



UTAH | PEDIATRIC
TRAUMA NETWORK

Improving the care of injured kids across the state

Katie W. Russell, MD, FACS

Associate Professor of Pediatric Surgery

University of Utah School of Medicine

Trauma Medical Director, Primary Children's Hospital



2018 Senate Joint Resolution 006

Bill Sponsor:



Sen. Iwamoto, Jani

Floor Sponsor:



Rep. Ward, Raymond P.

Substitute Sponsor: Sen. Iwamoto, Jani

Drafting Attorney: Daniel M. Cheung

Fiscal Analyst: Gary K. Ricks

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**JOINT RESOLUTION ENCOURAGING THE REDUCTION OF
PEDIATRIC DEATHS FROM INJURY AND ILLNESS**

2018 GENERAL SESSION

STATE OF UTAH

Chief Sponsor: Jani Iwamoto

House Sponsor: Raymond P. Ward

“This concurrent resolution of the Legislature and the governor encourages the Utah Department of Health to convene **a multi-stakeholder Pediatric and Trauma Quality Assurance Network** to advise the department on triage, transport, transfer, and treatment of ill and injured pediatric patients in Utah”.



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Public – Private Partnership



Finalized February 2019

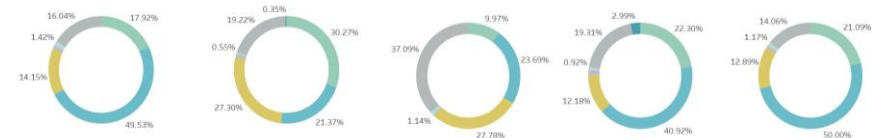
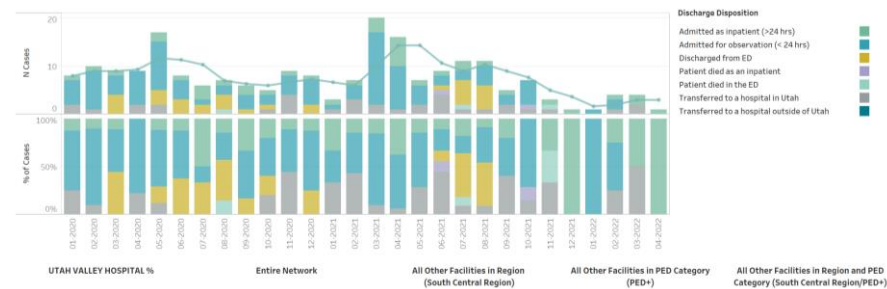
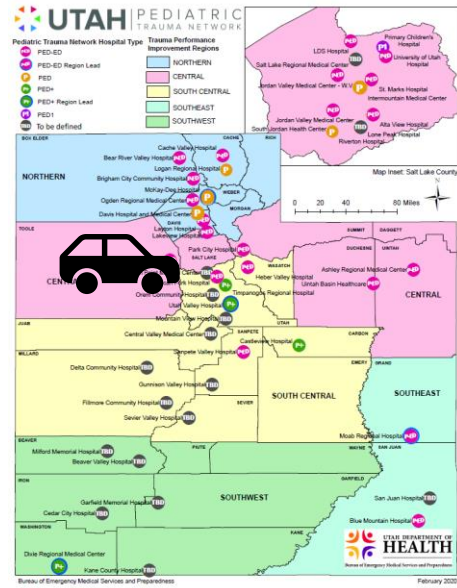
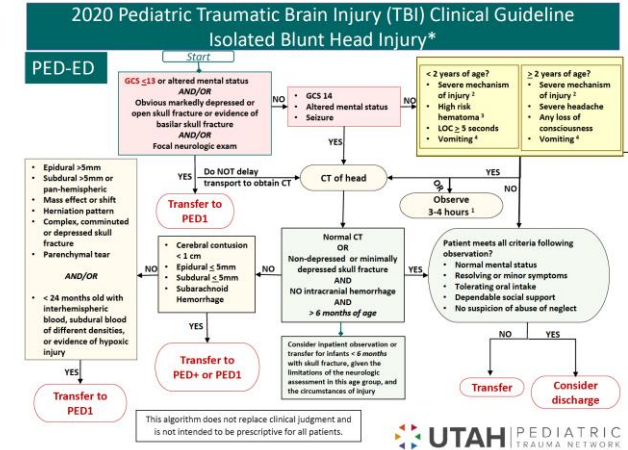


The vision of the Utah Pediatric Trauma Network is to establish a Statewide network, inclusive of **all regions and hospitals in Utah**. The Network will collectively implement injury prevention initiatives, **evidence-based best practices**, and transfer guidelines **to improve outcomes** for the pediatric victims of trauma, and to **decrease the financial and personal cost** to the citizens and families of the State of Utah.



