

WYRESTRAIN

WYoming REsponders Safe TRANsport INitiative

STRATEGIC PLAN



Maternal Child Health



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DEFINITIONS

Ambulance Child Restraint (ACR)	One of the many options available for securing a child to an ambulance cot. This cot restraint is the device purchased by the Wyoming Emergency Medical Services for Children (EMSC) program for distribution as part of WyRESTRAIN. The Wyoming Department of Health does not endorse this product. Its selection for purchase was based on the ease of use and the weight range offered by the device. Services may select any cot restraint they wish to utilize in their service.
bench seat	Also known as the squad bench, this is the multi-person side facing seat alongside the cot mounting area in the rear of a ground ambulance.
captain’s chair	Also known as the EMS provider’s seat, this is the passenger location that (typically an EMS professional) faces the rear exit of the emergency ground ambulance that is typically located immediately behind the driver’s seat. From this location, the person is physically able to see the patients being transported.
pediatric restraint system (PRS)	A PRS is any device (except a passenger system lap seat belt or lap/shoulder seat belt), designed for use in a motor vehicle to restrain, seat, or position a child.
cot	A temporary bed used in emergency ground ambulances for the purposes of transporting patients via ambulance to a medical facility for treatment. Also commonly referred to as a stretcher or gurney. A wheeled cot (elevating) or wheeled cot-bench (non-elevating) may be referred to as a litter.
cot restraints	A restraining device that is designed for use on a cot in an ambulance to restrain or position a child in a sitting position. Cot restraints may be devices that are permanently mounted (integrated) or can be secured to a cot in an ambulance.
FMVSS No. 213	Federal Motor Vehicle Safety Standard No. 213 is the standard for child restraint. FMVSS No. 213 specifies requirements for child restraint systems used in motor vehicles and aircraft. The purpose of FMVSS No. 213 is to reduce the number of children killed or injured in motor vehicle and aircraft crashes.
WATRS	Wyoming Ambulance Trip Reporting System. The patient care report (PCR) used by Wyoming ambulances
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INTRODUCTION

Core Outcome Measure (COM)

All children transported in an ambulance in Wyoming shall be restrained in the safest manner practically possible; with no child being transported in a caregiver's arms or on the bench seat of an ambulance.

Development of the Initiative

The Wyoming Responders Safe Transport Initiative (WyRESTRAIN) is a culmination of efforts by many partner agencies and contributors. The agencies and their representatives are listed in Appendix D. This project began in September 2014, and operates under the simple guiding principle, "All children who are transported by ambulance in Wyoming must be transported in the safest manner possible to prevent injury in the event of a crash." The National Highway Traffic Safety Administration (NHTSA) document, *Working Group Best-Practice Recommendations for the Safe Transportation of Children in Emergency Ground Ambulances* (September 2012), was used as guidance for the development of the policies and protocols.

Design of WyRESTRAIN

WyRESTRAIN consists of several phases with outcomes and measures that reflect back to the COM. They will be discussed individually in this document. The phases and their estimated timelines are:

1. Planning (September 1, 2014 – January 15, 2015)
2. Logistics (January 15, 2015 – March 1, 2015)
3. Implementation (March 1, 2015 – June 1, 2015)
4. Tracking (June 1, 2015 – May 31, 2016)
5. Review (June 1, 2016 – July 31, 2016)

Program effectiveness will be determined within two years after the completion of the implementation phase.

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Phases of Development and Implementation

1. Planning Phase

- a. Stakeholder/partner identification. (On-going)
- b. Collect and analyze existing data. (October 14, 2014)
- c. Partners provide input on policy guidance and protocol drafts. (December 16, 2014)
- d. Final draft approval by partners.
- e. Training needs assessment (agency/facility).
- f. Funding options identified.
- g. Develop performance/tracking measures for project. (December 1, 2014)

2. Logistics Phase

- a. Purchase of cot restraint devices (November 7, 2014)
- b. Development of training.
- c. Training plan.
- d. All training and equipment purchased for project.
- e. Needs assessment for agencies/facilities equipment. (December 14, 2014)
- f. Development of patient tracking in Wyoming Ambulance trip Reporting System (WATRS) and Trauma Registry.

3. Implementation Phase

- a. Distribution of guidelines.
- b. Acceptance of guidelines by agency/facility.
- c. Distribution of training.
- d. Distribution of Ambulance Child Restraint (ACR) device.
- e. Turn on patient tracking.

