of adding a full-time paramedic to the community. The ICSD process brought the community together, resulting in a transformation of the budget and the identification of resources to develop a community paramedic project, assure 24-hour paramedic coverage, and develop new community-wide strategies to help the significant elderly population continue living safely at home.

National Acceptance of the ICSD Model

Nationally, ICSD has gained little momentum, largely because it initially lacked a standard template that potential evaluators might use. More recently, the Joint Committee on Rural Emergency Care (JCREC), a committee of the National Association of State EMS Officials, the National Organization of State Offices of Rural Health, the National Rural Health Association, the National Association of EMS Physicians, and the National Rural Health Resource Center's Technical Assistance and Services Center, has formally embraced the concept of ICSD in its workplan and in a forthcoming follow-on document to the 2004 NRHA report. They have prioritized the creation of an ICSD template with which to train statewide cadres of evaluators who might employ the methodology. In addition, the Federal Office of Rural Health Policy is allowing states with funding from the Rural Medicare Hospital Flexibility Program (FLEX) to explore its use in community EMS evaluation projects. In 2019, two members of the national EMS agency evaluation community received grant funding to create and publish a draft ICSD process template which is now available.⁹ The template is undergoing JCREC consensus review and is expected to be piloted in at least two western states in 2020 as the COVID process allows. The template provides states and EMS evaluation teams with a more structured process and specific tools for employing ICSD in their EMS evaluations.

ICSD Gives Rural Communities System-Wide Perspective

In 2018, an ad hoc group of health professionals began meeting to establish a policy and action framework for addressing Maine's rural health challenges. With a vision of building a modern and sustainable rural health system in Maine, RHAN members (see Appendix C) set forth five major goals for rural health system transformation focused on mobilizing leaders and community partnerships to begin to address Maine's rural health challenges, rethinking rural health delivery systems, redesigning payment systems, leveraging data and technology, and building the essential rural health workforce. With the knowledge that many rural EMS agencies in Maine are facing critical financial and operational challenges and the conviction that EMS is an essential service to which all rural Mainers deserve access, RHAN prioritized EMS as one strategic starting point for addressing Maine's rural health challenges.

Experienced state and regional EMS system leaders have identified at least a dozen rural Maine community EMS agencies and systems at risk for failure across the state. Some of these are in communities where EMS has undergone regional changes with individual communities pursuing different strategies, as in the greater Ellsworth area. Some may be individual EMS agencies where leadership and/or workforce are unstable. Some are in isolated communities where citizens are losing health care services, requiring them to seek care outside the community and often using EMS transportation to do so. Others may be seeking alternative local resources, such as EMS (e.g. community paramedicine), for health care delivery.

To illustrate how the ICSD process works, consider again the example of Jackman, the isolated community in Maine whose residents are having to decide how they want to maintain access to health center services. The health center is currently open 24/7 and used as a transport destination for some ambulance transports. The community's EMS capability, while limited to basic level care, is essentially intact. However, the long-

established local health center is faced with personnel and financial challenges that could force it to reduce hours of availability, leaving the community without the night and weekend urgent care resource it currently enjoys. The only recourse, other than a 90-minute car trip to a hospital, would be to call EMS to either transport them or provide ad hoc treatment in place with the patient subsequently refusing transport. This scenario could significantly increase the EMS call volume with long roundtrips to the most local hospitals. Without sufficient volume to enable the community to employ a full-time paid service to cover during those transports, the current level of service would be jeopardized.

A variant of the ICSD process is being used in Jackman to enable the community to explore options for primary and urgent care coverage. Community members are discussing whether they want a weekday-only clinic coverage scenario to become reality, or whether they want to pilot a transition to off-hours coverage by community paramedics supported by telehealth-linked emergency physicians. The weekday-only option carries no tax increase while the 24/7 access option would increase property taxes. Weekday-only clinic coverage will increase pressure on local EMS, which is allowed by the State of Maine to use the health center as a transport destination for many patients. Inability to do this “after hours” may jeopardize the current EMS workforce, and may require another ICSD process to examine EMS options. If the community chooses to maintain a 24/7 health center access using telehealth-connected paramedics, a marriage between EMS and primary care resources may evolve that addresses their mutual security. Either way, the community will be informed of the consequences of the choices they make.

As this example illustrates, decisions regarding EMS inevitably involve questions about primary care, urgent care, and often hospital services. In rural communities with a hospital, for example, the hospital’s need for inter-hospital transfers directly affects the response capacity of the local EMS provider. One of the potential benefits of the ICSD process, therefore, is that communities have the opportunity to discuss broader needs of the local health system on which they depend for primary care, hospital-based emergency care, and other essential services.

Next Steps: Implementing ICSD Pilots in Maine

The ICSD model holds promise for helping communities secure the future of their emergency medical services. Yet, the model is new to most EMS organizations and communities and, in most cases, requires an expenditure of resources to support the process. The model also requires process dexterity when more than one community and set of decision-makers are involved. For these reasons, the Rural Health Action Network is proposing that the model be formally piloted and evaluated in three to five Maine communities and/or regions.

While the ICSD template is also expected to be piloted in western states in 2020 by a Maine-led team, Maine offers unique benefits for initial piloting:

- There is a supportive state administration environment in which to pilot ICSD and explore other uses for it, such as was endeavored in Jackman. The importance and fragility of the rural EMS system is more broadly understood and appreciated in Maine than in many states.

