

Pediatric Emergency Care Applied Research Network (PECARN) Update

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Acknowledgement

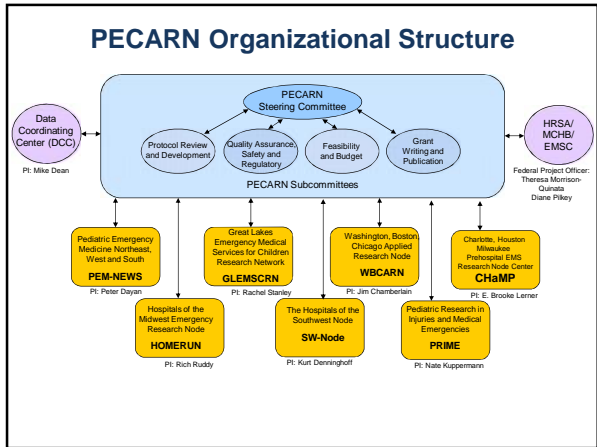
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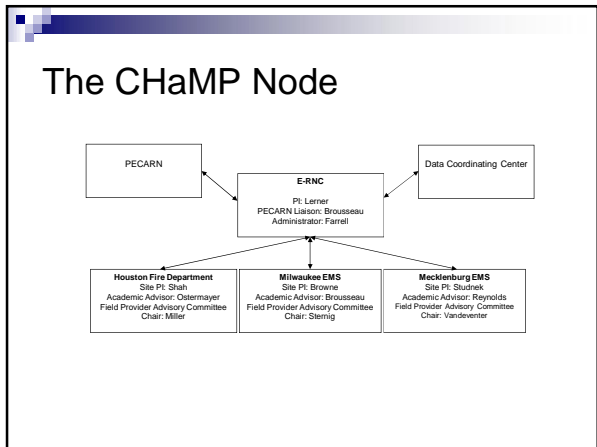
What's New in EMS at PECARN

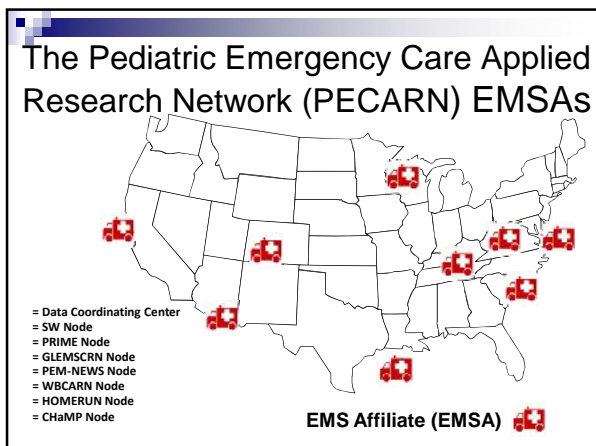
- Addition of EMS Affiliates (EMSAs)
- Engaging Field Provider Advisory Committees (FAC)
- Developed an EMSA Consortium
- Concentrated effort to conduct innovative and relevant pediatric prehospital research

PECARN (Pediatric Emergency Care Applied Research Network) is a **collaborative research network**:

- 18 Hospital Emergency Department Affiliates (HEDAs)
- 7 Research Node Centers (RNC)
 - Including CHaMP – the first EMS-focused Node
- A data coordinating center (DCC)







PECARN EMSA Network

	Coverage Area	Population Served	Ped. Population	Square Miles	Annual EMS Calls	Annual Ped. Calls	Response	Number of Paramedics
Mecklenburg EMS	County	919,628	269,568 (29%)	544	87,408	12,795 (15%)	All ALS	220
Houston FD	City	2,099,451	632,724 (30%)	654	220,708	8,612 (4%)	ALS or BLS	475
Milwaukee EMS	County	947,435	282,179 (30%)	241	40,032	3,794 (10%)	ALS or BLS	339
Aurora Fire Department	County	324,601	88,616 (27.3%)	154	27,340	2,886 (10.5%)	ALS or BLS	155
Cincinnati FD	City	297,150	84,641	78	57,243	5,328	ALS	331
Columbus Fire	Metro Area	800,000	197,000	240	125,000	11,250 (11%)	ALS	600
Prince George's County EMS	PG County Maryland	890,081	202,048	482	Over 130,000	11,948 calls	ALS or BLS	405
Sacramento City FD	Sacramento County	520,000	146,346 (28%)	146	43,913	2,667 (6%)	ALS	358
Southern Arizona	Tucson, AZ	650,606	195,400 (30%)	366	93,779	6,640	ALS or BLS	323
Total	-	7,448,952	2,098,522	2,905	825,423	65,920	-	3,206

