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# Window Safety Program

## *Report to the Minnesota Legislature 2008*

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**Minnesota Department of Health**

**March 2008**



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# Window Safety Program

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# **2008 Window Safety Program Legislative Report**

## **Executive Summary**

Falls are the leading cause of non-fatal unintentional injury for children.<sup>1</sup> Falls from windows in particular can result in death. Citizens and several Minnesota Legislators introduced legislation in 2007 to address residential window safety requirements and education.

Minnesota Session Laws 2007, chapter 147, article 16, section 19 requires the commissioner of health to:

1. Create a safety program component targeted at parents and caregivers of young children to provide awareness of the precautions needed to prevent children from falling through open windows. The safety program component will be added to the department's current educational efforts.
2. Gather data for window falls that result in severe injury in order to measure the effectiveness of the safety program.
3. Prepare and submit a final report of the window safety program to the legislature on or before March 1, 2011. The final report shall include a summary of the safety program, the impact of the program on child window falls, and any recommendations for further study or action.

This is an interim program report detailing the work being done on the window safety program by the Minnesota Department of Health as of March 2008.

# 2008 Window Safety Program Legislative Report Minnesota Department of Health

## **Background**

In June of 2007, 2-year-old Laela Shaugobay and her mother, Ruth, celebrated a new Minnesota window safety law they helped pass after Laela fell out of a four-story apartment building window the year before. The recently passed "Laela's Law" is aimed at protecting children in newly constructed buildings by addressing residential window safety requirements and developing a window safety awareness program.

Only 1 year-old at the time of her fall, Laela climbed up on top of a chest of drawers to look out the window for her mother. The screen she leaned against came with an decal warning parents not to allow children near the window screen as, according to current building codes, screens are meant to keep insects out, not children in. In the case of fire, screens are designed to release with very little pressure as a safety feature. Screens alone cannot prevent falls out of windows.

Laela survived the fall to the concrete sidewalk below and did not sustain any permanent injuries. Other children are not always so fortunate. According to the Minnesota Safety Council, an estimated 4,700 children across the nation ages 14 and under are treated in hospital emergency rooms annually for injuries sustained from falling out of windows.<sup>2</sup> Nationally, approximately 18 children ages 10 and under die each year from window fall-related injuries.<sup>3</sup> Over 80 percent of these children are under 3 years old.<sup>4</sup> In Minnesota, falls are the number one reason children ages one through 14 go to the hospital and the leading cause of emergency department visits for ages one to nine.<sup>5</sup>

After Laela's fall, Jim Graham, Director of Real Estate Services for the American Indian Community Development Corporation, researched and found screens that would help prevent fall-related injuries. He installed new screens in all the windows of the complex where Laela lived. Graham felt more was needed to keep other children safe. He approached Minnesota legislators to help bring forward a bill that would require safer screens in all newly constructed homes and apartments and enlisted Ruth and Laela's help to urge the Minnesota State Legislature to pass such a law.

## **Laela's Law**

There are a number of different components to "Laela's Law."

First, Minnesota Session Laws 2007, chapter 147, article 16, section 19 states that the commissioner of health will:

1. Create a window safety program component targeted at parents and caregivers of young children to provide awareness of the precautions needed to prevent children from falling through open windows. The safety program component will be added to the department's current educational efforts. The commissioner of health will consult with representatives of the residential building industry, the window products industry, the child safety advocacy community, and the Department of Labor and Industry to create this window safety program component.

2. Gather data for window falls that result in severe injury in order to measure the effectiveness of the safety program.
3. Prepare and submit a final report of the window safety program to the legislature on or before March 1, 2011. The final report will include a summary of the safety program, the impact of the program on child window falls and any recommendations for further study or action. Until then, the commissioner will prepare and submit a yearly progress report to the legislature on the work being done.

Secondly, MS 16B.61, subd. 3c, states that commissioner of Minnesota Department of Labor and Industry (MDLI) will adopt rules for window fall prevention devices as part of the Minnesota State Building Code by July 1, 2009. In addition, any new rules adopted in Minnesota will be in compliance with new codes the American Society for Testing and Materials (ASTM) International creates on window safety issues. Their International Building Codes are the building codes adopted in most cities.

### **Window Safety Data**

Epidemiologists in the Injury and Violence Prevention Unit at the Minnesota Department of Health (MDH) reviewed fatal window fall and nonfatal window fall data to identify deaths and severe injury resulting from falls from windows.

