Today’s Agenda

• **Presentation:** Preventing Traumatic Brain Injuries: Falls

• **Programs that Work:** Kids Can’t Fly

• **Collaborators:** Northeast and Caribbean Injury Prevention Network (NCIPN)
If you are having any technical problems joining the webinar please contact the Adobe Connect hotline at 1-800-416-7640 or email csninfo@edc.org

Type any additional questions or comments into the Chat box on the left.
Presenter

Judy A Stevens, PhD
Epidemiologist
National Center for Injury Prevention & Control
Centers for Disease Control & Prevention
Preventing Traumatic Brain Injuries among Older Adults

Judy A. Stevens, Ph.D.

National Center for Injury Prevention & Control
Centers for Disease Control & Prevention

February 5, 2014
Objectives

• Burden & impact
• Risk factors & prevention strategies
• Engaging older people in fall prevention
Introduction

• For people 65+, falls are the leading cause of both fatal & nonfatal injuries
• 30-35% of people 65+ fall each year\textsuperscript{1}
• Those who fall are 2-3 times more likely to fall again\textsuperscript{2}
• 1 in 5 falls causes a serious injury\textsuperscript{3}

\begin{itemize}
\item 2. Ganz, *JAMA*, 2007
\end{itemize}
Economic Impact

Direct cost of fall injuries (adjusted for inflation):

Total: $30 billion

Leading Causes of Death from Injuries Among People 65+, 2010

Total = 41,300 deaths

- Falls: 21,649
- Motor Vehicle: 6,110
- Suffocation: 4,810
- Poisoning: 4,280
- Fire/Burn: 3,280
- Drowning: 900
- Other: 2,000
- Unspecified: 500

NCHS, Vital Records, 2010
Fall Death Rates by Age, 2010

NCHS, Vital Records, 2010
Fall-Related TBI Death Rates by Age, Men & Women, 2005

Trends in Age-Adjusted Fall Death Rates, Men & Women 65+, 2000-2010

NCHS, Vital Records, 2000-2010
Leading Causes of Nonfatal Injuries Among People 65+, 2010

Total = 3.7 Million Injuries

Falls: 2.3 Million Falls
Struck by/Against
Motor Vehicle-Occupant
Cut/Pierce
Poisoning
Bite/Sting
Other
Unspecified

Number of Injuries

NCHS, WISQARS, 2010
Part of the Body Injured in a Fall

- Head/neck (including 4% TBI): 23%
- Upper extremity: 27%
- Torso: 15%
- Lower extremity: 27%
- Other: 8%

## Risk of Injury by Direction of the Fall

<table>
<thead>
<tr>
<th>Direction of the Fall</th>
<th>Odds Ratio</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backward to sitting</td>
<td>Ref</td>
<td>-----</td>
</tr>
<tr>
<td>Backward &amp; landing flat</td>
<td>5.6</td>
<td>2.9–10.5</td>
</tr>
<tr>
<td>Sideways</td>
<td>4.6</td>
<td>2.6–8.0</td>
</tr>
<tr>
<td>Forward</td>
<td>3.3</td>
<td>2.0–5.7</td>
</tr>
<tr>
<td>Straight down</td>
<td>1.7</td>
<td>0.4–6.9</td>
</tr>
<tr>
<td>Other</td>
<td>0.6</td>
<td>0.1–6.1</td>
</tr>
<tr>
<td>Not specified</td>
<td>5.1</td>
<td>2.4–10.9</td>
</tr>
</tbody>
</table>

Selected Outcomes of Falls

- Visit Emergency Dept. ............... 57%
- Visit doctor’s office ................ 38%
- Call doctor’s office ............... ..... 6%
- Need help with ADLs ............... 32%
  
  More than half expect to need help for 6+ months

Schiller et al. NHIS, NCHS, 2007
Hospital Admissions for TBI

- Subdural hematoma ........ 43%
- Concussion .................. 24%
- Subarachnoid hematoma ... 13%
- Other diagnoses ............. 20%

Harvey LA, Injury, Int J Care Injured, 2012
Where Do Falls Happen?

