



HRSA MCHB EMERGENCY MEDICAL SERVICES FOR CHILDREN (EMSC) PROGRAM

July 2017
5-Year Roadmap

A special thank you to the EMSC stakeholders who contributed their insights and experiences to the conceptualization and development of the EMSC Roadmap.

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INTRODUCTION

The Emergency Medical Services for Children (EMSC) program, established in 1984, is the only federal program dedicated to improving the emergency care for children in both illness and injury across the continuum of emergency care. Administered by the Maternal and Child Health Bureau (MCHB) within the U.S. Department of Health and Human Services' (HHS) Health Resources and Services Administration (HRSA), the EMSC program is a demonstration project that invests in innovative research and discovery, and aims to reduce pediatric morbidity and mortality related to severe illness and trauma by improving the delivery and quality of pediatric emergency medical care.

The EMSC program's mission is to reduce child and youth mortality and morbidity resulting from severe illness or injury

Over the past 30 years, the EMSC program has supported many improvements in pediatric emergency medical services (EMS) care, including the:

- Integration of pediatrics into prehospital and acute care provider training.
- Implementation of EMS and hospital-based guidelines, protocols, and other clinical-care resources to spread evidence-based standards of care.
- Funding of pediatric equipment requirements in ambulances.
- Formation of advisory committees, and national and federal partnerships to translate state and local best practices into national efforts.

Additionally, the EMSC program established nine EMSC program performance measures to ensure consistency and monitor the progress of pediatric EMS and trauma systems in states, territories, freely associated states, and the District of Columbia. These performance measures ensure the integration of pediatrics in prehospital systems, hospital systems, and state EMS systems. Data have been collected from 56 states and territories three times since 2004. Analyses of these data, and experiences from states and local jurisdictions, show that the majority of EMS systems are investing in pediatric capabilities and equipment but experience limitations developing their workforce, managing new partnerships, and demonstrating impact.

To ensure continuous improvement and build upon its past successes in improving pediatric care along the entire continuum of emergency care, the EMSC program engaged in a necessary and routine strategy development process. This document presents the aggregation of stakeholder perspectives on how the EMSC program can use its finite resources to remain relevant in a changing health care landscape, further demonstrate impact on its mission, and advance pediatric outcomes throughout the emergency medical system of the future.

Developing the EMSC Program Roadmap

The following questions guided the stakeholder conversations that drove the development of a 5-year roadmap:

- 1 What forces are influencing the EMSC program and what potential strategies will advance the EMSC program's existing and potential capabilities amidst these forces?
- 2 How can the EMSC program engage with diverse stakeholders to support the program's strategic goals?
- 3 Where can the EMSC program align its investments to amplify and show its impact?

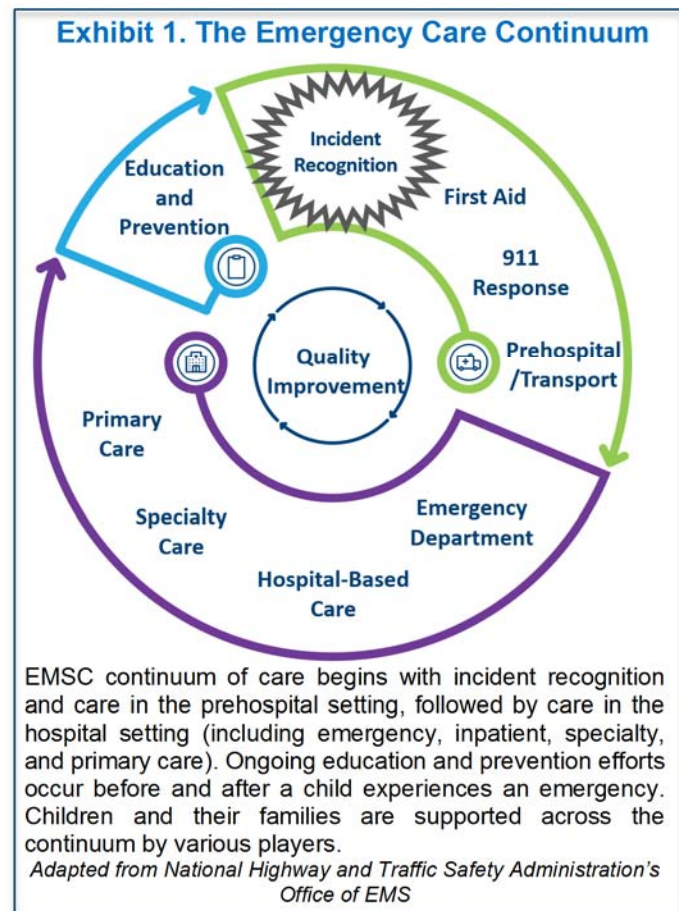
From October 2016 to May 2017, EMSC program stakeholders (see Appendix A) provided input on the EMSC program's current limitations and future possibilities via conference calls and in-person meetings. Independent research was conducted on policy, changes in the health care landscape, and industry best practices. Targeted one-on-one stakeholder conversations explored the viability and implications of possible future scenarios for the EMSC program. All qualitative data were synthesized and used to identify goals and objectives for the EMSC program roadmap. The EMSC program roadmap is a living document that can be used as a strategic framework for future planning.

