COLORADO
EMERGENCY MEDICAL SERVICES FOR CHILDREN

Strategic Plan

EMS For Children Colorado

May 2014

EMSC Emergency Medical Services for Children

PEDIATRIC EMERGENCY CARE COMMITTEE

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Background

The national Emergency Medical Services for Children (EMS for Children) program was established in 1984 with the overall objective of decreasing disability and death in children through a well-prepared emergency care system. Congress initially appropriated $2 million dollars for the program in 1984 and the national program is currently funded at a level of approximately $30 million annually. Colorado is one of 58 EMS for Children State Partnership grantees and is provided $130,000 per year in federal funding for the program. The national program, administered by the U.S Department of Health and Human Services, Health Resources and Services Administration (HRSA) also funds the pediatric emergency care applied research network, two national resource centers, a handful of regionalization of care grants and a variety of targeted issue grants. The Colorado Department of Public Health and Environment (CDPHE), Emergency Medical and Trauma Services (EMTS) Branch, serves as the Colorado state partnership grantee. EMTS, in turn, contracts with the University of Colorado Denver, School of Medicine, Department of Pediatrics to provide management and coordination for the statewide program.

Colorado has participated in the EMS for Children program since 1992. At the state level a physician with pediatric experience is appointed by the governor to serve on the State Emergency Medical and Trauma Services Advisory Council (SEMTAC). This appointee, currently Dr. Christine Darr of the Rocky Mountain Hospital for Children, serves as the chair of the state Pediatric Emergency Care Committee (PECC). The PECC advises the state regarding EMS for Children program activities and the committee is comprised of 14 members with various backgrounds that are appointed by CDPHE.

A previous strategic plan was developed in June of 2011, a number of items listed in that plan have been partially or fully implemented. Subsequent to the availability of carryover funding, the PECC decided in late 2013 to hold a stakeholder summit for the purpose of updating the strategic plan. The summit was held at the University of Colorado Anschutz Medical Campus on February 27 and 28, 2014, and was facilitated by staff from the National EMS for Children Data Resource Center (NEDARC). A complete listing of attendees is contained in the acknowledgements section.

The current Colorado EMS for Children State Partnership grant is funded through February 29, 2016, with an annual noncompetitive renewal process. Renewal for the remainder of 2016 and beyond is anticipated. This plan is intended to be in effect though at least the current 3 year grant cycle.

Acknowledgements

The Colorado Pediatric Emergency Care Committee

Christine Darr, MD, FAAP – Rocky Mountain Hospital for Children (Chair)
Jason Blumen, BA, NRP – Denver Health Paramedic Division (Vice-Chair)
Kathleen Adelgais, MD, MPH – University of Colorado Denver School of Medicine
Michael Archuleta, MSN, RN – Centura St. Mary Corwin Medical Center, Pueblo
Ali Braun, BS, RN – Mercy Regional Medical Center, Durango
Sean Caffrey, MBA, NRP – University of Colorado Denver School of Medicine
Vicky Cassebaum, RN – Centura St. Anthony's Hospital, Lakewood
Audrey Jennings, BSN, RN, NRP – Grand County EMS, Granby
Rich Martin DFO, Paramedic - Castle Rock Fire Rescue
Lara Rappaport, MD, MPH – Denver Health Medical Center
James Richardson, MBA, NRP – Aspen Ambulance District, Aspen
Michelle Reese, JD – Colorado Department of Public Health and Environment
Grace Sandeno, MPH – Colorado Department of Public Health and Environment
Emma Watt MSN, RN – Children's Hospital Colorado – Family Representative

