Moving Towards Standardized Pediatric Performance Improvement Measures in Non-Accidental Trauma: A Modified Delphi Approach

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Disclosures

- None
The problem

- Multiply injured
- Delayed presentation
- Many nuances in presentation and diagnosis
- Higher likelihood of system-level performance improvement issues

- Small section of Orange Book
  - “child maltreatment assessment”
- Not addressed in TQIP
  - Subsets
  - Performance measures
- No specifics in ICD10 coding
Goals

- Assess current practices related to CPA PI among verified pediatric trauma centers
- Identify points of consensus in CPA PI practices
Methods

- Modified Delphi approach to build consensus in 2 rounds
  - ≥70% agreement threshold
- Electronic Survey
  - Rd 1 – current practice; multiple choice and open-ended
  - Rd 2 – consensus; 5-point Likert scale of agreement
- Pediatric trauma program managers or coordinators

https://research.phoenix.edu/content/research-methodology-group/delphi-method
Methods – survey

- Trauma center demographics
- Child abuse team
- CPA guideline
- Trauma PI practices
- Registry coding of abuse
- Case tracking
- Advocacy and prevention
Results

- 57 responded to both
Results – child abuse team

- 80% have a dedicated team
- Of those with a team:
  - 94% have a certified child abuse physician
  - 69% have a dedicated social worker
  - 65% have dedicated clinical staff
- 20% do not have a team

- Of those with an abuse physician:
  - 47% standing member of PIPS *(67%)
  - 37% intermittent member *(63%)
  - 16% not invited/involved
Results – guideline composition

- 55% have a CPA guideline
  - 62% of Level 1 PTCs
  - 45% of Level 2 PTCs
  - 55% of State PTCs

- 100% should have a CPA guideline
  - 92% the CPA guideline should be approved by Trauma PIPS

- 93% agreed standardized CPA guidelines across institutions would be beneficial
Results – guideline composition

Of those with a CPA guideline:

- Most (70% or greater) include:
  - Red flag findings
  - ED screening & management
  - Referral to state agencies
  - Trauma consult
  - Child abuse team consult
  - Social work consult
  - Ophthalmology consult
  - Skeletal survey
  - Head CT

- Less (40-70%) include:
  - Inpatient screening and management
  - Admitting service criteria
  - Abdominal CT imaging
  - Head MRI criteria
  - Abdominal injury labs
  - Bleeding disorder labs
  - Bone fragility labs

- Few (<40%) include:
  - Admission criteria
  - Outpatient screening and management *
  - Genetics service consult *
  - C spine imaging (CT or MRI)
  - Abdominal US

Consensus on 23/25 components
Results – performance improvement

- 34% have a systematic process for reviewing CPA cases for PI

![Performance Improvement Measures Used](chart.png)
Results – coding of abuse

- Wide variety about how abuse is coded
- Most common method – if any physician documents a concern for abuse in the patient record
- 40% follow up on CPA cases to determine if abuse is confirmed or ruled out
  - Of these 22 update their trauma registry accordingly
- Should follow a specific, nationally standardized process for determining child abuse codes (98%)
- Specific criteria should be developed (96%)
Results – coding of abuse

- Proposed coding algorithm:

<table>
<thead>
<tr>
<th></th>
<th>Definite or likely</th>
<th>Questionable or unknown</th>
<th>Definitely not or likely not *51%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary E-code</td>
<td>T74.12X</td>
<td>T76.12X</td>
<td>Stated mechanism</td>
</tr>
<tr>
<td>Secondary E-code</td>
<td>Perpetrator code Y07.XX</td>
<td>Stated mechanism</td>
<td>T76.12X</td>
</tr>
</tbody>
</table>

- Any child investigated for abuse should have an abuse E-code *69%
- PTCs may use a D-code for abuse but should also use an E-code *65%
- Proposed algorithm as a whole: *61%
Results – coding of abuse

- PTQIP should include:
  - A cohort for child physical abuse (96%)
  - Process measures for child physical abuse (92%)
    - Only if abuse coding and classification are standardized (71%)
  - Child abuse as a separate group, independent of other mechanisms of injury in risk adjustment modeling (84%)
Results – advocacy and prevention

- 58% of PTCs conducted an awareness event in the previous year.
- PTCs should actively participate in campaigns focusing on increasing community awareness of child physical abuse (98%).
Results – advocacy and prevention

- 44% of PTCs have an active child physical abuse prevention program
- PTCs should have a demonstrable prevention program that focuses on preventing child physical abuse (82%)
Conclusions

- Quickly reached consensus regarding:
  - Composition and role of child abuse team
  - Presence and content of CPA guideline
  - Routine PI measures
  - Need for standard coding
  - PTQIP cohort and measures
  - Advocacy and prevention

- No consensus on:
  - Specifics for coding abuse when ruled out
Limitations

- Survey, dependent on self report
- Pediatric trauma program managers only
- Survey design confounders
Conclusions

- Assessed current practices related to CPA PI among verified pediatric trauma centers
- Identified many points of consensus in CPA PI practices
Next steps

- Develop a PI toolkit for pediatric trauma centers
- Additional opportunities for Delphi process on future PI topics
Thank you!

...to everyone that participated in either survey!

Questions or comments – tnickoles@phoenixchildrens.com