Guiding Principles

For over 30 years, the EMSC program has invested in improving pediatric health outcomes by helping states:

- Transform and advance EMS system capacity for pediatric care through **quality improvement**.
- Translate research into **new practices, standards, and future research efforts**.

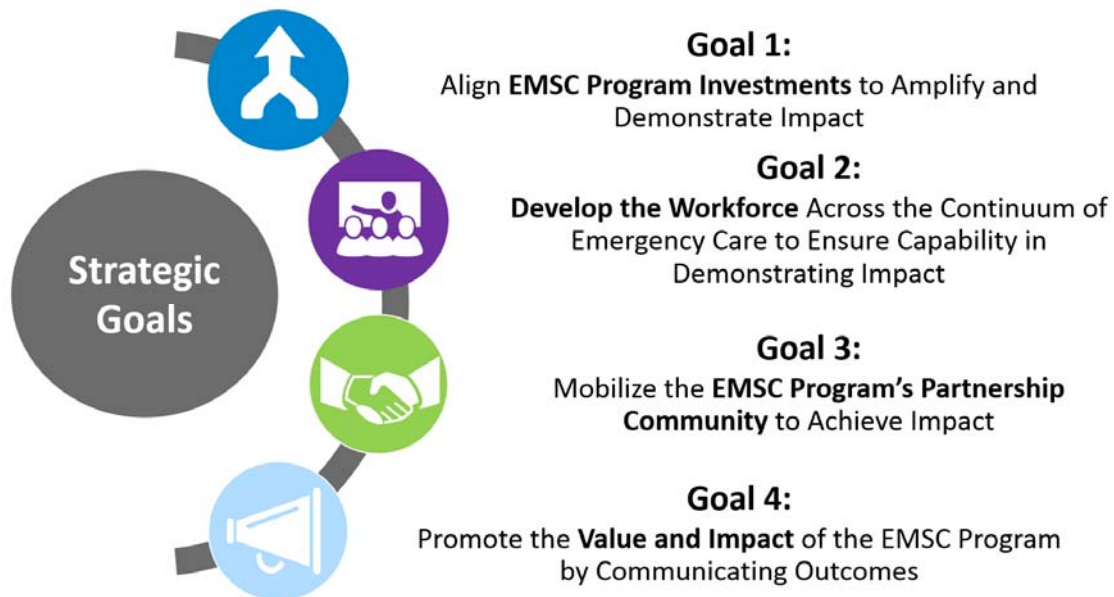
This roadmap reflects the interconnectedness of the systems, services, and disciplines that work together to reduce mortality and morbidity among children and youth resulting from severe illness or injury. It also seeks to amplify the impact of the EMSC program by fostering continuous quality improvement and learning across the continuum of emergency care (Exhibit 1).



STAKEHOLDER-INFORMED STRATEGIC GOALS

The EMSC program roadmap includes four goals to strengthen the EMSC program's current efforts and achieve future impact across the continuum of emergency care (Exhibit 2).

Exhibit 2. Stakeholder-informed EMSC Program Goals



Goal 1: Align EMSC Program Investments to Amplify and Demonstrate Impact

Goal 1 involves collaboration with states and other key partners to demonstrate the impact of EMSC program investments on reducing morbidity and mortality among children and youth.

Supporting objectives include:

- **Objective 1.a:** In the first year and annually thereafter, the EMSC program prepares one report summarizing states' progress towards **demonstrating the pediatric health impact of their EMSC program efforts through quality improvement and research.**
 - States may select the most feasible pediatric health outcome measure driving their EMSC program efforts using the following criteria:
 - **Consumer/Policy Importance:** Is this a priority issue for children and youth, families/caregivers, the public, and policy makers?
 - **Data Sources and Analytics:** Are data sources available to establish a baseline and are data analytics available to measure the impact on that particular outcome?