Tracking and Review Phases

4. Tracking/Data Phase

- a. Collect data for pediatric patients vs. use of restraints in patient care reports (PCR's) and/or trauma registry.
- b. Re-survey agencies to verify improvement of capabilities.

5. Review Phase

- a. Review data.
- b. Return to planning phase to address any shortfalls identified (plan-do-check-act).

APPENDIX A

INITIAL DATA and TARGETS

Ambulance Crash Data for Wyoming 1998-2012 (Source: Wyoming Department of Transportation (WYDOT) vehicle accident records)

According to existing data, between January 2008 and October 2014 there have been 22 crashes in Wyoming involving ambulances. Two of those were reported as having injuries associated with them. During the same period, there were no reported ambulance crashes in Wyoming that involved a passenger under the age of 15.

Survey Results from the 2013 EMSC Performance Measure Survey (Source: Wyoming EMSC Performance Measure Survey data received in 2013 from National EMSC Data Analysis Resource Center (NEDARC)).

I. Participation

Ambulance services were asked if they would be willing to answer voluntary questions about child restraints. Out of a total of 57 Wyoming respondents, 53 services (93%) answered the questions.

II. Awareness of NHTSA Guidelines

a. Current status

19/53 (36%) are aware of the document

b. Target status

100%

c. Activities to reach target

Each ambulance service in Wyoming will receive the NHTSA document as an Attachment of the WYRESTRAIN program.

III. Agencies that carry some type of a child restraint device

a. Current status

47/53 (89%)

b. Target status

100%

c. Activities to reach target

Services that are lacking any device are priority services. They will be the first to receive the ACR.

IV. Agencies that have a stretcher-mounted pediatric restraint

- a. Current status

19/47 (40%)

- b. Target status

100%

- c. Activities to reach target

The ACR is a stretcher-mounted pediatric restraint device. Agencies who do not have a stretcher-mounted pediatric restraint are a secondary priority, and will receive the ACR after the first priority group.

V. Agencies that transport a child routinely in a non-recommended method

- a. Current status

Inadequate data to assess

More detailed questions need to be asked in order to evaluate scenario based decisions on securing a pediatric patient. The data currently available is not specific enough to draw any conclusions.

- b. Target status

0%

- c. Activities to reach target

With the adoption of the guidelines and transport protocol, agencies will have an easy to use decision tree to ensure that they are using the safest method available given the situation they are faced with.

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Appendix A

	National Results		(State) Results	
CHILD RESTRAINT USE				
Agencies aware of NHTSA recommendations for transporting children	National Count	National %	State Count	State %
No	3384	60.22	34	64.15%
Yes	2235	39.78	19	35.85%
Total	5619	100	53	100.00%

Agencies that carry a child restraint device	National Count	National %	State Count	State %
No	772	13.74	6	11.32%
Yes	4847	86.26	47	88.68%
Total	5619	100	53	100.00%

Type of Child Restraint Carried				
Federally Approved child safety seat	National Count	National %	State Count	State %
No	2194	45.27	27	57.45%
Yes	2653	54.73	20	42.55%
Total	4847	100	47	100.00%

Inflatable pediatric transport seat	National Count	National %	State Count	State %
No	3844	79.31	29	61.70%
Yes	1003	20.69	18	38.30%
Total	4847	100	47	100.00%

Stretcher-mounted pediatric restraint	National Count	National %	State Count	State %
No	2789	57.54	28	59.57%
Yes	2058	42.46	19	40.43%
Total	4847	100	47	100.00%

Primary position of child restraint during transport	National Count	National %	State Count	State %
No Response	761	13.54	6	11.32%
Bench	84	1.49	0	0%
Attendant's / Captain's chair	1727	30.74	18	33.96%
Jump /CPR seat	55	0.98	0	0%
Stretcher	2931	52.16	28	52.83%
Other	61	1.09	1	1.89%
Total	5619	100	53	100.00%

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Agencies that are an approved car seat inspection station	National Count	National %	State Count	State %
No	4886	86.95	46	86.79%
Yes	733	13.05	7	13.21%
Total	5619	100	53	100.00%

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Pediatric Transport Guidelines

Criteria:

- A. These guidelines apply to every EMS response resulting in the need to transport pediatric patients who are of an age/weight that require the use of a child safety seat from the scene of an emergency. Pediatric patients that do not require a child safety seat should be transported following the same procedure as adult patients.
- B. These guidelines offer recommendations, as published by NHTSA, for the transportation of children in five (5) different possible situations:
 1. The transport of a child who is not injured or ill.
 2. The transport of a child who is ill and/or injured and whose condition *does not* require continuous and/or intensive medical monitoring or intervention.
 3. The transport of an ill or injured child who *does* require continuous and/or intensive monitoring or intervention.
 4. The transport of a child whose condition requires spinal motion restriction and/or lying flat.
 5. The transport of a child or children who require transport as part of a multiple patient transport (newborn with mother, multiple children, etc.).
- C. These guidelines do not offer recommendations on specific child restraint systems or products. Contact the EMS for Children Program ([Wyoming EMSC Program](#)) for child restraint information.