UPTN Creation and Development

| | PED-ED | PED | PED+ | PED1 |
|---------------------------------------------------------------------------------------|--------|-----|------|------|
| Pediatric equipment in the Emergency Department "Essential Pediatric Equipment" > 90% | ✓ | ✓ | ✓ | ✓ |
| PALS credentialed staff and providers (or equivalent / Board Certification) | ✓ | ✓ | ✓ | ✓ |
| Pediatric Emergency Care Coordinator MD / APP (PECC MD / APP) | ✓ | ✓ | ✓ | ✓ |
| Pediatric Emergency Care Coordinator RN (PECC RN) | ✓ | ✓ | ✓ | ✓ |
| National Pediatric Readiness Score (NPRP) | >80% | >85 | >90% | >95% |
| Inclusion of pediatrics into a minimum of 1 disaster drill annually | ✓ | ✓ | ✓ | ✓ |
| Pediatric annex to hospital disaster plan | ✓ | ✓ | ✓ | ✓ |
| Pediatric-specific area in the hospital | ✓ | ✓ | ✓ | ✓ |
| Staff trained in pediatric care | ✓ | ✓ | ✓ | ✓ |
| Pediatric providers; pediatricians, general practitioners, pediatric hospitalists | ✓ | ✓ | ✓ | ✓ |
| Observation < 24 hours | ✓ | ✓ | ✓ | ✓ |
| Surgeon available | ✓ | ✓ | ✓ | ✓ |
| Pediatric Radiology | ✓ | ✓ | ✓ | ✓ |
| Admit > 24 hours | ✓ | ✓ | ✓ | ✓ |
| Access to Child Abuse Specialists | ✓ | ✓ | ✓ | ✓ |
| Pediatric sub-specialists | ✓ | ✓ | ✓ | ✓ |
| Pediatric Trauma ICU | ✓ | ✓ | ✓ | ✓ |
| ACS Verified Level I or II Pediatric Trauma Center | ✓ | ✓ | ✓ | ✓ |



REDCap

Log in as: khrs.hansen@utah.edu

My Projects

- Project Home
- Project Setup
- REDCap Messenger
- Project status: Production

Data Collection

- Manage Survey Participants
- Record Status Dashboard
- Add / Edit Records
- 1. Record ID 150
- Select other record
- Launch Network Entry Form

Applications

- Calendar
- Data Exports, Reports, and Stats
- Data Import Tool
- Data Comparison Tool
- Login
- Field Comment Log
- File Repository
- User Rights and DAGs
- Data Quality

Reports

- Primary Cases
- All cases

Help & Information

- Help & FAQ
- Video Tutorials
- Suggest a New Feature
- Contact REDCap administrator

Pediatric Trauma Registry

Assign record to a Data Access Group? - select a group -

Trauma Network Entry Form

Adding new 1. Record ID 150

1. Record ID: 150

2. Hospital State: Utah

3. FIN or Encounter #: 150

4. Patient last name: Enter the patient's last name.

5. Patient first name: Enter the patient's first name.

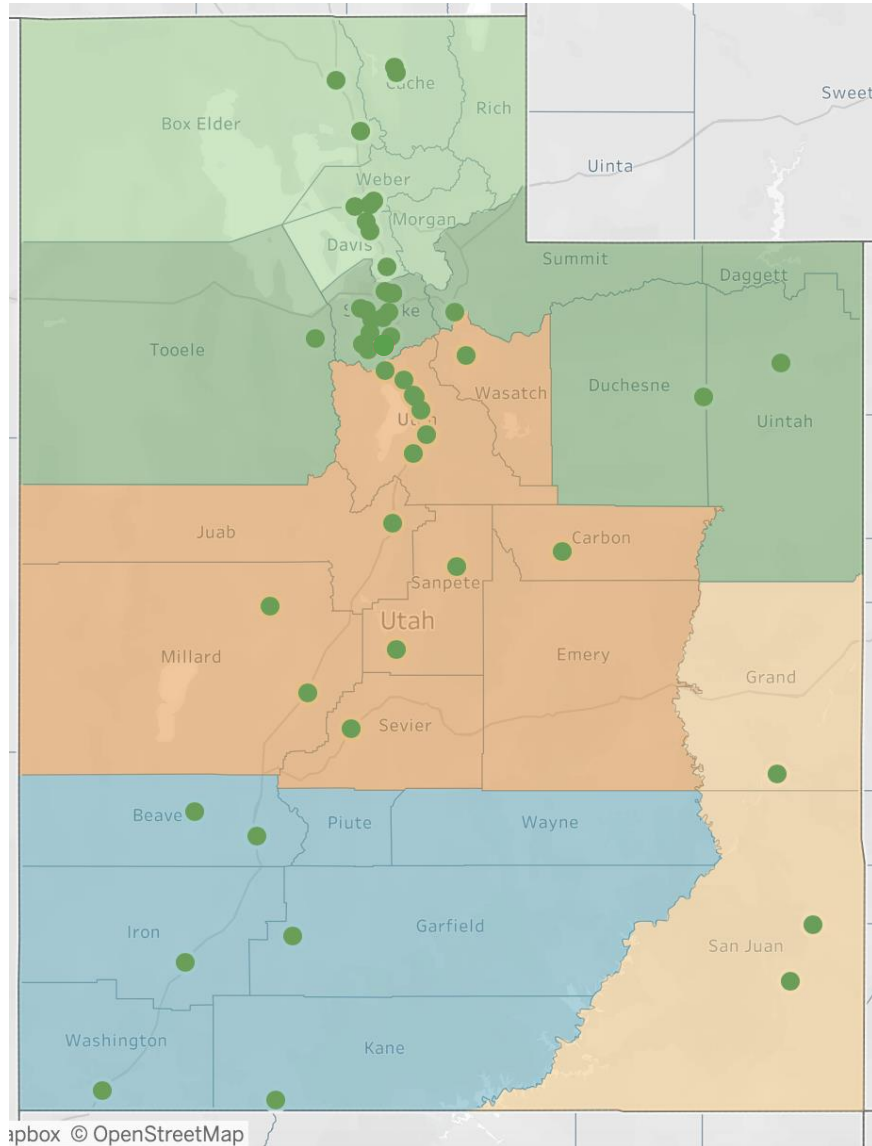
6. Patient alias name: Enter the alias name used for the patient.