- **Continuum Impact:** Is this issue present and measurable across the continuum of emergency care?
 - **Evidence-Based:** Is there sufficient evidence for why this issue needs to be addressed, and are data-informed solutions available?
 - **Right Care, Right Place, Right Time:** Can progress be made on this outcome by improving the care provided, the care setting, and/or the time to treat?
 - **Stakeholder Alignment:** Is there consensus and buy-in from stakeholders on the particular outcome?
- To guide this work, states may set a five-year strategy and 18-month action plan that leverages EMSC program capabilities in quality improvement and research as the mechanisms for improving health outcomes.
- **Objective 1.b:** In the first year and annually thereafter, the EMSC program **evaluates the impact of a comprehensive data-driven Technical Assistance (TA) program** designed to help states and their partners use data to demonstrate impact on their state-selected pediatric health outcomes across the continuum of emergency care.



Goal 2: Develop the Workforce Across the Continuum of Emergency Care to Ensure Capability in Demonstrating Impact

Goal 2 will develop the skills and capabilities needed across the continuum of emergency care to support the achievement of Goal 1. Goal 2 involves focusing on opportunities to build workforce capacity to achieve child- and family-centered outcomes using data.

Supporting objectives include:

- **Objective 2.a:** Every 18 months, the EMSC program launches a **Collaborative Improvement and Innovative Network (CollIN)** based on the MCHB framework to demonstrate impact on state-selected pediatric health outcome(s) (objective 1.a).
- **Objective 2.b:** In the first year and annually thereafter, key stakeholders such as public health experts, health care practitioners, policy makers, data scientists, health IT specialists, and researchers meet to reflect on and improve state efforts to **collect, use, and translate data for measuring progress on the state-selected pediatric health outcome(s)** (objective 1.a).
- **Objective 2.c:** In the first year and annually thereafter, state EMSC programs and their partners share (via objective 1.a reporting) how they collaborated with local, state, and national child/family/caregiver organizations **to incorporate patient- and family-centered approaches** to build state EMSC program capacity for improving the state-selected pediatric health outcome(s).
- **Objective 2.d:** Every two years, all EMSC program partners meet to **reflect on the EMSC program's successes and areas of improvement, and share best practices** for making progress against the state-selected pediatric health outcome(s) (objective 1.a).

- During these meetings, all EMSC program stakeholders may consider:
 - How are the EMSC program’s investments transforming and advancing EMS system capacity for pediatric care through **quality improvement**?
 - How are the EMSC program’s investments working to translate research findings into **new practices, standards, and future research efforts**?
 - What **innovative or novel practices** have emerged that the EMSC program should build **future research around**?
 - If EMSC’s investments are not working as hoped, **why and what can be done to improve**?



Goal 3: Mobilize the EMSC Program’s Partnership Community to Achieve Impact

Goal 3 involves building new and strengthening existing partnerships across the continuum of emergency care to improve health outcomes for children and youth.

Supporting objectives include:

- **Objective 3.a:** Within one year, the EMSC program **designs and implements a Federal/National EMSC Network** representing the entities needed to support states in advancing their state-selected health outcome(s) across the continuum of emergency care.
- **Objective 3.b:** Within one year, the EMSC program **creates a stakeholder toolkit** that partners (including child, family, and caregiver groups) can use to educate and mobilize external stakeholders around the mission and impact of the EMSC program.
- **Objective 3.c:** Within two years, the EMSC program **identifies at least two opportunities** to develop partnerships with **public and private funders** to increase investments in workforce development efforts at the state and local levels as described in Goal 2.