Additional Summit Attendees

Ashley Balakas – Children's Hospital Colorado
Kelly Beach – Children's Hospital Colorado at Memorial Hospital
Kevin Burgess – University of Colorado Health Poudre Valley EMS
Joe Darmofal - Children's Hospital Colorado
Joshua Eavett – Southeast Colorado Regional EMS and Trauma Advisory Council
Rob Handley – Limon Ambulance Service
Nicolena Johnson – Clear Creek County EMS
Laura Kent – Children's Hospital Colorado at Memorial Hospital
Jason Kotas – Children's Hospital Colorado
Maria Mandt – University of Colorado Denver School of Medicine
Melody Mesmer – Central Mountains Regional EMS and Trauma Advisory Council
Jon Montano – San Luis Valley Regional EMS and Trauma Advisory Council
Ezekiel Peters – Clear Creek County EMS
Eric Schmidt – Northwest Colorado Regional EMS and Trauma Advisory Council
Dwayne Smith - Children's Hospital Colorado
Marschall Smith – Colorado Department of Public Health and Environment
Elizabeth Spradlin - University of Colorado Health at Memorial Hospital
Megan Strawhacker – Denver Health Medical Center

Facilitators and Special Guests

Craig Hemmingway – National EMS for Children Data Resource Center (NEDARC)
Jocelyn Hulbert – US Department of Health and Human Services
Pattie Schmuhl - National EMS for Children Data Resource Center (NEDARC)

EMS For Children Colorado

Mission

To promote optimal care for pediatric acute illness and injury across Colorado through prevention, advocacy and education.

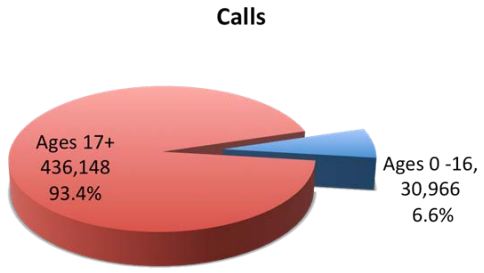
Vision

All children in Colorado receive the best pediatric emergency care.

Values

Collaborative
Family-Centered
Evidence-Based
Compassionate
Responsible
Equitable

Scope of EMS for Children in Colorado



According to 2013 figures available from the Colorado EMS data set, EMS calls involving children accounted for 6.6% or approximately 31,000 calls annually. As such, children continue to represent a small but specialized segment of EMS response activity statewide.

Accomplishments from Previous Plan

A number of initiatives conceived in the 2011 EMS for Children Strategic Plan were either partially or fully implemented. Accomplishments include:

- ✓ Development of the Colorado "Broken Arm Bear in the Mountains" logo that is now in use as the Colorado EMS for Children logo
- ✓ Development of a website www.EMS for Childrencolorado.org that includes significant resources for emergency care providers across the state including:
  - A Statewide EMS Continuing Education Calendar operated in partnership with the EMS Association of Colorado
  - Contact information for pediatric specialty centers across the state
  - Model EMS Clinical Protocols and Operational Guidelines from around the state
  - Links to online educational content across the U.S.
  - Adoption of the www.LearnPedsCapno.com online training website
  - Links to multiple injury prevention resources
  - Information on evolving pediatric evidence-based care guidelines
  - Links to pediatric resources and equipment
- ✓ Ongoing pediatric emergency care education delivered by a variety of partners including Children's Hospital Colorado, HealthONE EMS, Denver Health, Centura Health and a variety of community colleges and EMS continuing education groups across the state.
- ✓ Ongoing pediatric representation (Dr. Christine Darr) on the State Emergency Medical and Trauma Services Advisory Council (SEMTAC)
- ✓ Pediatric representation on the Emergency Medical Practice Advisory Council (Jason Kotas).
- ✓ Ongoing program representation at the quarterly forums of the Colorado Regional Medical and Trauma Advisory Councils (RETACs)
- ✓ Passage of Colorado Senate Bill 13-220 making EMS Providers mandatory reporters of child abuse
- ✓ Acquisition of a Pediatric Mobile Simulation trailer for statewide use.
- ✓ PEDIATRIC EMERGENCY CARE APPLIED RESEARCH NETWORK research node established in Colorado

National Performance Measures

The following are the performance measures enacted by EMS for Children program nationally. Status of these measures is reported annually to the Health Resources and Services Administration (HRSA):

