



Eastern Association for the Surgery of Trauma

28th Annual Scientific Assembly

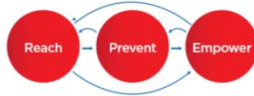
Sunrise Session 4

**Don't Have Time for Pediatric Injury Prevention? Now You Do!
Packaged Prevention Programs That Work**

January 14, 2015

**Disney's Contemporary Resort
Lake Buena Vista, Florida**

**Don't have time for Pediatric Injury Prevention?
Now you do!
Packaged prevention programs that work**



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EAST
January, 2015



Disclosures

- I have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services discussed in this CME activity
- I do not intend to discuss an unapproved/ investigative use of a commercial product/device in my presentation
- This work was funded in part by Kohl's for Kids and Toyota





Buckle Up for Life

TOYOTA



Children's Hospital Los Angeles
Children's Hospital of Philadelphia
Children's Hospital of Nevada
Cohen Children's Medical Center
Le Bonheur Children's Hospital
Lurie Children's Hospital of Chicago
Phoenix Children's Hospital
Texas Children's Hospital
University Health Systems San Antonio
Boston Children's Hospital
Lucille Packard Children's Hospital
Vidant Medical Center

<http://buckleupforlife.org>



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EVERY 4 SECONDS

a child is treated for an injury in an emergency department.

#1 KILLER

of children under 12 is motor vehicle crashes.

1 OUT OF 4

child car seats in the US are properly installed.

50%

fatally injured children were unrestrained at the time of the vehicle crash.

Studies show that African American and Hispanic children are as much as 10 times less likely to be properly restrained in a vehicle.

Buckle Up for Life

"IF I ONLY KNEW"
The words of an anguished mother who lost her young child in a car crash haunt us, but also inspire us each day as we work to help make sure that every person is safe on the road.

- Program began in 2004
- Community-based partnership between hospitals and churches
- Delivered over a 6 week period



Program Components

- Presentation for Adults
- Presentation for Teens
- Lessons for Children
- Free car seats and installation instructions for program participants



Buckle Up for Life

Child-Passenger Safety Curriculum
Teacher's Edition

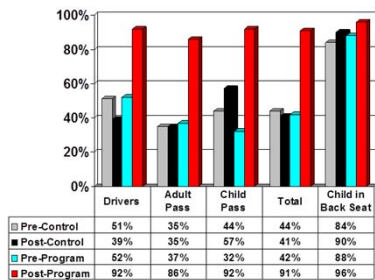
In this curriculum, you will find four lessons. The topics included are:

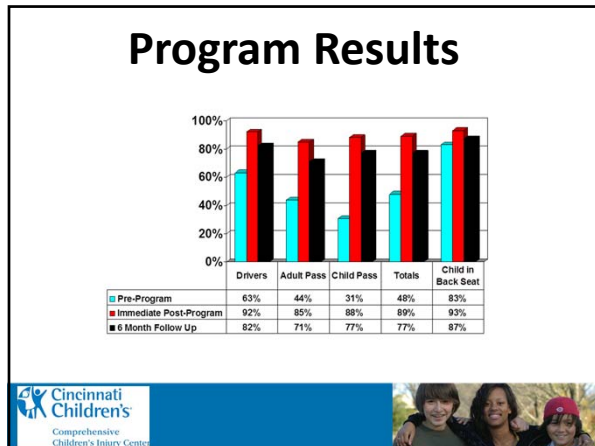
1. What happens in a motor vehicle crash?
2. Importance of buckling up properly.
3. Selecting the proper seating position in a vehicle.
4. Identifying safe travel behavior.

Tips:
Key learning points: Children need repetition to learn. Continually repeat these throughout the lessons.

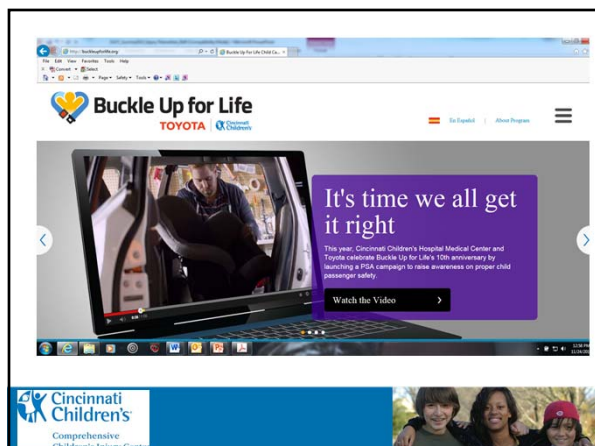


Program Results









Building Safety on Your Block A Home Safety Initiative

— KOHL'S —
**BUILDING
SAFETY
ON YOUR
BLOCK**



Background

- Despite a 25% reduction over the past two decades the home is the leading location of injury for children under the age of 5 years old
- Home based injuries annually result in:
 - 13 million outpatient visits
 - 4 million emergency room visits
 - 2,800 deaths



Home Safety Interventions Work

- Injury reduction of up to 70% for modifiable medically-attended injuries

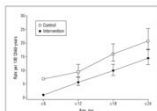


Figure 2: The Home Observation and Measurement of the Environment (HOME) Study. Injury reduction over time for modifiable and non-modifiable injuries. Data are from 100,000 children by group assignment. Error bars indicate standard error.