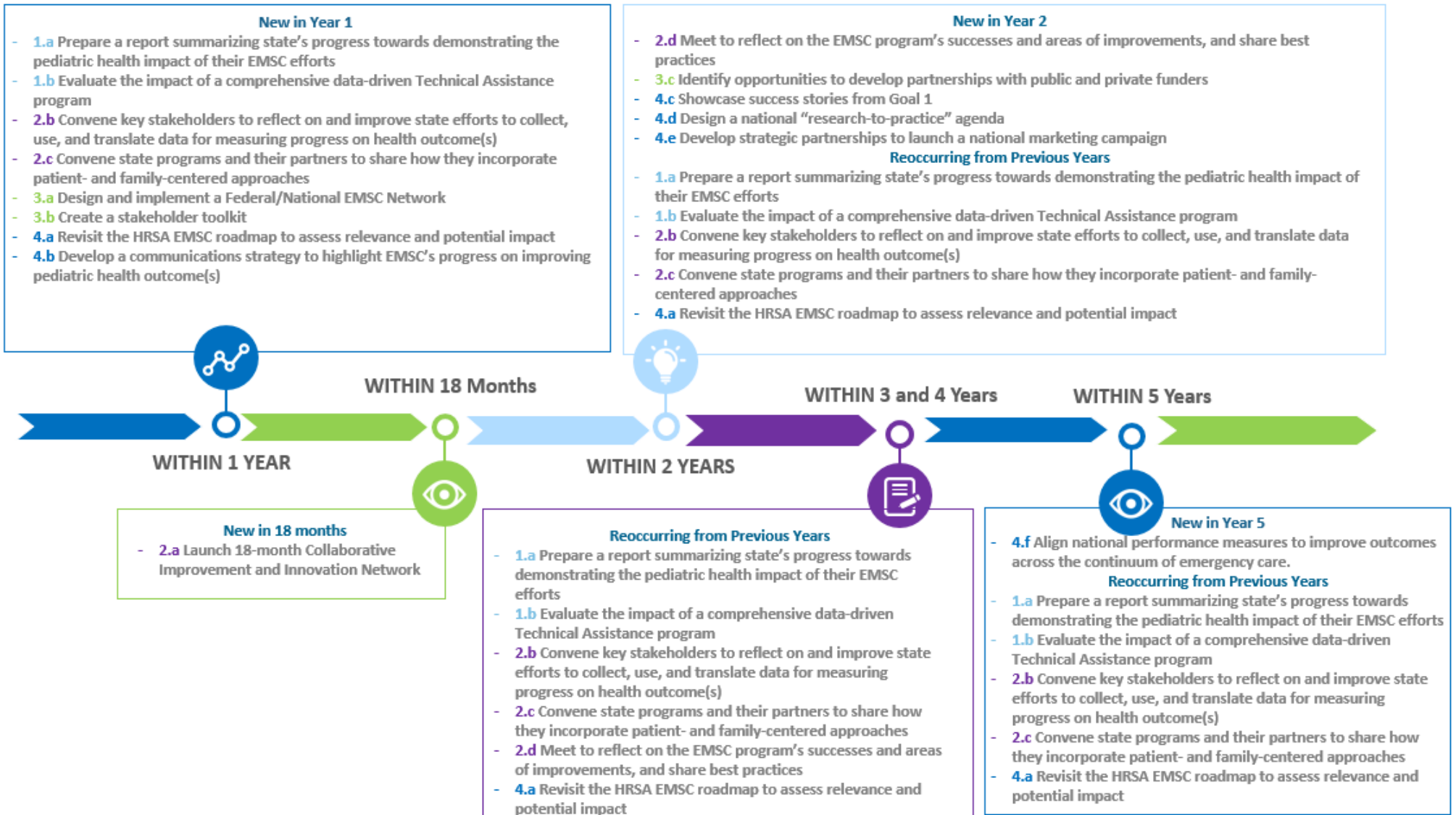
Goal 4: Promote the Value and Impact of the EMSC Program by Communicating Outcomes

Goal 4 involves engaging stakeholders across the continuum of emergency care, including, but not limited to, families/caregivers, hospital emergency departments, EMS agencies, public health and health care practitioners, researchers, and social services.

Supporting objectives include:

- **Objective 4.a:** Every year, the EMSC program **revisits the HRSA EMSC roadmap** to assess the relevance and potential impact of the goals and objectives.
- **Objective 4.b:** Within one year, the EMSC program **develops a communications strategy** to disseminate products and materials that highlight the EMSC program's progress on improving pediatric health outcomes across the continuum of emergency care.
- **Objective 4.c:** Within two years, the EMSC program **showcases success stories from Goal 1** highlighting how the program uses **quality improvement and research to innovate and mature**.
- **Objective 4.d:** Within two years, the Federal/National EMSC Network **designs a national “research-to-practice” agenda** to 1) build the evidence for effective EMSC practices that improve health outcome(s); and 2) initiate new research efforts informed by innovations in the field that have demonstrated impact on health outcome(s).
- **Objective 4.e:** Within two years, the EMSC program **develops strategic partnerships to launch a national marketing campaign** promoting adoption of the National Pediatric Readiness Project.
- **Objective 4.f:** Within five years, the EMSC program **aligns national performance measures** to improve outcomes across the continuum of emergency care.