7. Mode of Arrival: Emergency medical transportation

8. Date and time of arrival: Enter date / time patient arrived at your hospital or if case is transferred from another hospital in Utah

9. Date and time of discharge: Enter date / time patient arrived at your hospital or if case is transferred from another hospital in Utah

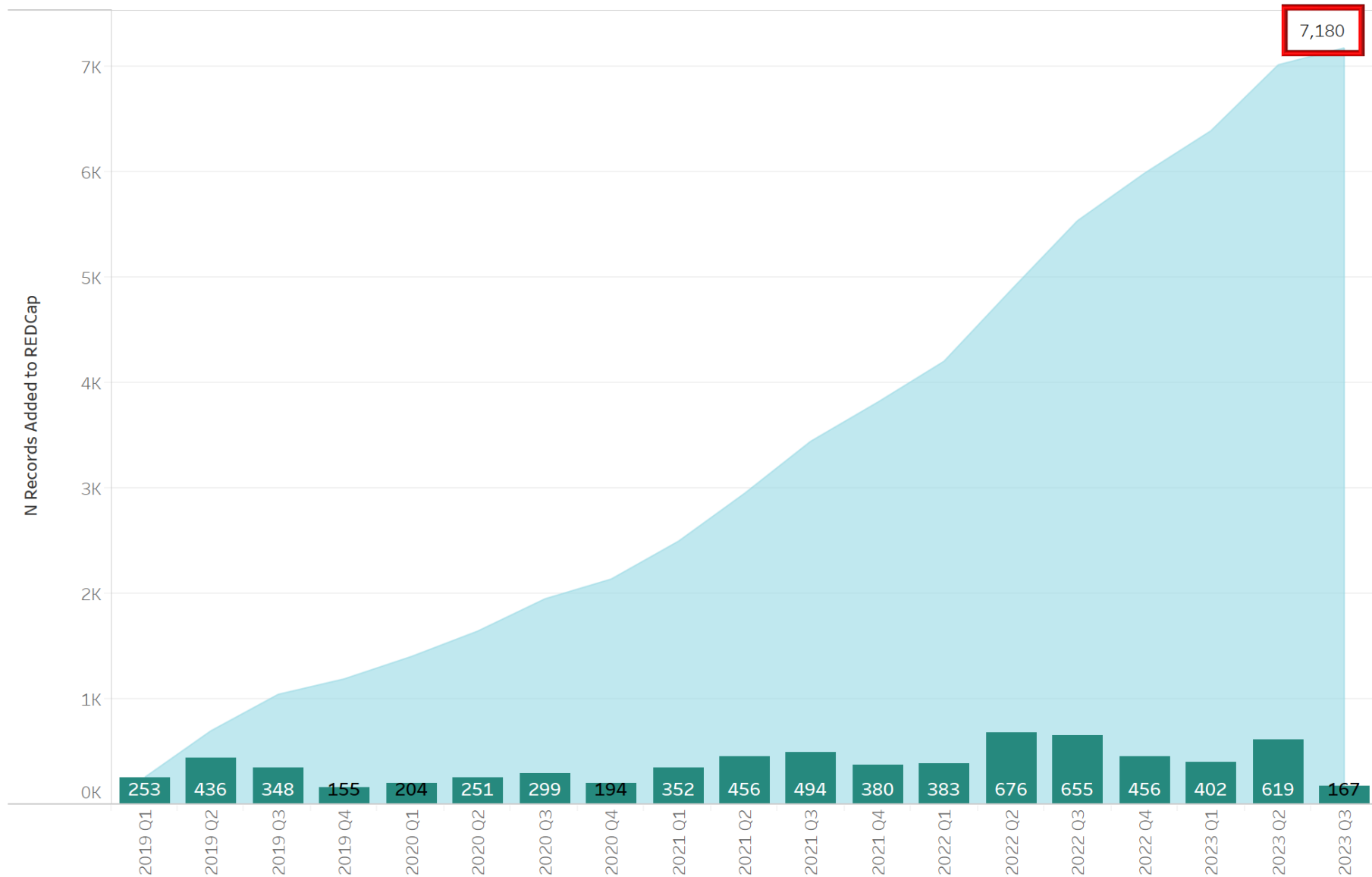