Phelan, K, et al. Arch Ped & Adol Med April, 2011
Kendrick, D, et al. Cochrane Database of Systematic Reviews, 2012

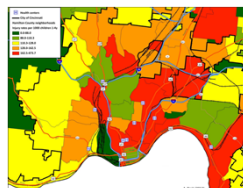
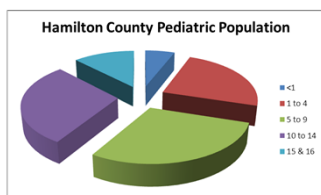


Purpose

- Evaluate the impact of a community based volunteer implemented home safety intervention
- Hypothesis: *Community volunteers, trained on the day of intervention, could provide a home safety bundle within a high risk community resulting in a reduction of emergency room attended injuries.*



Hamilton County Specific Data



178,204 children 0-16 years old

19,236 injuries a year
108/1000 children

Hamilton County Injury Surveillance System (2010); US Census 2010



The Initial Target

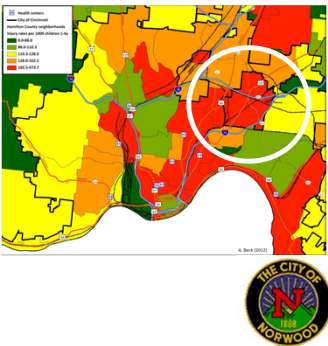
- Population
 - Children aged 1-5 years old
 - Account for 24% of the population 0-16 (@ 43,000/178,000)
 - Over 5,500 injury related ED visits a year in HC
 - Injuries occurring in the home
 - Cost



Year of Service	Average Number of Members Age 0-5	Total ED Claims	Injury Claims (% Total ED Claims)	Injury Claims Per 100 Age 0-5 Members	Net Injury Payment	Mean Injury Payment Per Claim
2007	1851	412	160 (38.8)	8.64	\$72,565	\$454
2008	2050	337	183 (54.7)	9.11	\$65,125	\$558
2009	2255	779	352 (42.3)	11.15	\$148,080	\$588
2010	2481	649	249 (38.4)	10.12	\$145,094	\$583


Source: CCHMC HR Claims Database. Analysis by Kieran Phelan, Jon Best, Jane Khoury, Michael Stuart, Shaun Imman





- 832 homes with 1,150 children aged 1-5 years old
- 30% of children living below the poverty level
- 98% of injured children seeking emergency care presenting to CCHMC
- 11.3/1000 injuries per month compared to county baseline of 8.7/1000



Cincinnati Children's
Comprehensive Children's Injury Center




The initial location Norwood, OH

- 3 square miles (population of 19,200)
- Incorporated in 1888
- Old Neighborhood
 - Old housing stock
 - Shifting from blue-collar factories to office parks
- Local Government to Partner
 - Mayor, Council, Health Dept., Fire Dept., and Schools
- Abundance of Leaders/Organizations
 - Norwood Service League, Every Child Succeeds, HIPPIY, YMCA, Family & Children First, Religious Council




Cincinnati Children's
Comprehensive Children's Injury Center


Preventing Injuries in Norwood (PIN)



*A partnership between the
community and Cincinnati Children's*






Cincinnati Children's
Comprehensive Children's Injury Center



Home Safety Bundle



- CO detector
- Smoke detector
- Pressure mat
- Swivel mat
- Cabinet/drawer lock
- Window lock
- Bathtub threshold
- Non-slip bath mat
- Bathtub sprayer
- Nightlight



Education

Emergency

Child Safety

Safety Day!
















Safety Day



- 2-3 events annually
- Organized by PIN team with CCHMC Injury Prevention
- Family Recruitment
- Volunteer Recruitment
- Two volunteers per home
 - One volunteer as educator
 - One volunteer as installer
- 8am – 12pm
- Concluding with volunteer lunch and debrief





Results

- Five Home Safety Days from May 2012-May 2014
- 207 homes received the bundle (25% of homes in Norwood)
- Additional 157 homes outside the initial target also received the bundle
- 185 volunteer participated

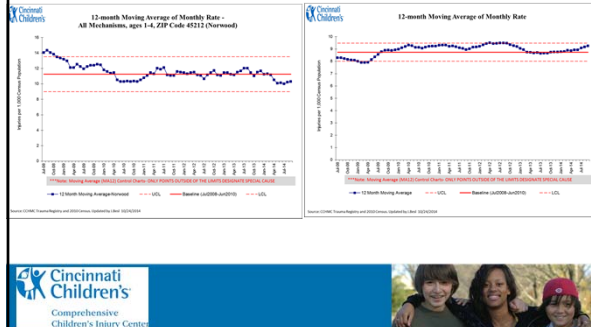



Results

- 7-60% family cancellation rate
 - Too early in day
 - Did not want volunteers entering the home
 - Forgot they had signed up
 - Too busy on day of intervention
- < 20% volunteer no-show

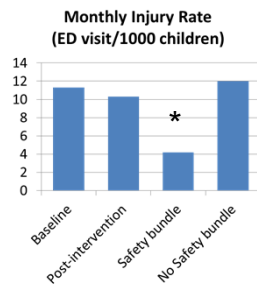
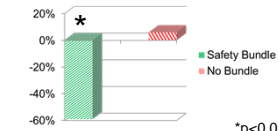



Results



Results

- 59% reduction in expected injuries in intervention group
- 6% increase in non-intervention homes



Limitations

- Families were self-selected
- Family cancelation rates
- Volunteer retention
- Consistency of bundle implementation
- Quality of family tracking and injury data



Conclusions

- Volunteer implemented home safety program can result in injury reductions approaching that of interventions by trained experts
- Spread of this intervention may lead to a significant shift in the population level injury rates



Take Aways

- Partnering with the community is essential
 - Trust
 - Reach
- Implementing proven programs can reduce up front time and allow resources to be used more efficiently



Thank You!