Integrating EMS into Rural Systems of Care

John A. Gale, MS

National Conference of State Flex Programs

July 24, 2013

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

Flex Monitoring Team
University of Minnesota
University of North Carolina at Chapel Hill
University of Southern Maine

Contact Information

John A. Gale, M.S., Research Associate

Maine Rural Health Research Center –U. of Southern Maine

207-228-8246

jgale@usm.maine.edu

Overview

- Flex Program/rural health system development expectations
- Categories of State Flex Program EMS activities
- Opportunities to integrate EMS into rural systems of care
- In-depth Example: Regional STEMI/stroke systems of care
- In-depth Example: Community paramedicine programs
- State Flex Program Role

Health System Development & Community Engagement (HSD/CE)

- 3rd core area of Flex activity - limited to 1/3rd of award
- Flex Programs are required to support CAHs in:
  - Develop collaborative systems of care across the continuum
  - Address community needs; and/or
  - Integrate EMS in those regional and local systems of care.
- Logic:
  - CAHs cannot be viable without community support/CAHs are hubs of local service systems
  - EMS is an integral part of rural health care delivery systems
  - Maximize and rationalize use of scarce local resources
  - Improve functioning of local system of care

HSD/CE Objectives

- Work plan must include at least one of the following:
  - Support CAHs, communities, other hospitals, EMS, community providers in developing local/regional systems of care
  - Support inclusion of EMS into local/regional systems of care including trauma systems.
  - Support CAH/community collaboration on assessments to identify unmet community health needs
  - Support CAH/community collaboration on projects/initiatives addressing unmet health needs
  - Support sustainability/viability of EMS within the community (optional)