The "severe injury" data set was determined by examining narrative fields from 1993-2007 found in four separate data sets within the statewide Minnesota Trauma Data Bank. These include the:

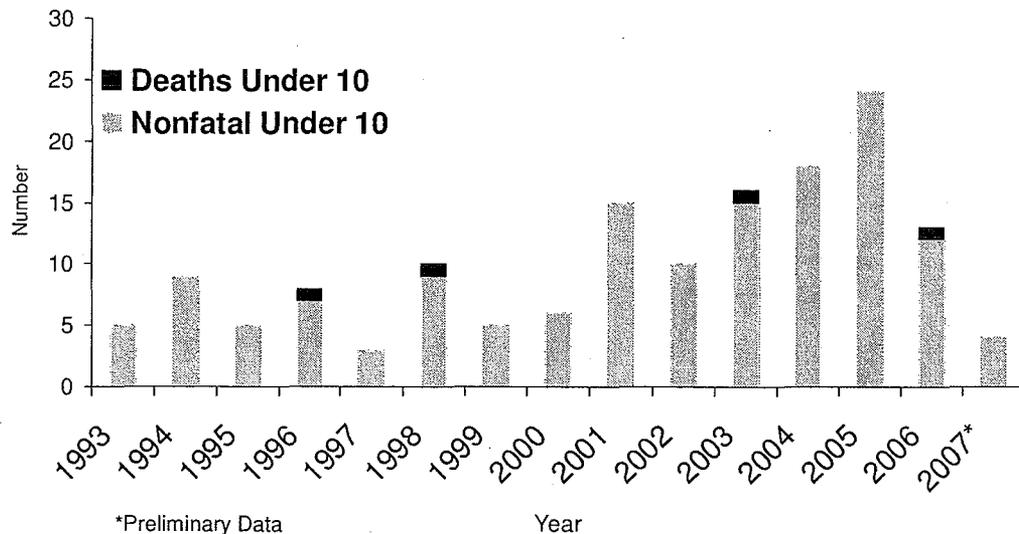
1. Traumatic Brain Injury Registry
2. Spinal Cord Injury Registry
3. Trauma System Registry
4. Certificates of Death

Keywords searched in the narratives included "window," "screen," and "story." In all age groups, 873 hospital-treated records and 21 death certificates had narratives with the keywords identified. The individual narratives were read to identify cases that met the case inclusion criteria of unintentional falls from windows. The following are examples of narratives resulting in injury that met the case definition:

1. "While jumping on bed and pushed screen out of window - fell 12 feet, landing on arms and legs on grass."
2. "Patient put to bed near window, kicked window out and fell 20 feet to concrete patio."
3. "Patient was either pushed or walked out of a second story window."
4. "Fell out of a second story window while playing with siblings."
5. "While jumping on bed and fell out of second story window onto grass."
6. "Four year old playing with her brother on the couch - child went through the screen window and fell 12 ft onto cement."

The following is a graph showing window falls in Minnesota that resulted in severe injury from 1993 to 2007. After review of all the narratives, 193 of them were determined to be unintentional window falls, 19 of which were fatal. One hundred and fifty-one of the narratives were about children under 10 years of age and four were fatal.

Graph 1: Window Falls Resulting in Severe Injury, Minnesota, 1993-2007



The Injury and Violence Prevention Unit will present “The Methods and Findings of Epidemiologic Surveillance of Minnesota’s Window Falls” at the 2008 national meeting of the Council of State and Territorial Epidemiologists (CSTE). The presentation will discuss the following:

1. Surveillance background and description of difficulties in identifying window fall injury events using only hospital external cause codes (ECC).
2. Narrative methods used in keyword searches of four data sets within the state-wide Minnesota Trauma Data Bank: Traumatic Brain Injury Registry; Spinal Cord Injury Registry; Trauma System Registry; and Certificates of Death.
3. The results – (see Graph 1 of this report).
4. Conclusions: External cause codes are essential for epidemiologic surveillance of injury. However, because of the limitations of ECC, narratives are a necessary component for maturing injury surveillance systems. Narratives are also useful in providing qualitative surveillance findings.

Feedback post-presentation will guide preparation of a peer-review journal article or MDH report. Annual updates to the article or report will be posted on the MDH web site.

As a result of this initial research, the following recommendations for epidemiologic surveillance of injuries sustained in falls from windows have either been made or are in process:

1. Refine the case definition.
2. Analyze severe injuries by type: traumatic brain injury / spinal cord injury / trauma service injury (in order to identify any reporting artifacts).
3. Add window fall deaths to our newspaper clippings surveillance – implemented.
4. Explore linking data to administrative data sources describing the housing at the address of the fall.
5. Examine and analyze the data by socio-economic status of the victims.

### **Window Safety Education**

The Maternal and Child Health Section at the MDH has a childhood injury prevention education program imbedded in the Family Home Visiting (FHV) program. Additional window safety information can be included in the FHV Home Safety Checklist. This checklist identifies hazards in a home that could result in injuries to young children. It was developed in 1990, revised in 2002 and is due for revision again in 2008. The checklist is used in many of the FHV programs conducted by local public health departments in Minnesota. A public health nurse or other public health professional tours the home with the family looking for conditions that could put children in the home at risk for injury. The home visitor advises the family on where and how problems could occur and actively helps them make simple changes that will result in a safer home. The one checklist question (#18) on window safety is currently as follows: “Are windows locked or blocked to keep a child from falling out?” For the complete checklist, refer to [www.health.state.mn.us/divs/fh/mch/fhv/hscb/hsc-guide.html](http://www.health.state.mn.us/divs/fh/mch/fhv/hscb/hsc-guide.html).