System requirements:

1. These guidelines provide general information related to the safe transportation of children in ground ambulances from emergency scenes. These guidelines are designed to work in conjunction with an agency's policies and procedures on this topic and are dependent on the availability of specialized equipment suggested in these guidelines.
2. These guidelines do not comprehensively cover all possible situations and EMS practitioner judgment should be used if a situation is presented that is not addressed below.

Guideline:

- A. The child's age and weight shall be considered when determining an appropriate restraint system. Child seat models offer a wide range of age/weight limits, so each individual device must be evaluated to determine the appropriateness of use.
- B. When possible, and with the exception of a minor vehicle crash (e.g. "fender-bender"), avoid transporting children in their own safety seats if the seat was involved in a motor vehicle crash. Use of the child's own seat can be considered if no other restraint systems are available and the seat shows no visible damage/defect.
- C. Transportation of a child in any of the following ways is NEVER appropriate:
 1. Unrestrained;
 2. On a parent/guardian/other caregiver's lap or held in their arms;
 3. Using only horizontal stretcher straps, if the child does not fit according to cot manufacturer's specifications for proper restraint of patients;
 4. On the multi-occupant bench seat or any seat perpendicular to the forward motion of the vehicle, even if the child is in a child safety seat.

Pediatric Transport Guidelines

Situation Guidelines:

*Ideal transport method is in **bold and highlighted in yellow**, with acceptable alternatives listed if ideal is not achievable*

1. Transport of an uninjured/not ill child
 - a. **Transport child in a vehicle other than a ground ambulance using a properly-installed, size-appropriate child restraint system.**
 - b. Transport in a size-appropriate child seat properly-installed in the front passenger seat of the ambulance with the airbags off or in another forward-facing seat.
 - c. Transport in a size-appropriate child seat properly-installed on the rear-facing EMS provider's seat.
 - d. Consider delaying the transport of the child (ensuring appropriate adult supervision) until additional vehicles are available without compromising other patients on the scene. Consult medical command if necessary.
2. Transport of an ill/injured child *not* requiring continuous intensive medical monitoring or interventions
 - a. **Transport child in a size-appropriate pediatric restraint system secured appropriately on the cot.**
 - b. Transport child in the EMS provider's seat in a size-appropriate restraint system.
 - c. Transport child on the cot using three horizontal straps (chest, waist, knees) and one vertical restraint across each shoulder.
3. Transport of an ill/injured child whose condition required continuous intensive monitoring or intervention.
 - a. **Transport child in a size-appropriate restraint system secured appropriately to the cot.**
 - b. With the child's head at the top of the cot, secure the child to the cot with three horizontal straps and one vertical strap across each shoulder. If assessment/intervention requires the removing of restraint strap(s), restraints should be re-secured as quickly as possible.
4. Transport of an ill/injured child who requires spinal motion restriction or lying flat.
 - a. **Secure the child to a size-appropriate spine board and secure the spine board to the cot, head first, with a tether at the foot (if possible) to prevent forward movement, and with three horizontal restraints (chest, waist, and knees) and a vertical restraint across each shoulder.**
 - b. Secure the child to a standard spine board with padding added as needed and secure using the strap configuration listed above.
5. Transport of a child or children requiring transport as part of a multiple patient transport (newborn with mother, multiple children, etc.).
 - a. **If possible, for multiple patients, transport each as a single patient according to the guidance provided for situations 1 through 4. For mother and newborn, transport the newborn in an approved size-appropriate restraint system in the rear-facing EMS provider seat with a belt-path that prevents both lateral and forward movement, leaving the cot for the mother.**
 - b. Consider the use of additional units to accomplish safe transport, remembering that non-patient children should be transported in non-EMS vehicles, if possible.