Performance Measure 71	The percent of prehospital provider agencies in the state/territory that have on-line pediatric medical direction available from dispatch through patient transport to a definitive care facility.
Performance Measure 72	The percent of prehospital provider agencies in the state/territory that have off-line pediatric medical direction available from dispatch through patient transport to a definitive care facility.
Performance Measure 73	The percent of patient care units in the state/territory that have essential pediatric equipment and supplies as outlined in national guidelines.
Performance Measure 74	The percent of hospitals recognized through a statewide, territorial, or regional standardized system that are able to stabilize and/or manage pediatric medical emergencies.
Performance Measure 75	The percent of hospitals recognized through a statewide, territorial, or regional standardized system that are able to stabilize and/or manage pediatric traumatic emergencies.
Performance Measure 76	The percentage of hospitals in the state/territory that have written inter-facility transfer guidelines that cover pediatric patients and that include pre-defined components of transfer.
Performance Measure 77	The percent of hospitals in the state/territory that have written inter-facility transfer agreements that cover pediatric patients.
Performance Measure 78	The adoption of requirements by the state/territory for pediatric emergency education for license/certification renewal of BLS/ALS providers.
Performance Measure 79	The degree to which state/territories have established permanence of EMS for Children in the state/territory EMS system by establishing an EMS for Children Advisory Committee, incorporating pediatric representation on the EMS Board, and hiring a full-time EMS for Children manager.
Performance Measure 80	The degree to which state/territories have established permanence of EMS for Children in the state/territory EMS system by integrating EMS for Children priorities into statutes/regulations.

Current and Ongoing Projects

In addition to the accomplishments listed above and the national performance measures, Colorado has elected to develop a number of ongoing projects both related and unrelated to the national performance measures. Those projects include:

- ✓ Ongoing participation in survey activities including the National Pediatric Readiness Project for hospitals in 2013 and a bi-annual EMS for Children survey of EMS services statewide completed in February of 2014.
- ✓ Development of the statewide, voluntary Colorado Prehospital Pediatric Quality Council CPPQC or "Cupcake" group to provide guidance and benchmarking on the clinical quality of pediatric care.
- ✓ Deployment of the Pediatric Mobile Simulation Lab across the state to train EMS providers in a realistic environment.
- ✓ Ongoing advocacy for family-centered and culturally appropriate care and injury prevention activities.
- ✓ Improvement of EMS and emergency department data collection and integration of data systems where appropriate.
- ✓ Improvement of EMS care for children with special healthcare needs.
- ✓ Development of and participation in EMS and EMS for Children related research activities.
- ✓ Support of pediatric educational activities statewide as resources allow.

SWOC Analysis

Strengths:

- In-state pediatric facilities
- Collaborative environment
- State level financial resources
- EMS data system
- EMS for Children brand/logo
- Multiple high quality education programs
- Simulation education capacity
- Engaged facilities
- Program website
- Research capability/pediatric emergency care applied research network node
- Diverse and engaged EMS for Children team
- Time tested trauma center requirements
- Competition driving quality

Weaknesses:

- Recognition of EMS for Children program
- Lack of coordination
- Data limitations
- Outdated ambulance equipment list
- Unmet rural needs
- Limited mental health capacity
- Facility readiness for medical patients
- Evaluation metrics
- Provider ability to access education

Opportunities:

- Improved data system
- Better EMS for Children marketing
- Telemedicine
- Resources for educators
- Improved provider clinical opportunities
- Increased website traffic and capability
- Enhanced regional connections
- Improved engagement of family rep
- Voluntary pediatric accreditation program
- Dissemination of peds ready tools
- Pediatric disaster preparedness
- Improved evidence-based practice
- Research
- Targeted issue grants
- Grant programs for rural facilities

Challenges/Threats:

- Limited funding
- Rapidly changing healthcare environment
- Political divisions
- Regulatory environment
- Maintain/improve committee participation
- Retention of education/skills
- Post discharge trauma care (i.e. PTSD care)
- Children with special healthcare needs
- Long interfacility transfers
- Limited pediatric care in rural areas

Overall Priorities

1. Work to ensure well-prepared and knowledgeable pediatric emergency care instructors.
2. Reinforce the importance of vital signs, patient weight and pain scale measures.
3. Identify and meet specific regional needs.

State Program Priorities

1. Provide additional opportunities for simulation-based education.
2. Develop regional EMS for Children liaisons.
3. Align injury prevention efforts with national action plan and statewide needs.