- Inside the house ................................ 50%
- Outside the house .............................. 24%
- Street, highway, parking lot ............ 7%
- Residential institution, health care facility, other public building .... 10%
- Other .................................................. 10%

Schiller et al. NHIS, NCHS, 2007
What Types of Falls Happen?

- Floor or level ground .................. 55%
- Stairs, steps or escalator ............. 24%
- Curb, including sidewalk ............. 8%
- Chair, bed, sofa, other furniture.... 8%
- Other ........................................ 8%
- Not specified .............................. 9%

Schiller et al. NHIS, NCHS, 2007
Why Do Falls Happen?

- Lost balance .................. 32%
- Tripped .......................... 29%
- Slip ................................ 9%
- Legs give way ............... 7%
- Other ............................... 13%
- Didn’t know ................... 11%

Stevens JA, Inj Epi, 2014
What Have We Learned?
Fall Risk Factors

• Biological
• Behavioral
• Environmental

V. Scott, 2000
Modifiable Risk Factors

**Biological**
- Weakness in legs
- Problems walking
- Problems with balance
- Poor vision

**Behavioral**
- Psychoactive meds
- 4+ medications
- Risky behaviors
- Inactivity

**Environmental**
- Clutter & tripping hazards
- No stair railings or grab bars
- Poor lighting
Evidence for Fall Prevention

• Chang et al., British Medical Journal, 2004
• Sherrington et al., JAGS, 2008
• Gillespie et al., Cochrane Database of Systematic Reviews, 2012
Effective Fall Prevention Strategies

Clinical Assessment

www.americangeriatrics.org
Effective Fall Prevention Strategies

Exercise for balance & strength

Sherrington C, JAGS, 2008
Group Exercise Program:
Tai chi: Moving for Better Balance

Li, J Gerontology, 2005
Effective Fall Prevention Strategies

Review & manage medications

Additional Fall Prevention Strategies

Optimize vision

Lord SR, JAGS 2001
Additional Fall Prevention Strategies

Improve home safety

Home Modification

- Home Visits by an OT

- Falls-HIT Program

- The VIP Trial
Common Features

• Used occupational therapists
• Tailored to the individual
• Related home safety issues to participants’ functional abilities
• Encouraged behavioral change
• Worked best for people who had fallen in the past
Beliefs & Behaviors

Isn’t that just for *old* people?

Could it happen to me?
Risk Perception

• “Other, older people” are at risk
• Inevitable part of aging
• Fatalistic – nothing can be done
• Fear being labeled old, incompetent, dependent, frail
• Fear loss of independence

Talking about Falls

• 22% reported falling in past year
• <50% of those who fell told their healthcare provider about it
• <25% of those who fell discussed how to prevent future falls

Risk Attribution – What Causes Falls?

- External or environmental factors
- Self blame
- Bad luck – it won’t happen again

It was just my bad luck!

Gender Differences

- See themselves as responsible & rational
- Balance risk-taking against personal responsibility
- External factors are more “controllable”
- Tend to blame themselves or others
- Feel daily activities put them at risk
- Believe falls are due to “carelessness”

What Encourages Seniors to Enroll in a Fall Prevention Program?

• Feel that program is relevant
• Recommended by a healthcare provider
• Believe it will improve quality of life
• Believe it will help them stay independent

Bunn, Ageing Soc, 2008; Yardley, Gerontologist, 2006
What Discourages Seniors?

- Fatalism or denial of fall risk
- Afraid of falling
- Poor health, limited functional abilities
- No history of exercise
- Stigma of programs for older adults
- Transportation difficulties
- Dislike group activities

What Can You Do?

• Educate. Provide information about falls & fall prevention

• Emphasize personal benefits (e.g., greater independence & better quality of life)

• Provide encouragement, emotional support, transportation
In Conclusion…

- TBI from falls greatly affect seniors’ health & quality of life
- We can prevent falls & TBI by using evidence-based prevention strategies
- We have to engage older adults in fall prevention

I can keep myself from falling!
Questions?

