Pediatric Injury Prevention Project: A clinic-based unintentional injury pilot

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Previous studies have shown that physician counseling can positively impact behavior. (Bass J, et al. Pediatrics 1993) and that a promising approach to delivering injury prevention messages by health care providers is the integration of tailored education materials to families. (McDonald E, et al. Patient Educ Couns 2005).

Who: Parents of children 2 months - 4 years of age

What: Unintentional injuries

Where: Large pediatric primary care clinic
   – Hispanic/low income

When: January 20 - April 23 2010

How: Personalized computer-based injury risk assessment
   2 greatest childhood injury risks identified
   Provider discussed results and provided tips to increase safety behavior
   Utilized an evidence informed computer assessment

Funding: Texas Department of State Health Services
Goal

Increase adoption of protective safety behaviors

- Identify unintentional injury risks for children
- Evaluate program satisfaction
Parents completed a computer injury risk assessment for child being seen at well-child visit.

Greatest 2 injury risks for the child identified.

Printout with child’s 2 injury risks.

Trained physician discussed the risks and tips to increase safety with parent.

Telephone follow-up survey 3 weeks later.

Determine program satisfaction and behavior change.
Project Enrollment
January 20, 2010 – April 23, 2010

Eligible 570

Assessment 397 (70%)

Telephone Follow-up Survey 270 (68%)

No Assessment 173 (refused, computer error, literacy)

No Survey 127 (unable to reach)
Assessment

- Software program loaded on a computer located in pediatric clinic waiting room
- Demographic information
- Attitude and behavior questions about childhood injury
- Injury risks areas included:
  - Burn safety
  - Car seat safety
  - Sleep, eat and play safety
  - Poisoning safety
  - Water safety
Results

Assessment 397

English speaking
133 (33.5%)
• 4.6 minutes to complete*

Spanish speaking
264 (66.5%)
• 8.8 minutes to complete*

* P<0.0001
Assessment
Child’s Race/Ethnicity
(N=397)

- Hispanic: 84%
- African American: 10%
- Caucasian: 5%
- Other: 1%

Legend:
- Hispanic
- African American
- Caucasian
- Other
Assessment
Child’s age at well-child visit
(N=397)
Assessment
Education level
(N=397)

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; HS Diploma</td>
<td>33</td>
</tr>
<tr>
<td>HS Diploma</td>
<td>47</td>
</tr>
<tr>
<td>Some College</td>
<td>10</td>
</tr>
<tr>
<td>College Graduate</td>
<td>8</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>2</td>
</tr>
<tr>
<td>Number of Injury Risks</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------</td>
</tr>
<tr>
<td>No Risks</td>
<td>6 (1.5%)</td>
</tr>
<tr>
<td>One Risk</td>
<td>45 (11.3%)</td>
</tr>
<tr>
<td>Two Risks</td>
<td>346 (87.2%)</td>
</tr>
</tbody>
</table>
### Top 5 Injury Risks & Recommendations (n=397)

<table>
<thead>
<tr>
<th>Type of Risk (recommendation)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Smoke alarm</strong> <em>(batteries need changing; has no alarm)</em></td>
<td>32.5%</td>
</tr>
<tr>
<td><strong>Car seat</strong> <em>(child needs buckling; child needs to move to different kind of child safety seat)</em></td>
<td>32.2%</td>
</tr>
<tr>
<td><strong>Hot water temperature</strong> <em>(check hot water temperature and lower water heater if greater than 120 degrees)</em></td>
<td>29.0%</td>
</tr>
<tr>
<td><strong>Safe sleep</strong> <em>(take pillows, blankets or toys out of crib; place child to sleep on back)</em></td>
<td>28.7%</td>
</tr>
<tr>
<td><strong>Falls</strong> <em>(don’t use walkers, move furniture away from windows and use window guards; never leave child on high surface; use stair gates at top and bottom of steps)</em></td>
<td>24.9%</td>
</tr>
</tbody>
</table>
### Assessment

#### Top 5 Injury Risks by Language Spoken

(n=397)