Timeline



List of Strategic Objectives by Year

Strategic Objective	Y1	Y2	Y3	Y4	Y5
1.a: In the first year and annually thereafter, the EMSC program prepares one report summarizing states' progress towards demonstrating the pediatric health impact of their EMSC program efforts through quality improvement and research.	X	X	X	X	X
1.b: In the first year and annually thereafter, the EMSC program evaluates the impact of a comprehensive data-driven TA program designed to help states and their partners use data to demonstrate impact on their state-selected pediatric health outcomes across the continuum of emergency care.	X	X	X	X	X
2.a: Every 18 months, the EMSC program launches a CoIIN based on the MCHB framework to demonstrate impact on state-selected pediatric health outcome(s) (objective 1.a).		X	X		X
2.b: In the first year and annually thereafter, key stakeholders such as public health experts, health care practitioners, policy makers, data scientists, health IT specialists, and researchers meet to reflect on and improve state efforts to collect, use, and translate data for measuring progress on the state-selected pediatric health outcome(s) (objective 1.a).	X	X	X	X	X
2.c: In the first year and annually thereafter, state EMSC programs and their partners share (via objective 1.a reporting) how they collaborated with local, state, and national child/family/caregiver organizations to incorporate patient- and family-centered approaches to build state EMSC program capacity for improving the state-selected pediatric health outcome(s).	X	X	X	X	X
2.d: Every two years, all EMSC program partners meet to reflect on the EMSC program's successes and areas of improvement, and share best practices for making progress against the state-selected pediatric health outcome(s) (objective 1.a).		X		X	
3.a: Within one year, the EMSC program designs and implements a Federal/National EMSC Network representing the entities needed to support states in advancing their state-selected health outcome(s) across the continuum of emergency care.	X				
3.b: Within one year, the EMSC program creates a stakeholder toolkit that partners (including child, family, and caregiver groups) can use to educate and mobilize external stakeholders around the mission and impact of the EMSC program.	X				
3.c: Within two years, the EMSC program identifies at least two opportunities to develop partnerships with public and private funders to increase investments in workforce development efforts at the state and local levels as described in Goal 2.		X			
4.a: Every year, the EMSC program revisits the HRSA EMSC roadmap to assess the relevance and potential impact of the goals and objectives.	X	X	X	X	X
4.b: Within one year, the EMSC program develops a communications strategy to disseminate products and materials that highlight the EMSC program's progress on improving pediatric health outcomes across the continuum of emergency care.	X				
4.c: Within two years, the EMSC program showcases success stories from Goal 1 highlighting how the program uses quality improvement and research to innovate and mature.		X			
4.d: Within two years, the Federal/National EMSC Network designs a national "research-to-practice" agenda to 1) build the evidence for effective EMSC practices that improve health outcome(s); and 2) initiate new research efforts informed by innovations in the field that have demonstrated impact on health outcome(s).		X			
4.e: Within two years, the EMSC program develops strategic partnerships to launch a national marketing campaign promoting adoption of the National Pediatric Readiness Project.		X			
4.f: Within five years, the EMSC program aligns national performance measures to improve outcomes across the continuum of emergency care.					X