Jas2@cdc.gov

Disclaimer: The findings and conclusions in this presentation are those of the author and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
Programs that Work

Aileen Shen
Director of Injury Prevention
The Boston Public Health Commission
KIDS CAN’T FLY

Protect children from window falls

Aileen Shen, Program Director, Injury Prevention Program
Children’s Safety Network EDC ‘Community of Practice’ Series Webinar
February 5, 2014
BPHC Injury Prevention Program

- Established in 1986
- Reduce risk of injury to children through education, technology, and legislation
- Program areas:
  - Home safety “Kids Can’t Fly”
  - Child Passenger safety “BuckleUpBoston”
  - Bicycle and Other sports safety
  - Pedestrian safety “Walk This Way”
  - Safe Kids Boston coalition & events
- Training on prevention strategies and free or low-cost safety devices have been offered to the community
- New program areas:
  - Elder safety
Education Intervention: Kids Can’t Fly Campaign

- Basic safety message:
  - Install window safety guards
  - Open windows from the top down
  - Keep furniture away from windows
  - Be sure children are always supervised

- Brochures, Posters, languages
- Subway/newspaper/radio ads
- Press events
- Social media
KIDS CAN’T FLY

Protect your child from window falls

- Install window safety guards
- Supervise children at all times, especially around open windows
- Keep low furniture away from windows

For more information, call 617-534-5197 or visit www.bphc.org/kidscantfly
Kids Can’t Fly.

Protect your child from window falls

- Install window safety guards
- Supervise children at all times, especially around open windows
- Keep low furniture away from windows

For more information, call 617-534-5197 or visit www.bphc.org/kidscantfly

Los niños no pueden volar.

Proteja a su hijo de las caídas desde ventanas

- Instale protección de ventanas de seguridad para niños.
- Asegúrese de que los niños siempre estén supervisados.
- Mantenga las camas, los muebles y cualquier cosa que pueda servir para escalar, lejos de las ventanas.

Para más información, llame al 617-534-5197 o visite www.bphc.org/kidscantfly
WHERE CAN I GET WINDOW GUARDS?

Many local hardware stores and home improvement stores carry window guards.

Boston residents can purchase low-cost window guards at these

BOSTON BUILDING RESOURCES
Monday – Friday 8:00 a.m. – 4:30 p.m.
Saturday 9:00 a.m. – 3:00 p.m.
100 Terrace St. Boston, MA 02120
617-442-2262 • www.bbm.com

HOW CAN I REQUEST WINDOW GUARDS FROM MY LANDLORD?

Boston Housing Authority (BHA) residents can call the BHA Work Order Line at 617-988-HELP (4357).

Installation of child safety window guards is voluntary. Ask your landlord about installing them in your building.

For more information, please contact:

BOSTON PUBLIC HEALTH COMMISSION
Injury Prevention Program
1022 Massachusetts Ave.
Boston, MA 02118
617-534-5197
www.bphc.org/childinjuryprevention

KIDS CAN’T FLY

Thomas M. Menino, Mayor

BOSTON PUBLIC HEALTH COMMISSION
Injury Prevention Program
1022 Massachusetts Ave.
Boston, MA 02118
617-534-5197
www.bphc.org/childinjuryprevention

Facts on Window Falls & Child Safety
Window Guards
In just six months in 1993, eighteen children in the Greater Boston area fell from windows. Three of them died.

Falls are the leading cause of injury to children age five and under. Window falls cause serious injuries, yet they can be prevented. By combining education (see Safety Tips) and technology (window guards), we have reduced the risk of children falling from windows.

**SAFETY TIPS TO PREVENT WINDOW FALLS**

1. Lock all unopened windows and doors
2. Keep furniture or anything a child can climb on away from windows
3. Open windows from the top, not the bottom
4. Install child safety window guards
5. Be sure children are always supervised

**WHAT ARE CHILD SAFETY WINDOW GUARDS?**

- Aluminum or steel bars with a maximum four-inch spacing that are installed in the bottom half of a double hung window.
- Guards are designed and tested to withstand 150 pounds of pressure. Window screens are designed to keep bugs out and are NOT strong enough to prevent a child from falling.
- Operable window guards have an emergency-release mechanism so that they can be easily removed by an adult in the event of a fire. Operable guards are recommended by the Boston Fire Department.
- Fixed window guards are permanently installed and cannot be removed. Fixed window guards must not be installed on any emergency or fire escape window.

