



# Lessons Learned: Preventing Window Falls in Chicago

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**Fifth Chicago Area child in less than two weeks hurt after falling through an open window**

**North Side toddler dies after falling from a window**

**Another toddler fell from an open window in a third-floor apartment**

**16 month-old was in serious condition...after falling from a second-floor window**



# Stop the Falls

- **Formed a coalition of Chicago's pediatric trauma hospitals, advocates, architect, IDPH, CDPH, CMH Government Relations staff**
- **Began meeting late summer 2001 with plans to begin Summer 2002**
- **Spent year doing our homework aka the public health approach**



# Not only an urban, high-rise problem



# Window falls are a suburban, 'low-rise' problem too



# Northern VA

- **Inova Regional Trauma Center**
- **Retrospective review 1/91-11/99**
- **4% of 2,322 children 0-14 admitted were due to window falls (n=102)**
  - **62% boys**
  - **83% <4 years**
  - **66% sustained head injuries**
  - **39% ICU admits/4% died**

Benoit et al. Windows 99: A Source of Suburban Pediatric Trauma. J of Trauma, 2000.



# Type of Home in which the Window Fall Occurred

- **Single Family: 35%**
- **Townhouse: 32%**
- **Garden-style apartment: 27%**
- **High-Rise apartment: 6%**

Benoit et al. Windows 99: A Source of Suburban Pediatric Trauma. J of Trauma, 2000.



# Los Angeles CA

- **93/151 children hospitalized 1/86 thru 7/90 at CHLA were window falls**
- **61% male/mean age 3.2 years**
- **30 ICU/1 death**
- **Type of Dwelling**
  - **Apartment: 124 (93.2%)**
  - **House: 4 (3%)**
  - **Other: (5%)**
- **Height of fall**
  - **11 (8.2%): first**
  - **96 (71.6%): second**
  - **27 (20.2%): third**

Lehman & Schonfeld Falls from Heights: A Problem Not Just in the Northeast, Ped, 1993





**Different cities have different housing stock—this determines type of dwelling where falls occur**



# Chicago

- **CMH retrospective study 1995-2002**
  - **90 falls, visited 85% homes**
  - **96% of falls from buildings  $\leq$  4 stories**
  - **98% falls 3 stories or less**
  - **74% of falls from multistory buildings**
  - **25% in single family homes**
  - **95% of windows single or double hung**
  - **Reported floor of fall poor indicator of fall height**
    - **Second floors ranged from 6.25 to 25 feet**

Vish et al. Pediatric window falls: not just a problem for children in high rises, Inj Prev, 2005



# Height of fall doesn't always correlate to the severity of injury



# Hamilton County, OH

- **Cincinnati Children's Hospital Medical Center**
- **Retrospective case series 1/91-12/97**
- **86 (6.3%) falls were window falls**
  - **69 < 5 years (80%); 14.6/100,000**
  - **64% male**
  - **3/4 of falls occurred in the city**
  - **Black 55%**
  - **17% ICU/1 death**

Stone et al. Childhood injuries and deaths due to falls from windows. J of Urban Health. 2000.



## Mean Injury Severity Score and Residence by Height of Fall (n=84)

Height of fall	Urban, N(%)	Nonurban, N(%)	ISS Mean (range)
0-12 feet	7(11)	2 (9)	4 (0-9)
13-23 feet	37 (58)	12 (55)	4 (0-41)
≥24 feet	19 (30)	7 (32)	8 (0-41)
≥30 feet	11 (17)	1 (5)	12 (1-41)

Stone et al. Childhood injuries and deaths due to falls from windows. J of Urban Health. 2000.



# Minorities are overrepresented



# Chicago

- **CMH retrospective study 1995-2002**
  - **90 patients treated for window falls; 61% male**
  - **90% < 5y**
  - **49% Hispanic; 36% unknown; 8% white; 7% black**
  - **74% Medicaid**
  - **1/3 minor injuries**
  - **2/3 major injuries: Head: 48%; skeletal 23%**

Vish et al. Pediatric window falls: not just a problem for children in high rises, Inj Prev, 2005



## Unintentional falls from buildings or structures by age and race/ethnicity (per 100k)

	Race/Ethnicity			
Age	White	Black	Hispanic	Total
0-4	2.72	4.82	5.48	4.6
5-9	1.23	2.1	2.4	1.98
10-14	1.01	1.33	1.91	1.46

*Cumulative incidence (per 100K people/year) for children hospitalized for falls from buildings and structures. Data source is KID-HCUP. Incidence is for acute hospitalization and does not include ED visits or patients who died before being hospitalized.*

Pressley and Barlow, Child and adolescent injury as a result of falls from buildings and structures. Table 2. Injury Prevention. 2005.





# Window Falls are an International Phenomenon

- **Zurich**
  - **Case-control study of head injuries/multiple trauma (window falls vs. other)**
  - **Window fall victims**
    - **Boys of foreign nationality**
    - **0-5 years**
    - **Climbing on furniture, at home, in the evening**
    - **summer**

Mayer et al. The silent epidemic of falls from buildings: analysis of risk factors. *Pediatric Surg Int.*

2006.