- ### Common Elements
- All sites have prior research experience
 - Including RCTs
 - All sites have collaborated on research
 - All sites maintain medical record databases
 - NEMSIS compliant
 - All have an IRB of record
 - Able to review EFIC trials
 - Have experienced field providers on advisory committees

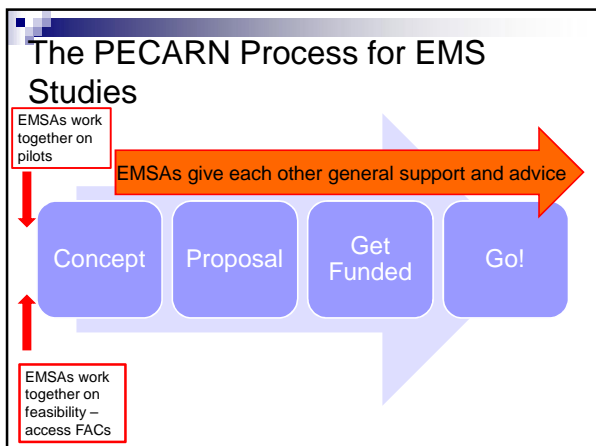
Prehospital Provider Involvement

- Field Advisory Committees (FAC)
 - Active field providers review proposals for relevance and feasibility
 - All are EMS field providers with an interest in EMS research
 - Most meet monthly

The EMSA Consortium

The PECARN Process

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graph LR; A[Concept] --> B[Proposal]; B --> C[Get Funded]; C --> D[Go!];
```



Participation

- Anyone can join the EMSA Consortium
- Need to have an interest in conducting an EMS study within the PECARN infrastructure
- Must be willing to support others and collaborate

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First project: create a database of EMS response data

Why Create A Database

- Variables could provide pilot data
- Understand EMS responses
- Determine sample size
- Conduct observational studies

But Why Create A NEW Database?



NEMSIS/PECARN Project

- Some minor obstacles
 - Needed collaboration from NHTSA and NEMSIS Technical Assistance Center (TAC)
 - Agency is not in public dataset
 - Need Data Use Agreements (DUA) from state and/or agency/municipality to allow NEMSIS to release
 - Not all of our agencies were in places that were participating in NEMSIS

DUAs

Complete

- ✓ California
- ✓ Colorado
- ✓ Maryland
- ✓ North Carolina

In Process

- **More than one agency**
 - Wisconsin – municipalities' documented agreement; DUA now at state for review
- **Working on State level NEMSIS submission**
 - Ohio – legislation passed to release data to NEMSIS
 - Texas – municipality signing DUA in process
 - Arizona – starting process

Initial PECARN NEMSIS Data

- Data from 3 EMSAs over 6 months
- 451,615 EMS Runs
 - 6% pediatric
 - 51% Male
 - 34% 0-4 years

Age Group	Percentage
0-4 Years	34%
5-11 Years	22%
12-14 Years	12%
15-17 Years	21%
18 Years	11%

Breakdown of Pediatric Runs

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    graph TD
      A[Pediatric EMS Runs: 25,819] --> B[Canceled/No Patient Found: 76]
      A --> C[Refused/No Treatment Needed: 3,245]
      A --> D[Treated: 22,468]
      A --> E[Dead: 30]
      D --> F[Treated and Released: 3,035]
      D --> G[Transferred Care: 447]
      D --> H[Transported: 18,868]
      D --> I[Treated / Transported by Private: 118]
      H --> J[Initiated by 911 Response: 14,660]
    
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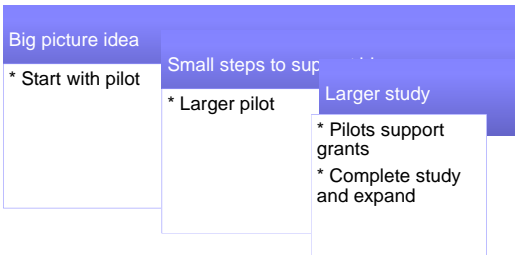
Leading Chief Complaints for Transported 911 Initiated Runs

Chief Complaint	Frequency	Percent
Unknown/Unavailable	4,879	33%
Traumatic Injury	2,837	19%
Seizure	1,431	10%
Respiratory	1,307	9%
Behavioral	817	6%
Abdominal Pain	640	4%
Syncope/Fainting	559	4%

Research Follows A Path



Our Path to Research



Select Research Under Development

- Improve prehospital pain management
- Development of tool to identify severely ill children
- Improve prehospital seizure management
- Improve airway management
- Improve potential c-spine injury management
- Identification of severely injured children

Other Research Resources

- Lecture series on EMS research
- NIH grant workshop lectures and notes
- www.mcw.edu/Champ



Questions?

For More Information

- Website: www.mcw.edu/champ



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