UPTN Hospital REDCap® Participation



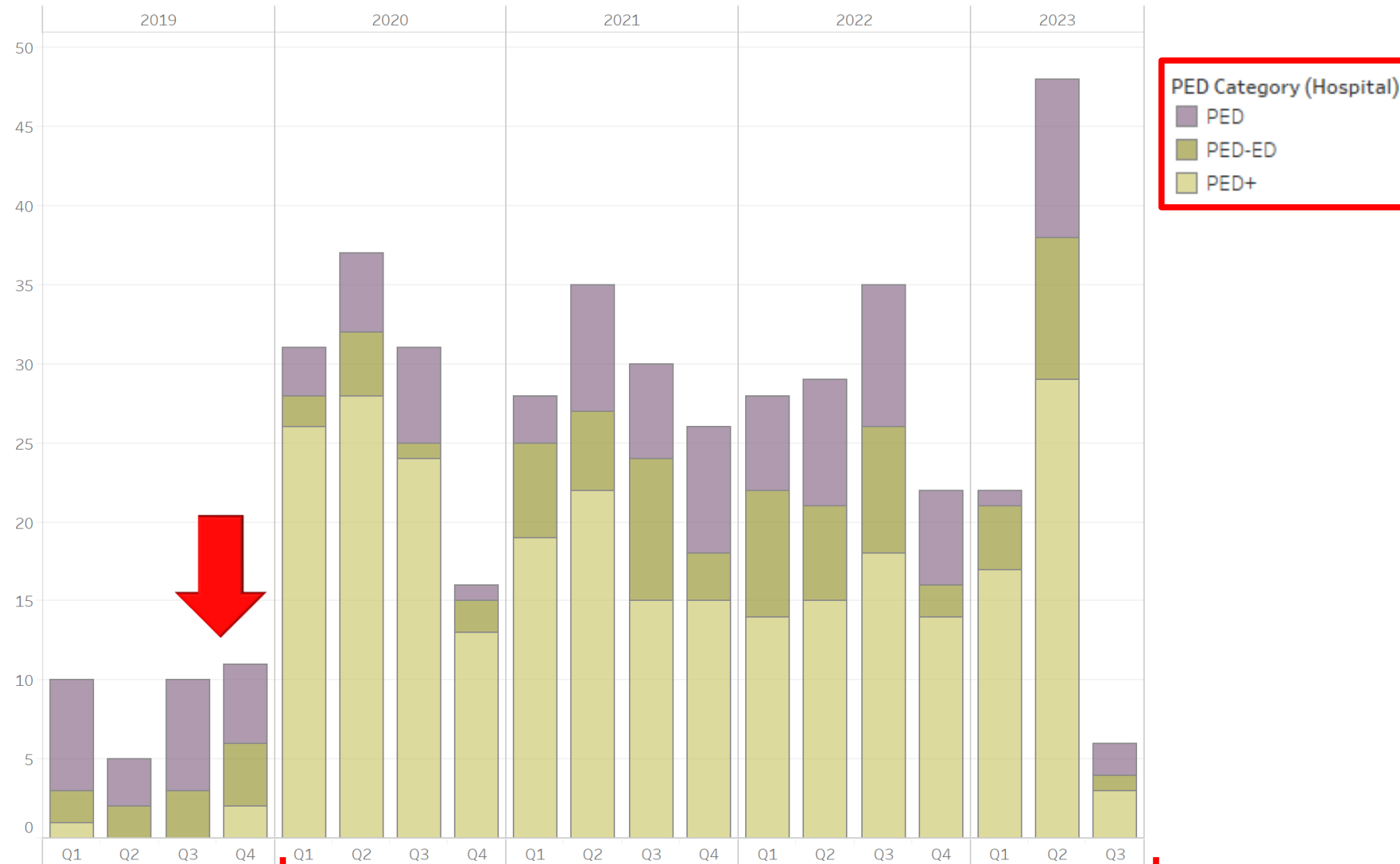
100% Participation



Cases by Quarter in UPTN REDCap® Database



Admissions for low severity TBI at non-Pediatric Hospitals



UPTN TBI Admission Study

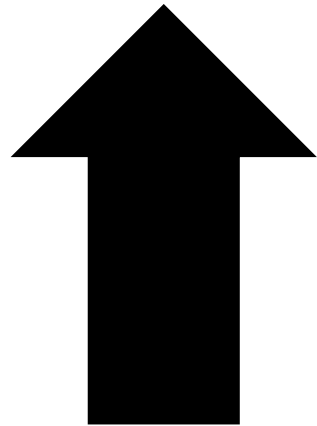
Kids with mild TBI admitted to local non-pediatric hospitals