# Windows Falls are an Historical Phenomenon too





- **Different cities have different housing stock—this determines type of dwelling where falls occur**
- **Height of fall doesn't always correlate to the severity of injury**
- **Minority populations are overrepresented (may be marker for poverty, crowded and/or substandard housing)**
- **Boys more likely to be injured than girls**
- **Majority of falls involve children less than 5 years**
- **Deaths rare, but morbidity high**
- **Less common in cooler months**



# What Works?



# New York City

- **1965-1969 123 deaths**
- **1972: Children Can't Fly Campaign**
  - **Pilot program targeting the South Bronx**
    - **Data: Volunteer reporting**
    - **Education: one on one and community**
    - **Prevention: Product Distribution**
- **1974-75: Expansion to all 5 boroughs**
- **Decrease in window falls by 30%**



# New York City

- **90% of falls from tenement buildings**
- **1976: local code requiring owners of multiple story dwellings to provide window guards in apartments where children under 11 years reside**
- **Outcome: 96% decrease in window fall related injuries since 1979**



# Boston

- **Kids Can't Fly – 1993**
- **Education and window guard distribution program. Voluntary effort financially supported by building landlords and the city**
- **Targets: dwellings where children under 6 years of age reside**
- **Outcome: 83% reduction in window related death/injury since 1993**



# What does work?

- **Education--multi-component**
- **Product Distribution--stops or guards, discounted or free (at least available)**
- **Laws can be effective—if they can be enforced, and they may be not enough**





# Chicago Building Code

**Requires window guards if the height of the window sill is less than 2 feet off the floor**



# Minnesota

- **Laela's Law**
  - **Went into effect 7/1/2009**
  - **First statewide window fall legislation**
  - **Requires builders to use windows with fall prevention devices in construction or remodeling of apartments or multi-family homes**
  - **Does not govern single family homes or new apartments to switch to safe windows**
- **Outcome: Too soon to tell; 14 window fall cases in 2010 compared to 7 in 2009 at Hennepin County**



# Chicago Window Falls

- **Did not occur in high rises**
- **Half the falls in the summer**
- **50% between 12 and 6pm**
- **Incomplete detail in medical record**
  - **23% had piece of furniture near window**
  - **55% had a screen in place**
  - **Parent (53%) or adult (13%) present**

Vish et al, Pediatric window falls: not just a problem for children in high rises, Inj Prev, 2005



# Stop the Falls: An education and product distribution campaign

- **Never open windows more than 4 inches**
- **Open windows from the top down, if possible**
- **Move furniture away from windows**
- **Install window stops or releasable child-safety window guards**



# Raising Awareness

- **Education**
  - Public Hearings
  - Media
  - Brochures
  - CTA
  
- **Community based intervention**
  - Alderman
  - HUD Building Partnership
  - Block Clubs
  
- **Making Buildings Safer**
  - Product Distribution
  - Property owners to play an active role

**Stop the Falls.**

Remember: Screens keep bugs out, not kids in!

Save your child's life:

- Never open windows more than 4 inches
- Open windows from the top down
- Move furniture away from windows
- Install sash stops or releasable child-safety window guards

Follow the 4-inch rule!

This week, three Chicago-area kids will be hospitalized after falling from a window.  
Child Health Data Lab | www.chd.org

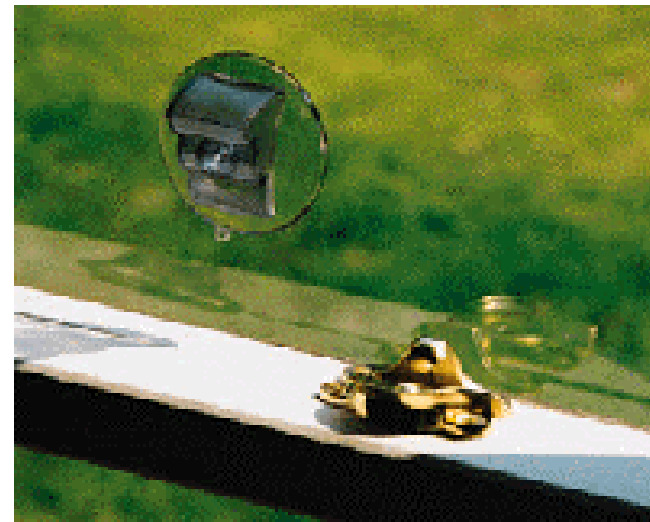
Injury Free Coalition for Kids™ 773.975.8613 | [www.injuryfree.org/chicago](http://www.injuryfree.org/chicago)  
Children's Memorial Hospital Where kids come first.®

CTA  
No Staircase, No Balcony, No Edge, No Window  
Illustration by TSI/ISI





# "Stop at Four"





# Challenges in Evaluating STF

- **Window Falls—not a separate e-code**
- **4 Pediatric Trauma centers (more or less)**
- **Newspapers do not consistently report window falls**
- **Police data not accessible**



## Possible Explanations for 2010 Window Fall Increase

- **Never really had a decrease**
- **No media kick off**
- **Coalition less active**
- **Long warm spring and late warm fall**





# Steps to Correct

- **Jumpstart Coalition**
- **Do media event**
- **Find way to get reportable data from all hospitals**



# Lessons Learned

- **Need local data about housing**
  - **Single family vs. condo vs. apartment**
  - **Owner vs renter**
- **Create a multi-disciplinary coalition**
- **Need to understand political environment**
- **Need to treat each subsequent year of effort with as much enthusiasm as the 1<sup>st</sup>**
- **Monitor efforts and correct course if needed**