APPENDIX A: STAKEHOLDER LIST

October Stakeholder Meeting in Rockville, MD

<p>Rachael Alter, QAS, EMT National Association of State Emergency Medical Services Officials</p>	<p>Julia Elligers, PhD, MPH Emergency Medical Services for Children Technical Assistance Center Deloitte Consulting, LLP</p>
<p>Yolanda Baker Health Resources and Services Administration, Maternal and Child Health Bureau</p>	<p>Mike Ely, MHA, MHRM National Emergency Medical Services for Children Data Analysis Resource Center</p>
<p>Amanda Broussard, MSED, EMT-P National Registry of Emergency Medical Technicians</p>	<p>Clarke Erickson, MHA Emergency Medical Services for Children Technical Assistance Center Atlas Research</p>
<p>Sean Caffrey, MBA, CEMSO, NRP National Emergency Medical Systems Management Association</p>	<p>Stephanie Fraser Emergency Medical Services for Children Technical Assistance Center Deloitte Consulting, LLP</p>
<p>Brendan Carr, MD, MA, MS Office of the Assistant Secretary for Preparedness and Response</p>	<p>Joann Freel, BS, CMP National Association of Emergency Medical Services Educators</p>
<p>Sarita Chung, MD, FAAP American Academy of Pediatrics Disaster Preparedness Advisory Council</p>	<p>Barbara Gaines, MD, FAPC, FACS American College of Surgeons Committee on Trauma, Pediatric Trauma Society</p>
<p>Remle Crowe, MS, NREMT National Registry of Emergency Medical Technicians</p>	<p>Dia Gainor, MPA, NREMT-P National Association of State Emergency Medical Services Officials</p>
<p>Terry David, EMT-P National Association of Emergency Medical Technicians</p>	<p>Krisanne Graves, PhD, RN, CPHQ Emergency Medical Services for Children Innovation and Improvement Center</p>
<p>Beth Edgerton, MD, MPH Health Resources and Services Administration, Maternal and Child Health Bureau</p>	<p>Jamie Hart, PhD, MPH Emergency Medical Services for Children Technical Assistance Center Atlas Research</p>
<p>Christy Edwards, MPH Health Resources and Services Administration, Federal Office of Rural Health Policy</p>	<p>Lori Haskett Kansas Department of Health and Environment, Injury and Disability Prevention Programs</p>

<p>Jocelyn Hulbert Health Resources and Services Administration, Maternal and Child Health Bureau</p>	<p>Brian Moore, MD, FAAP National Association of EMS Physicians, Pediatric Committee</p>
<p>Jon Krohmer, MD, FACEP National Highway Traffic Safety Administration, Office of Emergency Medical Services</p>	<p>Theresa (Tee) Morrison-Quinata Health Resources and Services Administration, Maternal and Child Health Bureau</p>
<p>Brooke Lerner, PhD Medical College of Wisconsin Targeted Issues grantee</p>	<p>Lenora Olson, PhD, MA National Emergency Medical Services for Children Data Analysis Resource Center</p>
<p>Michael Lu, MD, MS, MPH Health Resources and Services Administration, Maternal and Child Health Bureau</p>	<p>Diane Pilkey, RN, MPH Health Resources and Services Administration, Maternal and Child Health Bureau</p>
<p>Charles G. Macias, MD, MPH, FAAP American Academy of Pediatrics Emergency Medical Services for Children Innovation and Improvement Center</p>	<p>Erin Reiney, MPH Health Resources and Services Administration, Maternal and Child Health Bureau</p>
<p>James (Jim) Macrae, MA, MPP Health Resources and Services Administration, Maternal and Child Health Bureau</p>	<p>Katherine Remick, MD, FAAP Emergency Medical Services for Children Innovation and Improvement Center</p>
<p>Valerie Maholmes, PhD National Institute of Health, National Institute of Child Health and Human Development</p>	<p>Carolina Roberts-Santana, MD Rhode Island Department of Health, Center for Emergency Medical Services, National Association of State Emergency Medical Services Officials</p>
<p>Gregg Margolis, PhD, NRP Office of the Assistant Secretary for Preparedness and Response</p>	<p>Manish I. Shah, MD, MS Emergency Medical Services for Children Innovation and Improvement Center</p>
<p>Tom McGinnis, EMT-P, BS National Association of State Emergency Medical Services Officials EMS Systems Division California EMS Authority</p>	<p>Noah Smith, MPH, EMT National Highway Traffic Safety Administration</p>
<p>Tina Mendelson, MS, MA Emergency Medical Services for Children Technical Assistance Center Deloitte Consulting, LLP</p>	<p>Tanishia Smith, MPH Emergency Medical Services for Children Technical Assistance Center Atlas Research</p>

<p>Laura S. Snebold, MPH Emergency Medical Services for Children Technical Assistance Center Deloitte Consulting, LLP</p>	<p>Nerina Stepanovsky, PhD, MSN, CTRN, PM National Association of Emergency Medical Services Educators</p>
<p>Sally Snow, BSN, RN, CPEN, FAEN Emergency Nurses Association Society of Trauma Nurses</p>	<p>Mike Touchstone National Emergency Medical Systems Management Association</p>
<p>Tomi St Mars, MSN, RN, CEN, FAEN Arizona Department of Health Services, Office of Injury Prevention EMSC State Partnership Program Manager</p>	<p>Sally Turbyville, MA, MS, DrPH Children’s Hospital Association</p>
<p>Rachel Stanley, MD, MHSA Pediatric Emergency Care Applied Research Network</p>	