| | 2019 | 2020 | 2021 | 2022 |
|---------------------|------------------|-----------------|-----------------|-----------------|
| N | 40 (9%) | 139 (32%) | 115 (26%) | 137 (32%) |
| Median age (years) | 15.7 (9.7, 16.9) | 9.6 (3.2, 15.8) | 8.6 (3.4, 15.2) | 9.4 (3.5, 14.6) |
| Children < 14 years | 15 (38%) | 92 (66%) | 79 (69%) | 75 (55%) |

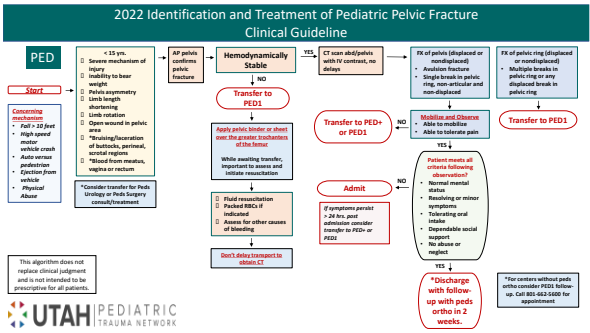
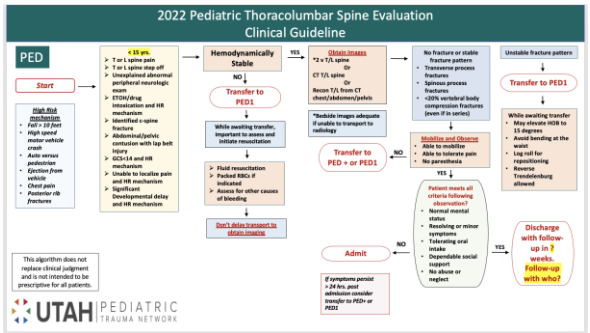
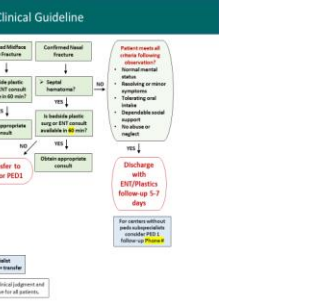
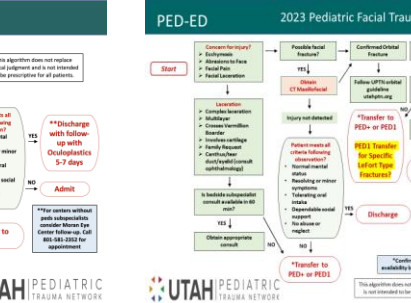
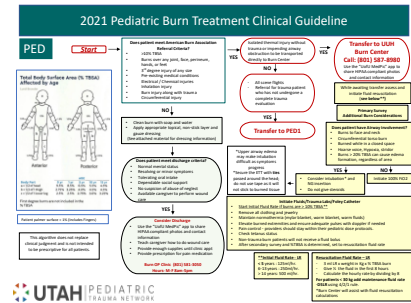
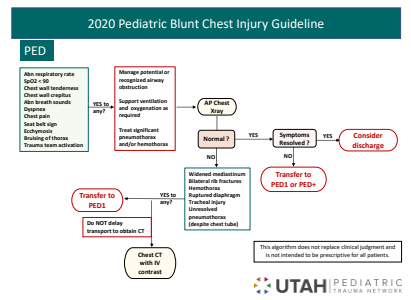
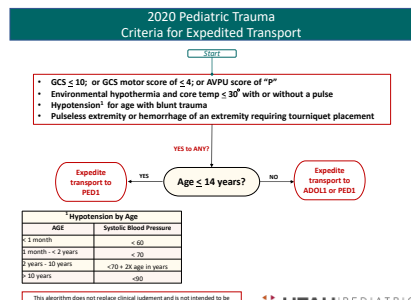
UPTN works!