**WHO NEEDS WINDOW GUARDS?**

- Any family with children under the age of seven should have window guards. Grandparents and caregivers should also have window guards.
- Window guard installation is recommended for all windows above the first floor and for the first floor if the windows are over 12 feet above the ground.
- Window guards are not needed on windows that are locked shut, or open from the top, or have stops installed which prevent the window from opening more than four inches.
Environmental Intervention: Window Guard Installation

- Subsidized guards at Boston Building Resources
- Matching Buy program
- Children’s Hospital’s Adopt-a-Building program
- Home Depot coupons
- BHA policy
- HUD grant
Low-cost window guards for Boston Residents on sale at:

**Boston Building Materials Co-op**

100 Terrace Street
Boston, MA 02120
617.442.2262
www.bbmpc.com
Successes

- Decrease in falls
- KCF campaign increases awareness of issue nationwide
  - Earned media attention
  - Technical assistance to 30+ agencies
- Partnerships
- 25,900+ guards installed
- US Dept. of Health and Human Services “Models That Work” award
Ongoing efforts

- ~500 window guards / year purchased through Kids Can’t Fly program
  - Sales at Boston Building Materials Co-op (average purchase: 8 guards)
- Presentations and trainings
- Publications
- Media
- Social Media
KIDS CAN’T FLY

Protect children from window falls

Boston Public Health Commission
Injury Prevention Program
www.bphc.org/kidscantfly
617-534-5197
Collaborators

Northeast and Caribbean Injury Prevention Network (NCIPN)
Falls Prevention Committee

Cindy Rodgers & Jennifer Andrade Koziol
Northeast and Caribbean Injury Prevention Network (NCIPN)

Falls Prevention Committee

Children’s Safety Network
TBI Community of Practice
February 5, 2014
Overview

• In 2011, became one of 5 Regional Networks support by CDC.
• Now known as Northeast and Caribbean Injury Prevention Network (NCIPN); coordinated by EDC/CSN with funding provided through contract from MA DPH
• 8 states – Regions 1 and 2 with Puerto Rico and Virgin Islands
• Broad Membership including IVP directors, staff from poison centers, Harvard University Injury Control Research Center, other state health department staff, Level 1 Trauma Center IP Coordinators, chairs of ICPG’s, federal representation from Regional HRSA, CPSC & NHTSA Offices, and others.
NCIPN and Falls Prevention Committee

• NCIPN: 8 Monthly meetings by conference call with 4 daylong, in-person meetings - one each quarter

• In 2012, Members identified the issue of Elder Falls Prevention as an area they would like to devote more time to

• NCIPN members had additional partners to bring in to the committee
How Does It Work?

• Started monthly, hour long phone meetings in March 2013; 8 meetings conducted; co-chairs

• Informal discussions: sharing structure and components of programs/initiatives; Falls Prevention Awareness events, materials; Resource sharing; program evaluation

• Formal presentations: Partnering with EMS on Falls Prevention; Working with Cognitively Impaired Adults.
What Does the Committee Provide to Members?

• Opportunity for networking with others who face similar challenges & are working to address similar issues.

• Place to
  • share current information,
  • discuss challenges,
  • learn from one another,
  • identify emerging issues,
  • identify best practices.

• Opportunity for development of cross-state projects and solutions.
Why It Works

• Regular opportunity to share ideas and challenges
• Reliable support system
• Mix of meeting formats both informal conference calls and more formal guest speakers
• Information sharing
• Mentoring
Contact Information

Cindy Rodgers
Children’s Safety Network
Education Development Center, Inc.
43 Foundry Ave. Waltham, Ma
crodgers@edc.org
Thank you for your participation

Please take a moment to complete our short evaluation:

https://www.surveymonkey.com/s/WTXM3ND

Questions or Comments? Contact:

Rhunt@edc.org
617-618-2178