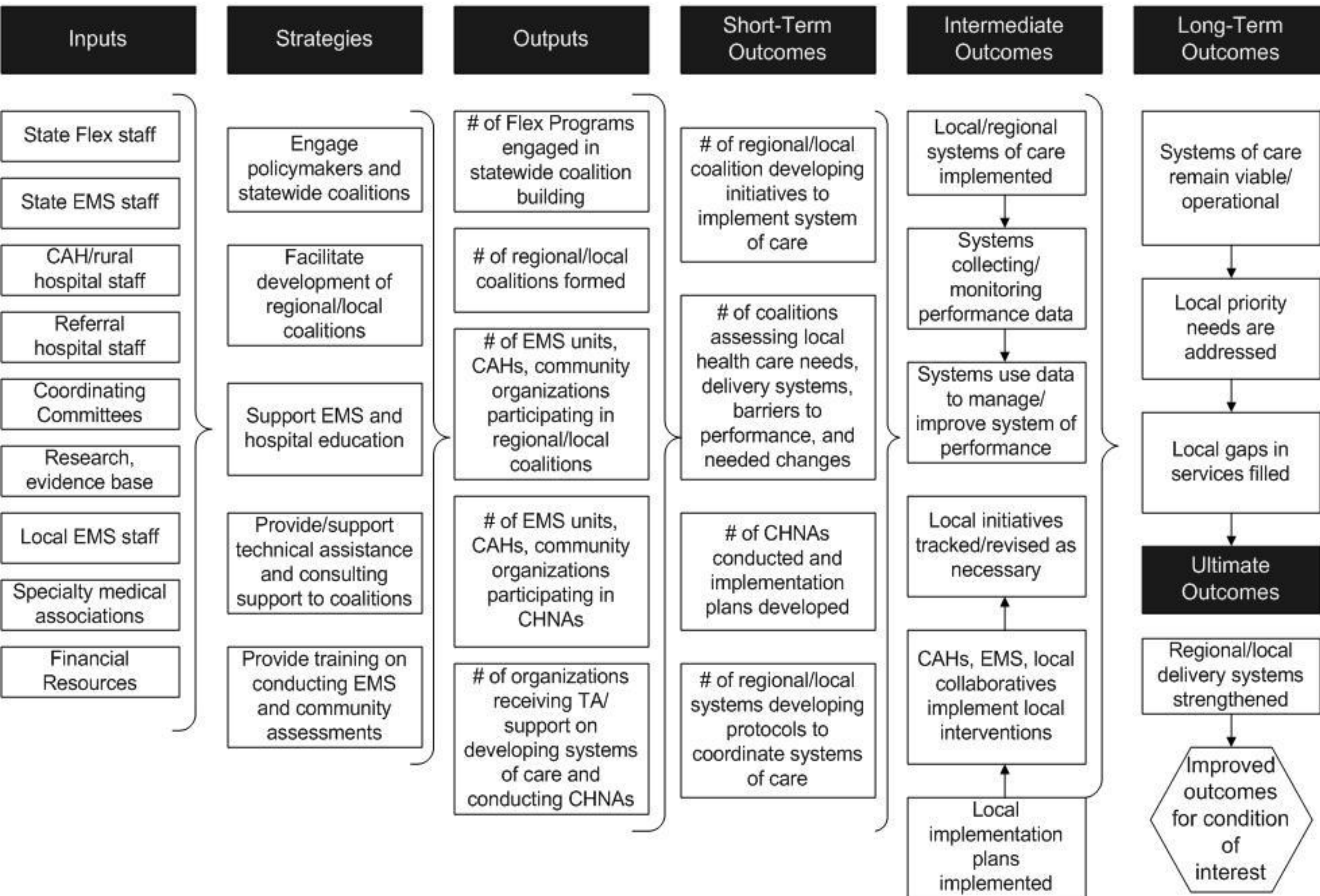
HSD/CE FMT Studies

- Community impact of CAHs
- Community benefit and safety net role of RHCs
- CAH SNF closures and long term care services
- Developing regional STEMI systems of care
- National and state reports on community benefit activities of CAHs, non-metro and metro hospitals
- State Flex Program EMS activities
- Evidence-base for community paramedicine programs

Categories of Flex EMS Activity

- Integrating EMS into local/regional systems of care
  - EMS participation in community assessments
  - STEMI, stroke, trauma systems of care
  - Community paramedicine programs
- EMS training and education
  - Comprehensive Advanced Life Support & Rural Trauma Team Development
  - Medical Director, management, and leadership
- EMS performance improvement and sustainability
  - Billing, coding, and group purchasing
  - Quality and performance improvement
  - Recruitment and retention

Figure 1: Health System Development and Assessment Logic Model
State Flex EMS Activities: Developing Regional/Local Systems of Care



Community Assessments

- Tax Exempt hospital are required to conduct community health needs assessments (CHNAs)
- Encourage engagement of EMS and local providers in the process
- Examples of State Flex Activities
  - Conduct four CHNAs in rural communities to identify unmet health needs and service gaps (including EMS)
  - Conducting CAH community case studies that include an EMS component
  - Training hospitals and community to conduct CHNAs

Regional Systems of Care

- STEMI and stroke
  - Education and outreach
  - System of care planning
  - Development of treatment protocols
  - Participation in statewide committees
  - Conferences, training, and workshops
- Trauma
  - Trauma systems of care planning and development
  - CAH trauma designation
  - Trauma system assessments/Benchmark, Indicators, and Scoring (BIS) facilitation process

Local Systems of Care

- Encourage community-level collaboration between CAHs, EMS, public health, and other providers
  - Needs assessments
  - Shared resources
  - Local clinical information sharing
  - Address service gaps
  - Improve quality of care
  - Improve local delivery system performance
- Represent rural and EMS issues on statewide committees

Community Paramedicine

- Conduct community paramedicine needs assessments
- Develop pilot programs
- Expand CP model
- Workshops/education
- Convene stakeholders at state and community levels
- Support protocol and training development

EMS Training and Education

- Comprehensive Advanced Life Support and Rural Trauma Team Development Course training
  - Sponsor courses for regional CAH and EMS staff at rural sites
  - Use trained hospital/EMS staff to mentor untrained providers
  - Coordinated trainings
- Medical Director, management, and leadership training
  - Joint leadership and management training targeting EMS and CAH staff
  - Medical Director training encouraging coordination across systems
- Conferences and webinars
  - Sponsor regional and statewide programs
  - Share information and resources and encourage collaboration