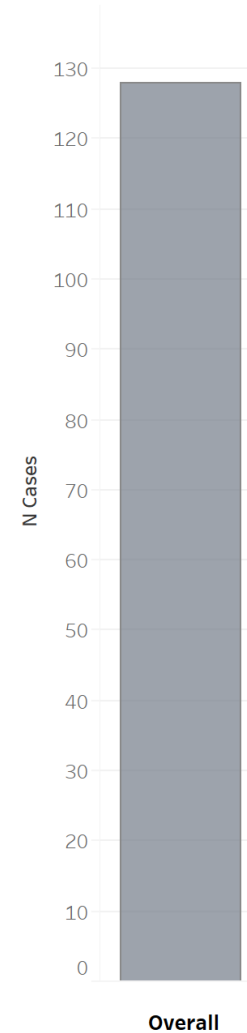
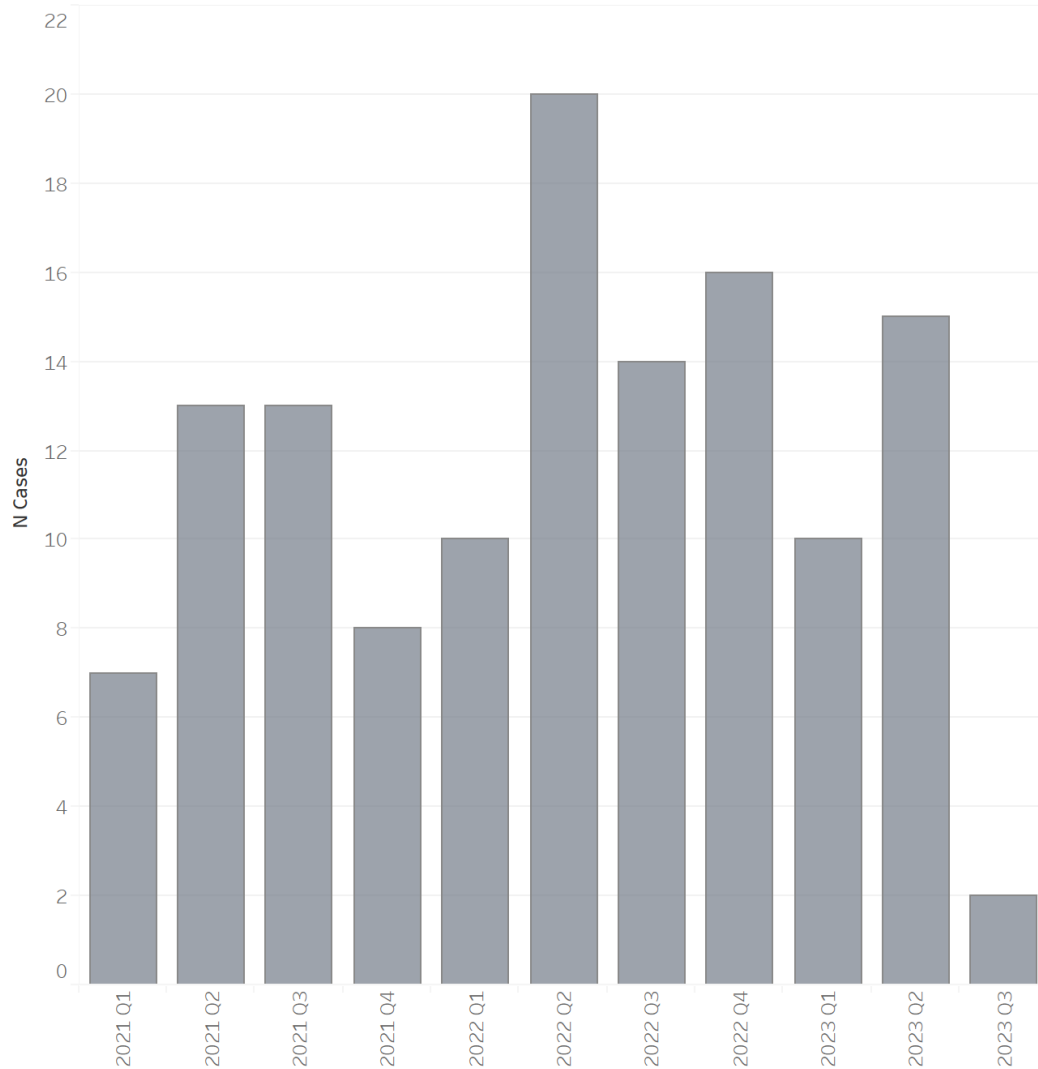
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More kids with mild TBI can safely
stay closer to home without transfer