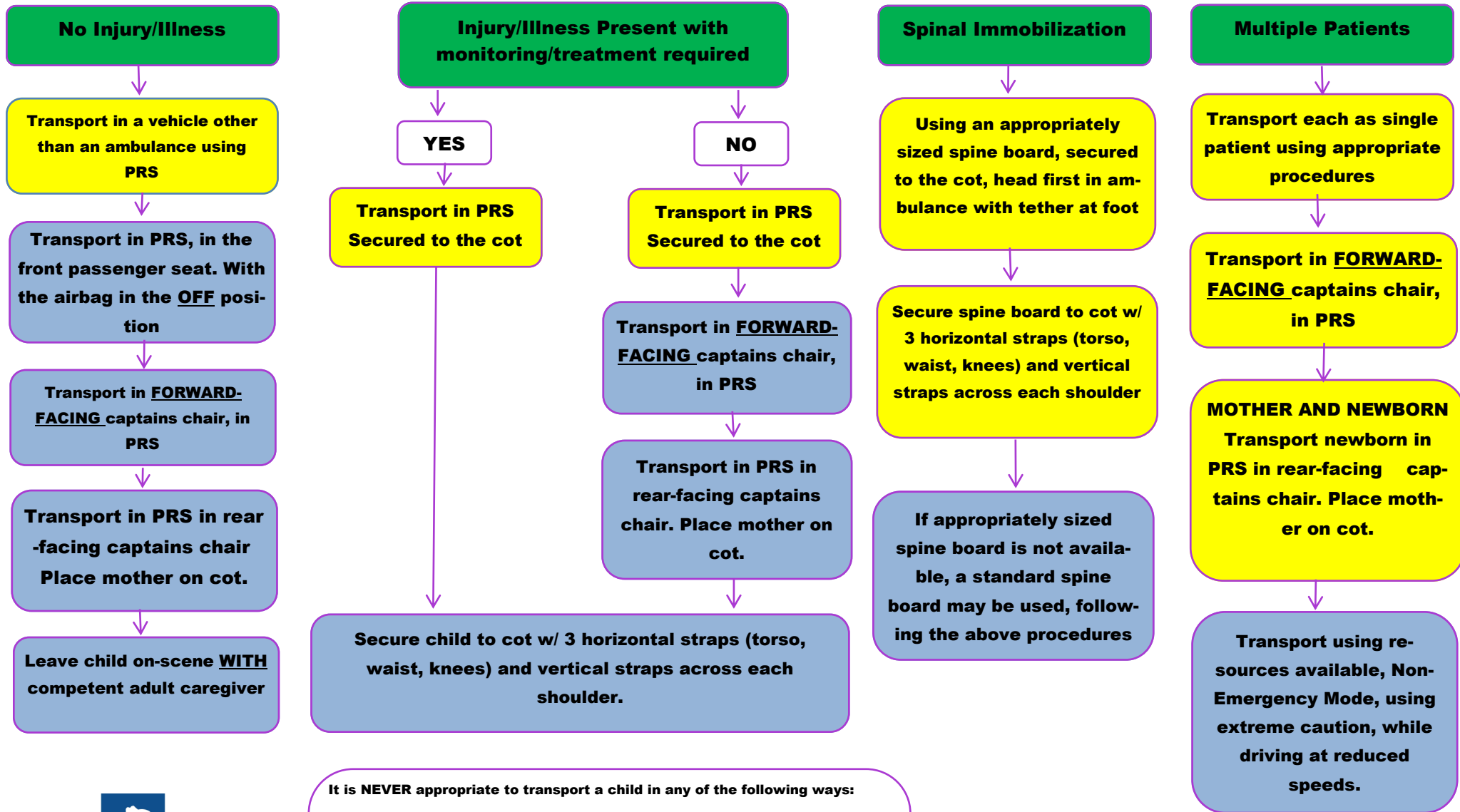
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APPENDIX B

- c. When available resources prevent meeting the criteria for situations 1 through 4 for all child patients, transport using space available in a non-emergency mode, exercising extreme caution and driving at a reduced speed.

Note: Even with childbirth in the field, it is NEVER appropriate to transport a child held in the parent/guardian/caregiver's arms or on a parent/guardian/caregiver's lap.

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Wyoming Pediatric Transport Protocol Guidelines



It is NEVER appropriate to transport a child in any of the following ways:

- 1) Unrestrained;
- 2) On someone's lap;
- 3) Only using horizontal stretcher straps when the child does not fit according to manufacturers recommendations;
- 4) On the bench seat or any seat perpendicular to the forward motion of the vehicle, even if the child is in a child safety seat.

PRS: Appropriately Sized Pediatric Restraint Device (Car seat, ACR, Pedi-Mate, Safe Guard, integrated captains chair, etc)
*MUST REFER TO MANUFACTURERS INSTRUCTIONS