<table>
<thead>
<tr>
<th>Ranking</th>
<th>All</th>
<th>English</th>
<th>Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Smoke Alarm</td>
<td>Smoke Alarm</td>
<td>Smoke Alarm</td>
</tr>
<tr>
<td></td>
<td>32.5%</td>
<td>33.1%</td>
<td>32.2%</td>
</tr>
<tr>
<td>2</td>
<td>Car seat</td>
<td>Car seat</td>
<td>Car seat</td>
</tr>
<tr>
<td></td>
<td>32.2%</td>
<td>33.1%</td>
<td>31.8%</td>
</tr>
<tr>
<td>3</td>
<td>Hot water</td>
<td>Sleep</td>
<td>Hot Water</td>
</tr>
<tr>
<td></td>
<td>29.0%</td>
<td>32.3%</td>
<td>29.9%</td>
</tr>
<tr>
<td>4</td>
<td>Sleep</td>
<td>Hot Water</td>
<td>Sleep</td>
</tr>
<tr>
<td></td>
<td>28.7%</td>
<td>27.1%</td>
<td>26.9%</td>
</tr>
<tr>
<td>5</td>
<td>Falls</td>
<td>Falls</td>
<td>Falls</td>
</tr>
<tr>
<td></td>
<td>24.9%</td>
<td>21.1%</td>
<td>26.9%</td>
</tr>
</tbody>
</table>
• 270 (68%) parents who completed the assessment also completed the telephone follow-up survey

• Verbal consent

• Conducted 3 weeks after the well-child visit

• 3 call attempts

• Survey Content
  • Attitudes about childhood injury prevention
  • Satisfaction
  • Reported behavior change
  • Did they remember if the doctor talked about the identified risks at the well-child visit
<table>
<thead>
<tr>
<th>Number of Injury Risks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Risks</td>
<td>5 (1.8%)</td>
</tr>
<tr>
<td>One Risk</td>
<td>32 (11.9%)</td>
</tr>
<tr>
<td>Two Risks</td>
<td>233 (86.3%)</td>
</tr>
<tr>
<td></td>
<td>No Behavior Change Made</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>One Risk Identified</td>
<td>10 (4%)</td>
</tr>
<tr>
<td>Two Risks Identified</td>
<td>104 (39%)</td>
</tr>
</tbody>
</table>

* Reported behavior change had to match the initial assessment otherwise the behavior change was not counted.
At least One Risk Identified and Made at Least One Behavior Change by Language Spoken

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Made at least one behavior change ALL</td>
<td>58</td>
</tr>
<tr>
<td>Made at least one behavior change-English</td>
<td>66</td>
</tr>
<tr>
<td>Made at least one behavior change-Spanish</td>
<td>54</td>
</tr>
</tbody>
</table>

P=NS
Telephone Follow-up Survey
Effect of Physician on Behavior Change
(n=257)

Effect of Physician Discussing Risks/Recommendations on Behavior Change

- Made at least one behavior change - ALL: 59%
- Made at least one behavior change and doctor talked to them: 67%
- Made at least one behavior change and doctor did not talk to them: 37%

OR 3.5 (2.0-6.2)  
P < 0.001
### Parent/Caregiver Satisfaction

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kept tailored assessment print out.</td>
<td>94%</td>
</tr>
<tr>
<td>Tailored assessment helpful.</td>
<td>93%</td>
</tr>
<tr>
<td>Those who remember talking with the doctor reported the discussion about ways to keep their child safe was helpful.</td>
<td>99%</td>
</tr>
<tr>
<td>Would recommend to other parents/caregivers.</td>
<td>99%</td>
</tr>
<tr>
<td>Assessment was a good way to learn how to keep my child safe.</td>
<td>98%</td>
</tr>
</tbody>
</table>

### Provider (Physician) Satisfaction

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in knowledge of injury prevention practice</td>
<td></td>
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<tr>
<td>Project well accepted; 85% provided anticipatory guidance</td>
<td></td>
</tr>
<tr>
<td>Specifically liked the child safety seat materials</td>
<td></td>
</tr>
<tr>
<td>Majority expressed interest in building on project experience (includes clinic leadership)</td>
<td></td>
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</tbody>
</table>
• Behavior change was self reported. No practical way to document that parents made the change they reported or know how long the behavior change remained intact.

• Unknown if recall bias in remembering the doctor talking to them.
The Pediatric Injury Prevention Project sought to increase parent’s safety behaviors through provider messages and the provision of tailored communication.

- Reported behavior change was clearly linked with whether the doctor talked to the parent. It was a strong and statistically significant association.

- Project was generally well accepted.

- Feasible.

- Next step includes a more objective evaluation of reported behavior.