It is anticipated that any such additional window safety information or training plans will be included in already existing training and education materials.

Media strategies devoted to window safety are being developed and will be launched during National Window Safety Week in April 2008.

### **Window Fall Prevention Devices**

After “Laela’s Law” was passed, the MDLI formed the Window Fall Prevention Advisory Committee. The charge of this committee, comprised of the MDLI, building industry representatives, window manufacturers, the Minnesota Department of Public Safety and other interested parties, was to develop Minnesota Rules (MR) 1303.2300 pertaining to window fall prevention. The committee convened initially on September 19, 2007 and held their fourth meeting on October 31, 2007.

MDH staff members participated in these meetings of the Window Fall Prevention Advisory Committee to provide data on window falls and information regarding window fall prevention education.

The five subparts of MR1303.2300 were reviewed, revised and adopted. Subpart three, which addresses window fall prevention, now reads: "All windows requiring compliance under 1303.2300 subpart 1 shall be provided with safety screens, guards, or other devices complying with ASTM 2006 or ASTM F 2090."

The following are exceptions to MR1303.2300, subpart three:

1. Fixed, non-operable windows.
2. Windows located in basements.
3. Windows located below the first story above grade plane.
4. Operable windows where the opening is such that a 4-inch diameter sphere cannot pass through.
5. Windows where the bottom of the clear opening is located higher than 44 inches (1118 mm) measured from the floor.

A separate report to the legislature from the MDLI contains more details about the new rules.

### **Next Steps**

The MDH will develop and include a window safety component in their home visitor training and education activities. This information will be provided to families who receive home visiting services throughout Minnesota.

Staff from the FHV Program will convene a workgroup on window safety and education in 2008. Members will include representatives from local public health departments, the MDH, the MDLI, window manufacturers, the Minnesota Safe Kids Coalition (National Safety Council) and other related groups. The work group will review some of the efforts to address window fall safety already undertaken in other states such as:

1. New York City's "Children Can't Fly" campaign ([www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1653830](http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1653830))
2. The Humpty Dumpty Association's work ([www.humptydumpty.org/](http://www.humptydumpty.org/))
3. Andersen's Corporation's "LookOut For Kids" campaign ([www.andersenwindows.com/lofk/mainLOFK.html](http://www.andersenwindows.com/lofk/mainLOFK.html))

The work group will make recommendations for training and education materials for public health educators, home visitors and health care providers on window safety. Information such as the following will be made available to families:

1. Window screens are designed to keep insects out and are designed to release with very little pressure.
2. If you open the window for ventilation, make sure that guards and stops prevent windows from opening more than 4 inches.
3. It is best that windows be opened from the top rather than the bottom.
4. Keep furniture and other items away from windows to discourage climbing near windows.

5. Window guards should be installed in all rooms where children spend time.
6. Children should be kept away from unguarded windows.
7. Guards that adults and older children can open easily in case of fire should be installed on windows between the 1<sup>st</sup> and 6<sup>th</sup> floors. For the 7<sup>th</sup> floor and above, permanent window guards are recommended.

Any such additional window safety information or training plans will be included in already existing training and education materials. The Home Safety Checklist and Guidebook will be updated to reflect current best practices and new research related to window safety and window fall prevention.

Other public education media strategies will be developed as needed.

The baseline data collected prior to implementation of window safety awareness initiatives will be compared to data collected in subsequent years in order to evaluate the effectiveness of awareness activities. The limitation to conducting a rigorous evaluation of the intervention efforts is related to the statistical power required to demonstrate intervention effectiveness when small numbers of events are involved. Since falls from windows are relatively rare events, it will be difficult to demonstrate conclusively, in a short period of time, which of the interventions developed and implemented resulted in lives saved and injuries prevented.

The Window Fall Prevention Advisory Committee will meet to discuss consumer education regarding window fall prevention. Representatives from the Window Fall Prevention Advisory Committee will continue to serve in a technical advisory capacity as consumer education initiatives are developed and implemented. Print materials are being explored as possible vehicles to provide window safety information to consumers when they purchase windows. These might include a brochure or flyer containing window safety information that could be distributed at point of purchase and/or included in product information materials.

### **Next Report to the Minnesota State Legislature**

The next progress report on the Window Safety Program will be March 2009 as required. The final report on the program will be March 2011 and will include a summary of the safety program, the impact of the program on child window falls and any recommendations for further study or action.

## ENDNOTES

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<sup>1</sup> Minnesota Safety Council. Falls. <http://www.minnesotasafetycouncil.org/>

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.