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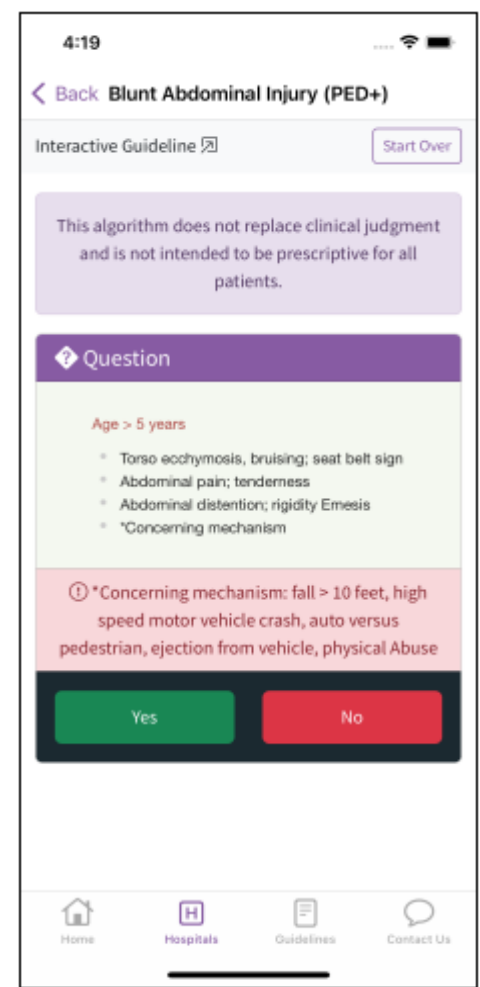
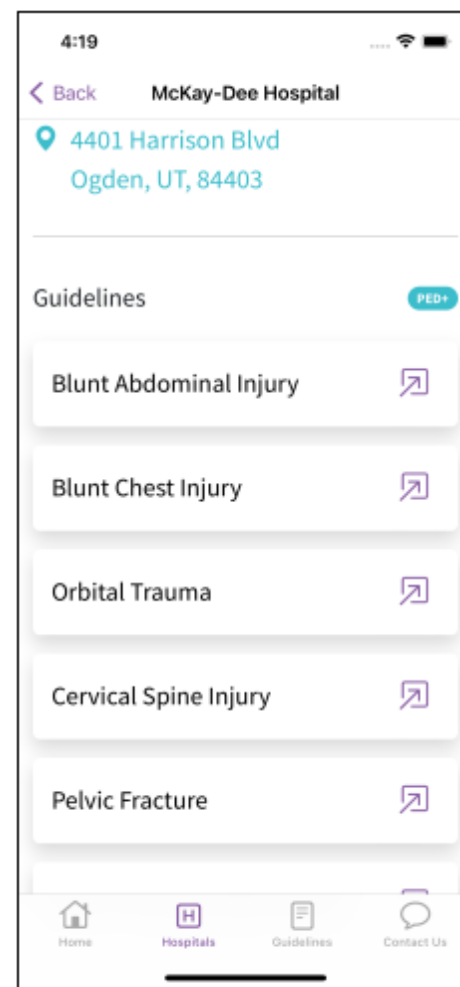
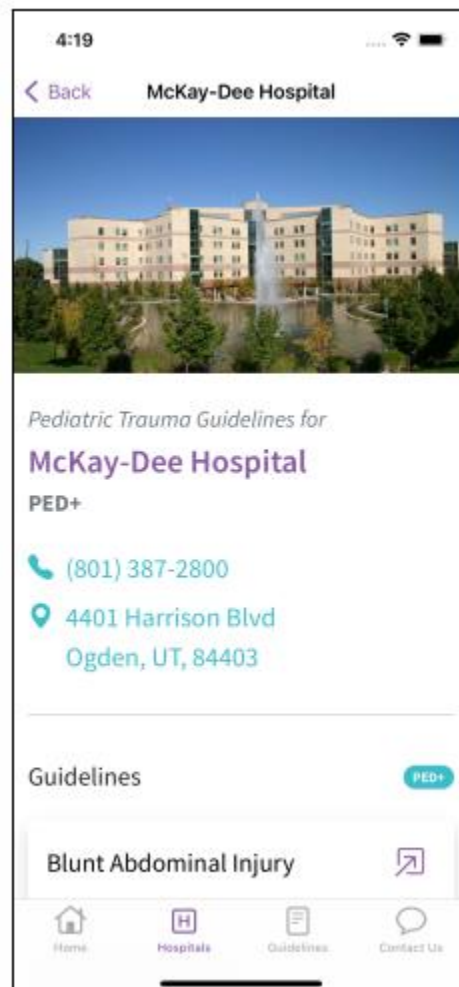
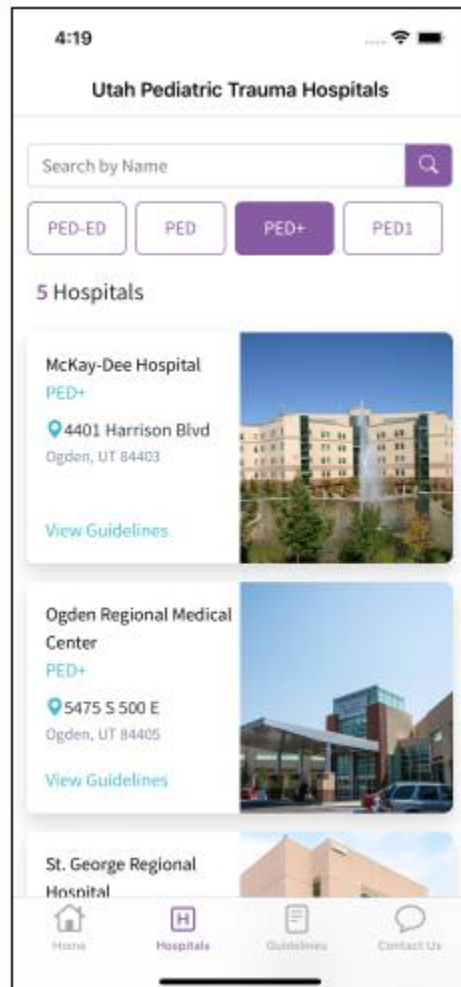
Telehealth consults NOT transferred to PED1