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

Flex Monitoring Team | University of Minnesota | University of North Carolina at Chapel Hill | University of Southern Maine

EMS Performance Improvement and Sustainability

- Billing, coding, and group purchasing programs
  - Offer regional workshops to increase knowledge across EMS units
  - Develop regional billing services
  - Encourage EMS units to join existing purchasing organizations
- Quality and performance improvement
  - Develop EMS quality collaboratives – regional data exchanges
  - Develop EMS quality/performance measures and data system
  - Support EMS systems standards
- Recruitment and retention
  - Develop EMS programs for CAH catchment areas
  - EMS/trauma workshops focused on recruitment and retention priorities

ST-Elevation Myocardial Infarction (STEMI)

- 400,000-500,000 events annually/30% of ACS patients
- Treatment: percutaneous coronary intervention (balloon angioplasty) or fibrinolytics (clot busting drugs)
- Treatment is "*a systems problem of local communities*"
- **Time is muscle!**
- 30% do not receive PCI or fibrinolysis in the absence of contraindications to their use
- Fewer than 50% of fibrinolysis patients and 40% of PCI patients are treated within guidelines
- 70% of patients ineligible for fibrinolytics do not receive PCI

AHA Mission: Lifeline Guidelines

- Improve STEMI care by defining components of the system and how they should work together
- Defines capacities of "ideal" EMS, STEMI referral, and STEMI receiving hospitals
- Maintains a role for non-PCI hospitals - **key in rural areas**
- Key aspects of system functioning:
  - Multi-disciplinary team meetings to evaluate outcomes and QI data
  - Process for prehospital identification and activation (EMS)
  - Destination protocols for STEMI receiving hospitals
  - Referral hospital transfer protocols

Barriers to Timely Reperfusion

- Patients fail to recognize symptoms or seek medical attention
- EMS system limitations
- Long travel distances
- Delays at STEMI referral (non-PCI) hospitals related to diagnosis, transport and/or treatment
- Delays at PCI hospitals in processing and treating patients

Spectrum Health Reed City Hospital

- STEMI performance improvement project
  - CAH in the rural lower peninsula of Michigan
  - Part of Spectrum Health in Grand Rapids and the Meijer Heart Center
  - Travel time 70 minutes by ground, 25 minutes by air (70 miles)
  - Team - Reed City, 2 EMS agencies, Meijer, Aeromed, Spectrum Health
  - D2B time averaged 120 minutes
  - Barriers to achieving 90 minute D2B times
    - Lack of 12 lead ECG capability in one EMS agency
    - Long travel distance with delays caused by weather conditions
    - Delays in mobilizing Aeromed services
  - Results: D2B times within 90 minutes with some as low as 56-60 minutes

SH Reed City (continued)

- Team developed/implemented the following:
  - AMI bag containing drugs, IV fluids, and supplies was created
  - ED staff trained to perform 12 lead ECGs
  - Standardized order set to evaluate and treat AMI/STEMI patients
  - County equipped all ambulances with 12 lead ECGs
  - Reed City provided 12 lead ECG interpretation classes for paramedics
  - Aeromed and cath lab activation based on prehospital ECGs
  - Nurse/physician meet EMS at hospital prior to Aeromed rendezvous
  - Nurse brings AMI bag to landing pad and administers meds under orders
  - All hospital and EMS staff educated on new STEMI protocols

Washington's AMI/STEMI Initiative

- Project of Rural Healthcare Quality Network (funded by Flex)
  - Ongoing initiative for Washington's 34 CAHs
    - Standardized protocols, standing orders, data tools, and education materials
    - TA and support, assistance with data collection/analysis
    - Disseminated information on best practices for AMI/STEMI care
    - Worked with DOH, ECS Work Group, and ACC to develop protocols and standards for two levels of cardiac centers
    - Works with CAHs, PCI hospitals, and EMS to implement Level 1 protocols
    - Convenes regional and state meetings with key stakeholders
    - Publishes quality newsletters for CAHs
  - Door to transport times dropped from 197 to 100 minutes
  - Door to ECG goal of 2 minutes improved from 62% to 81% of patients