EIIC Quality Improvement Advisory Board Meeting:

Evaline A. Alessandrini, MD, MSCE Division of Emergency Medicine at Cincinnati Children's Hospital Medical Center	Steven E. Krug, MD Ann & Robert H. Lurie Children's Hospital Northwestern University Feinberg School of Medicine
Marianne Gausche-Hill, MD, FACEP, FAAP FAEMS Los Angeles County EMS Agency	Evelyn Lyons, RN, MPH Illinois Department of Public Health
Marc Gorelick, MD Children's Hospital of Wisconsin	Joe Schmider EMT State EMS Director at Texas Department of Health
Diane Hartford National Emergency Medical Services for Children Data Analysis Resource Center	Sally Snow, BSN, RN, CPEN, FAEN Emergency Nurses Association Society of Trauma Nurses
Madeline M. Joseph, MD University of Florida Department of Emergency Medicine Division of Pediatric Emergency Medicine	

2016 EMSC Town Hall Call:

<p>Rachael Alter, QAS, EMT National Association of State Emergency Medical Services Officials</p>	<p>Tom McGinnis, EMT-P, BS National Association of State Emergency Medical Services Officials EMS Systems Division California EMS Authority</p>
<p>Stephanie Busch NREMT, BS Vermont Children's Safety Network EMSC State Partnership Program Manager</p>	<p>Matt Nelson Washington Children's Safety Network EMSC State Partnership Program Manager</p>
<p>Katherine Crockett Missouri Dept. of Health and Senior Services, Division of Health Standards and Licensure, EMS Bureau</p>	<p>Katherine Remick, MD, FAAP Emergency Medical Services for Children Innovation and Improvement Center</p>
<p>Eric Enderton Iowa Department of Public Health, Bureau of Trauma and Emergency Services EMSC State Partnership Program Manager</p>	<p>Carolina Roberts-Santana, MD Rhode Island Department of Health, Center for Emergency Medical Services, NASEMSO</p>
<p>Candace Hamilton, NREMT-P Oregon Health Authority, State Public Health EMSC State Partnership Program Manager</p>	<p>Sherry Santa Texas Parent to Parent</p>
<p>Lori Haskett Kansas Department of Health and Environment, Injury and Disability Prevention Programs</p>	<p>Joseph C Santos, MPH, NREMT Texas EMSC State Partnership Grantee</p>
<p>Janet Houston, MBA New Hampshire Dartmouth-Hitchcock Medical Center EMSC State Partnership Program Manager</p>	<p>Morgan Scaggs, AA, NRP Kentucky EMS for Children</p>
<p>Brooke Lerner, PhD Medical College of Wisconsin (MCW) Targeted Issues grantee</p>	<p>Manish I. Shah, MD, MS Emergency Medical Services for Children Innovation and Improvement Center</p>
<p>Cynthiana Lightfoot District of Columbia EMSC</p>	<p>Tomi St Mars, MSN, RN, CEN, FAEN Arizona Department of Health Services, Office of Injury Prevention, EMSC State Partnership Program Manager</p>
<p>Allen Liu, MBA Utah State Health Department</p>	<p>Christy Thatcher Wisconsin Department of Health Services</p>
<p>Jolene Whitney, MPA Utah Bureau of EMS and Preparedness, Utah Department of Health EMSC State Partnership Program Manager</p>	<p>Diane Williams Iowa Department of Public Health, Bureau of Trauma and Emergency Services</p>
<p>Thomas Winkler Pennsylvania EMS for Children</p>	

Targeted Stakeholder Conversations:

Patricia Buckberg Joint Commission	Brooke Lerner, PhD Medical College of Wisconsin (MCW) Targeted Issues grantee
Mike Ely, MHA, MHRM National Emergency Medical Services for Children Data Analysis Resource Center	Charles Macias, MD, MPH, FAAP American Academy of Pediatrics EICC Principal Investigator
Tamar Haro American Academy of Pediatrics	Valerie Maholmes, PhD and Ruth Brenner National Institute of Health, National Institute of Child Health and Human Development
Larke Huang, Ph.D., Stacey Lee, and Rebecca Zornick Substance Abuse and Mental Health Services Administration, Office of Behavioral Healthy Equity	