Implementation Steps

Overall Priorities

Objective: Well Prepared and Knowledgeable Emergency Care Instructors			
Key Actions	**Time Frame**	**Team**	**Success Measure(s)**
Develop a Pediatric Instructor Toolkit	2014 – 2015	- PECC - Program staff - Specialty centers	- Toolkit and resources available via website
Hold train the trainer event(s)	2015	- PECC - Program staff - HealthOne EMS - Children's - Denver Health	- Pediatric instructor focused events are held in conjunction with pediatric and/or educator conferences
Develop a registry of pediatric care instructors	2015 – 2016	- Program staff - CDPHE - Education programs	- Searchable registry of qualified instructors available via website

Objective: Reinforce the Importance of Vital Signs, Patient Weight and Pain Scale Measures			
Key Actions	**Time Frame**	**Team**	**Success Measure(s)**
Standardize vital sign, weight and pain scale measurement expectations	2014 – 2016	- CPPQC - Program staff - CDPHE	- Develop and monitor compliance metrics
Integrate importance of these measures in Instructor Toolkit noted above	2014 - 2015	- Instructor Toolkit team noted above	- Integration of this topic into published materials
Address equipment gaps	2014 - 2016	- Program staff - PECC	- Mechanism exists to fill gaps in equipment needs for vital signs, weight and pain scale

Objective: Identify and Address Specific Regional Needs			
Key Actions	**Time Frame**	**Team**	**Success Measure(s)**
Survey regions to determine pediatric educational needs and catalog available training	2014	- PECC - Program staff - RETACS	- Survey completed, results available
Work with regional medical directors to determine online and offline medical direction needs	2014 - 2015	- PECC - Program staff - RMDs	- Improved protocols and consultation mechanisms
Continue PECC and staff involvement with RETAC forums	2014 - 2016	- Program staff - PECC	- Ongoing dialogue reading pediatric issues
Develop EMS and facility voluntary certification program for pediatric readiness	2014 - 2016	- PECC - RETACs - Program staff	- Develop standards in 2014 – 2015 - Test process in 2015 - Implement in 2016
Monitor regional pediatric data	2014 - 2015	- Program staff - CPPQC - CDPHE	- Develop and deploy regional pediatric care reports

State Program Priorities

Objective: Improve and Deploy Simulation Based Education			
Key Actions	**Time Frame**	**Team**	**Success Measure(s)**
Conduct regional training survey as noted above	2014	- PECC - Program staff - RETACS	- Survey completed results available
Promote simulation trailer use	2014 - 2015	- PECC - Peds centers - RETACs	- Trailer achieves 10 – 20 uses per year, particularly at high profile events
Priorities integrated into simulation education toolkit including BLS skills, vital signs, weight, pain measurement, family-centered and culturally competent care	2015 - 2016	- Education programs - PECC - Specialty centers	- Well developed and easily accessible toolkit of pediatric simulations

Objective: Develop Regional EMS for Children Champions / Liaisons			
Key Actions	**Time Frame**	**Team**	**Success Measure(s)**
Define role, expectations and benefits for regional EMS for children champions	2014	- PECC - RETACs	- Research other state programs in this area - EMS for Children champion role defined and published.
Reach out to RETACs, RMDs, education programs, facilities and agencies to identify champions	2014 - 2015	- Program staff - RETACs	- 1 – 3 Champions Identified per RETAC -
Identify an annual opportunity for champions to meet to exchange information on pediatric care issues	2015 -2016	- RETACS - PECC - CDHPE	- First annual meeting held no later than 2016

Objective: Align Injury Prevention Efforts with National Action Plan and Statewide Needs			
Key Actions	**Time Frame**	**Team**	**Success Measure(s)**
Improve coordination with CDPHE Injury Community Planning Group (ICPG)	2014 - 2017	- PECC - Program staff - ICPG	- Regular ICPG updates added to PECC agenda and vice versa
Identify gaps in local - state injury prevention activities	2014 - 2015	- PECC - ICPG	- At least one gap addressed by 2015
Disseminate evidence-based injury prevention best practices to EMS community	2015 – 2017	- Program staff - ICPG	- Web resources updated in 2014 - Regular updates in EMTS on the go & social media