Illinois Rural STEMI Activities

- Illinois Critical Access Hospital Network (ICAHN)
  - Supports CAH and rural EMS participation in regional STEMI systems
    - Assist CAHs/EMS to develop/implement standardized TX protocols and algorithms, standing orders, clinical/reperfusion pathways, transport protocols
    - Encourage development of data collection and QI systems to support multidisciplinary STEMI teams
    - Implement processes to monitor STEMI care provided by EMS
    - Conduct needs assessment to assess gaps and needs
    - Support collaboration by attending meetings and developing relationships
    - Organize professional education resources
    - Develop community awareness program

Defining Community Paramedicine

- CPS operate in expanded roles connecting underutilized resources with underserved populations. (C*P Evaluation Tool, 2012*)
- CPs apply training and skills in community-based environments. CPs practice within an "**expanded scope**" (using specialized skills/protocols beyond that which he/she was originally trained for), or "**expanded role**" (working in non-traditional roles using existing skills). (*International Roundtable on Community Paramedicine*)
- Organized system of services**,** based on local need, provided by CPs integrated into local/regional health care system and overseen by emergency and primary care physicians. (*Rural & Frontier EMS Agenda for the Future, 2004*)

What is a Community Paramedic?

A state licensed EMS professional

- Complete formal internationally standardized Community Paramedic educational program through an accredited college or university,
- Demonstrate competence in the provision of health education, monitoring and services beyond the roles of traditional emergency care and transport, and in conjunction with medical direction.
- Specific roles and services are determined by community health needs and in collaboration with public health and medical direction.

(*HRSA, Community Paramedicine Evaluation Tool, Appendix B, 2012*)

Rural/Urban Goals for Community Paramedicine

Rural addresses

- Primary care shortages
- Geographic distances to nearest hospital
- Utilization of paramedics during “down time”
- Career path opportunities

Urban addresses

- High volume of 911 calls
- Wait time in the ED

Both look to keep patients in their homes, reduce hospital readmissions and frequent ambulance transports

Community Paramedic Services

Depends on community needs but typically includes:

- Assessment
- Blood draws/lab work
- Medication compliance
- Medication Reconciliation
- Post-discharge follow-up within 48-72 hours as directed by hospital, PCP, or medical director
- Care coordination
- Patient education
- Chronic disease management (CHF, AMI, Diabetes)
- Home safety assessment: e.g. falls prevention
- Immunizations and flu shots
- Post-surgical wound care (not all CPs have this in their scope of practice)
- Referrals (medical or social services)

State Flex Program CP Activities

- 2010-2011: Five states Flex programs undertook community paramedicine initiatives
- 2012: Nine states included community paramedicine initiatives in their State Flex Grant applications, with six states providing funding for CP activities
- State Flex offices/staff provide facilitation of stakeholder meetings and dissemination of CP opportunities.
- Partnership of State Offices of Rural Health and State EMS agencies

Maine CP Pilot Program

- Maine Flex supported/funded development of CP pilot and worked closely with State EMS Bureau (good relationship)
  - Funded meetings, education, consultants
  - CAH QI Director and CEO meetings provide a forum to disseminate information about CP
- Legislator approved CP pilot project (capped at 12 pilot sites)
- 6-8 applications for participation have been approved, many from from rural EMS units
- Applications focus on unique community needs and resources
- No state reimbursement for services – Applicants are committed to demonstrating need for and value of CP

Role of State Flex Programs

- Engage policymakers/statewide coalitions of providers
- Facilitate development of local and regional coalitions
- Support EMS and hospital training
- Support Systems of Care involving CAHs
- Support development of hospital and EMS standardized tools, treatment and transport protocols, data collection, etc.
- Disseminate information on best practices and successful initiatives