- The ICSD process and other contemporary EMS system development concepts such as “community paramedic” were crafted in Maine, and those involved are available to refine the Maine pilots as they proceed.
- In addition to Jackman, Maine communities have already been identified that would benefit from the process, and in at least one case, may partially fund the first process.
- Each pilot would employ a national ICSD expert as lead evaluator who also has long experience in Maine’s EMS system. The initial pilots would not require a coordinating entity, as the lead evaluator could contract to serve this purpose on an interim basis. This would provide time to create or select the coordinating entity discussed below.
- In each pilot, a second evaluator (an experienced paramedic service chief) would apprentice under the lead evaluator. By the end of the pilots, a small cadre of ICSD evaluators would be available to the eventual coordinating entity.
- Pilots would enable ICSD system builders to implement the process in a variety of community EMS settings, from single municipality to regional service provision.

Appendix B outlines the steps, time, and effort required to conduct an ICSD assessment and process. The process ideally involves two evaluators. Based on ICSD processes conducted in Maine and other states, the average total cost of an ICSD process is estimated to be approximately \$14,000. This figure assumes average travel within Maine and an average ICSD process. It also assumes that there is essentially one community/municipality with one decision-making process. This was the case for the St. George ICSD process in 2010, but not the 2001-2003 Franklin County experience with 21 towns/plantations and several unorganized townships.

The logistical implications, and therefore costs, may vary widely. It may be necessary to adjust the scope of the process to accommodate complexity. In Franklin County, the options for decision-makers to choose among were reduced to: basic level, paramedic level, or no service from the five EMS bases that now constitute NorthStar EMS (all chose paramedic level). Multiple communities currently being served by a single EMS agency often organize together to contract with that agency. The logistical complexity may be less than it first appears as a result.

To ensure that the ICSD processes are consistent, reliable, and well-coordinated, it is advisable to establish a cadre of trained evaluators coordinated under the umbrella of Maine EMS or another qualified entity. There are many options for managing and coordinating the ICSD pilots. The roles of Maine Emergency Medical Services (Maine EMS), Maine Division of Rural Health and Primary Care, Maine Ambulance Association, Maine Hospital Association and others in helping to manage and/or coordinate the ICSD pilots need to be explored.

Ideally, a partnership of organizations, including philanthropic entities such as the Maine Health Access Foundation and others, can be forged to promote, support, and coordinate the ICSD pilots. This coordinating organization would promote the ICSD concept, schedule processes, administer the financial and logistical details, support and renew the evaluator cadre through classroom training and apprenticeship, and assure performance improvement and program accountability. Assuming that evaluators are experienced paramedic service chiefs, a one-day training program followed by a one- or two-day ICSD process apprenticeship with an

experienced evaluator should suffice to qualify them to lead processes. The purpose and availability of the ICSD program should be disseminated through EMS, municipal management, and hospital and health service networks in the State.

The Rural Health Action Network believes there are communities in Maine that are willing and ready to undertake an ICSD assessment of their EMS system. Some communities will be able to fund the ICSD assessment through their own resources. Others may require funding support.

Conclusion

Informed community self-determination holds promise for addressing the increasingly distressed situation in which rural EMS agencies find themselves today. The future is brighter with recent changes in MaineCare funding of ambulance services and the increasing potential for the funding of community paramedicine. But short of a legislated declaration of EMS as an “essential service” accompanied by the state funding necessary to assure a border to border EMS system capability, the immediate infrastructure needs of EMS in rural Maine can only be addressed by the communities themselves and their EMS agencies. The ICSD process can help the taxpayers of those communities make decisions about how robust their emergency response system will be.

Appendix A

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Appendix B

Estimated Time, Effort, and Cost of an ICSD Process in EMS

The ICSD template discussed in this paper was created and reviewed by EMS systems evaluation professionals. The process ideally utilizes two evaluators. This estimate of time, effort, and cost assumes a single ambulance agency jurisdiction with centralized decision making.

Resources and process required:

- *(Sixteen hours plus up to eight hours travel and expenses, assuming one evaluator travels)*. Meeting among community principals to conduct initial logistical preparation and the development and execution of an agreement between the community (generally one or more municipalities) and the EMS agency on:
 - what the evaluation entails, including process, community interaction and reports,
 - evaluator access to records, personnel, community members and agencies, facilities and equipment,
 - format of community meetings to receive information and make decisions,
 - publication and dissemination of information, and
 - process for implementing community decision and reviewing progress annually.
- *(Twelve hours)*. Pre-visit administration and completion of surveys on agency organization and performance, followed by preparation of results to inform inspections and reporting.
- *(Forty-eight hours on-site and up to sixteen hours travel assuming two evaluators; plus local travel, lodging and related expenses)*. Visit by evaluators to inspect records, facilities, equipment, and to perform patient care report (PCR) run review and conduct approximately thirty interviews. Phone interviews are only utilized for follow-up information or as a last resort for interviewees who are otherwise unavailable. Interviews with hospital and other personnel may require travel outside the locale.
- *(Thirty-two hours)*. Establishment and costing of options, preparation of report and other reporting, logistical and administrative details.
- *(Twenty hours on-site and up to sixteen hours travel, assuming two evaluators; plus local travel, lodging and related expenses)*. Hold community meeting for reporting, option discussion, and option selection.
- *(Five hours)*. Completion and delivery of final report. Logistical and administrative detail completion.

Cost Assumptions (to be adjusted for local EMS pay conventions):

Evaluator resources required are approximately 173 hours, or \$10,380 at \$60/hour. At an average travel distance of 200 miles (\$116 at \$0.58/mile), lodging/meals/incidentals at \$160/person/day, the travel projected above would cost approximately \$2,500. The total direct expenses required would then be approximately \$12,880. A ten percent administrative overhead charge would bring the total to just over \$14,000.

Appendix C

Maine Rural Health Action Network

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