Separate but Parallel Programs



UPTN Mobile App





Increasing UPTN Annual Support

UPTN Program Support

| Data Analyst (1 FTE) | Data Registrars (3 FTE) | Administrative Assistant | Operational costs | Annual Conference | Total Annual Funding Increase |
|-------------------------|----------------------------|-----------------------------|----------------------|----------------------|-------------------------------------|
| \$ 125,000.00 | \$ 180,000.00 | \$ 20,000.00 | \$ 30,000.00 | \$ 10,000.00 | \$ 365,000 |

General Fund = \$278,000



State Medicaid Plan = \$ 87,000

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THE WALL STREET JOURNAL.

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WSJ NEWS EXCLUSIVE

Children Are Dying in Ill-Prepared Emergency Rooms Across America

Hospitals and regulators have done little to ensure E.R.s are ready to treat children in emergencies, while researchers prove taking basic steps can save lives



In states with no readiness program

| | | | | |
|------|-------|-------|--------|-------|
| Ala. | Ark. | Ga. | Hawaii | Idaho |
| Kan. | La. | Md. | Miss. | N.D. |
| Ohio | Okla. | Ore. | Pa. | S.D. |
| Fla. | Mass. | Mich. | Minn. | N.C. |
| Vt. | Va. | Nev. | R.I. | Wash. |



Half of states don't have programs to verify E.R.s for pediatric readiness, and only a small share are ready for children

In states with voluntary program

| | | | | |
|--------|-------|--------|------|-------|
| Maine | Texas | Colo. | Ind. | Iowa |
| Mo. | Neb. | N.M. | N.Y. | S.C. |
| W.Va. | Wis. | Alaska | Ky. | Ariz. |
| Calif. | Conn. | Mont. | N.H. | Wyo. |
| Del. | Utah | | | |

Mandatory program

| | | |
|------|------|-------|
| Ill. | N.J. | Tenn. |
|------|------|-------|

“Right Sizing” Pediatric Trauma Care



UTAH | PEDIATRIC
TRAUMA NETWORK

- Right care
- Right place
- Right time

Thank You!



stephen.fenton@hsc.utah.edu
(210) 315-0233



katie.Russell@hsc.utah.edu
(801) 557-6295



matthew.eyre@imail.org
(801) 787-4184

Cost savings to the State

Assuming **350 patients/year** with low acuity traumatic brain injury can avoid transfer to PCH

| | |
|---------------------------------------|----------|
| Average hospital charge < 24 hours | \$2,650 |
| Average ED charge for < 4 hours | \$900 |
| Average hospital charge 24 – 48 hours | \$3,860 |
| Average air transport (+50 miles) | \$30,950 |
| Average ground transport (+ 50 miles) | \$3,245 |

30% are Medicaid or no pay
2/3 are commercial insurance

| | |
|-----------------------------------------------------------|-------------|
| If 25% (88 kids) transferred by air (median 50 miles) | \$2,723,600 |
| If 75% (262 kids) transferred by ground (median 50 miles) | \$850,190 |

| | |
|----------------------------------------------|-----------|
| If 30% (105 kids) are discharged from the ED | \$94,500 |
| If 70% (245 kids) are admitted from the ED | \$220,500 |

| | |
|---------------------------------------------|-----------|
| If 85% (208 kids) are admitted < 24 hours | \$551,200 |
| If 15% (37 kids) are admitted 24 – 48 hours | \$142,820 |

| | |
|----------------------------------------------|--------------------|
| Total charges | \$4,582,810 |
| Total savings for Utah Medicaid (30%) | \$1,374,843 |

Traumatic Brain Injury

Cervical spine injury

Thoracolumbar spine injury

Blunt chest injury

Abdominal Solid Organ Injury

Pelvic injury

Orthopedic injuries

Maxillofacial injuries

In-patient pediatric trauma care