Objective: Mental Health and Suicide Prevention			
Key Actions	**Time Frame**	**Team**	**Success Measure(s)**
Develop mental health resource guide and training opportunities for EMS providers	2015	- Pediatric facilities - PECC - Program staff	- Guidance published by 2014
Explore resources to improve EMS awareness of suicide and suicide prevention	2015 - 2016	- PECC	- Suicide prevention awareness plan developed by 2016

Additional Areas of Interest

In addition to the priorities noted above, a number of stakeholders with an interest in EMS for Children program activities provided the following additional and/or clarifying comments and recommendations:

Additional Interests

1. Improve EMS connections to pediatric specialists and on line medical consultation
2. Compare Colorado practice to national standards
3. Develop competency expectations for pediatric providers
4. Improve medication safety and standard dosing
5. Improve pediatric EMS protocol templates
6. Discuss options for state funds to support limited use or disposable pediatric equipment
7. Monitor and support interfacility transfer guidelines
8. Improve and/or abbreviate neonatal resuscitation and sepsis education
9. Develop recommendations for pediatric simulation training
10. Establish competencies for pediatric equipment use including length-based tapes
11. Develop pediatric educator registry
12. Consider PEPP or PALS requirement for state certification
13. Develop equipment guidelines for facilities and EMS within and in addition to regulations
14. Develop job description templates for facility and EMS-based pediatric care coordinators
15. Develop guidelines/recommendation for pediatric interfacility transport
16. Work with trauma system to integrate evidenced-based care guidelines
17. Consider a partner with a pediatric emergency medicine physician program
18. Develop a pediatric online medical consultation system
19. Develop a pediatric medical direction training module

State-Level Additional Interests

1. Continue to support improved data collection efforts
2. Develop and support telemedicine efforts
3. Increase public awareness of pediatric specialty care resources
4. Explore relevant public use smartphone apps
5. Assist with development of EMS data dictionary
6. Develop recommendations for completeness of EMS documentation
7. Improve EMS for Children program outreach via social media
8. Develop additional online resources
9. Improve marketing to EMS and trauma community
10. Improve representation of pediatric champions outside of Denver area
11. Increase affordable educational opportunities for rural communities
12. Develop CE for apparent life-threatening event and toxicology
13. Improve promotion of EMS for Children activities
14. Assist with pushing out broad spectrum helmet use programs
15. Support concussion recognition and education

16. Work on bicycle safety issues (helmets, lights, riding tips)
17. Promote television safety awareness (fall & crush hazards)
18. Promote ATV safety awareness
19. Leverage information from child fatality review team for education and outreach
20. Make better use of student interns within the program
21. Develop additional funding streams / grants

HRSA Discretionary Performance Measures

Number	Performance Measures Title
PM07	The degree to which MCHB-funded programs ensure family, youth, and consumer participation in program and policy activities.
PM10	The degree to which MCHB-funded programs have incorporated cultural and linguistic competence elements into their policies, guidelines, contracts, and training.
PM24	The degree to which MCHB-funded initiatives contribute to infrastructure development through core public health assessment, policy development and assurance functions.
PM33	The degree to which MCHB-funded initiatives work to promote sustainability of their programs or initiatives beyond the life of MCHB funding.
PM41	The degree to which grantees have assisted in developing, supporting, and promoting medical homes for MCH populations.

Typical Annual Operating Budget

REVENUE		
State Partnership Grant	$	130,000
Simulation Trailer Rental	$	6,900
School of Medicine Contribution	$	6,000
Other Revenue	**$**	-
TOTAL REVENUE	**$**	**142,900**
EXPENSES		
Program Manager Salary	$	76,500
Program Manager Benefits	$	26,648
Program Supplies	$	500
Website Maintenance	$	2,000
Special Projects	$	-
Simulation Lab		
Fuel	$	3,200
Maintenance	$	1,000
Insurance	$	720
Supplies	$	1,000
Travel		
Program Manager	$	6,000
Family Representative	$	2,000
CDHPE Indirect	$	3,000
University Facilities & Administration	$	18,300
TOTAL EXPENSES	**$**	**140,868**