MOVING FORWARD WITH INJURY PREVENTION

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WHAT IS AN INJURY?

- Injury is the physical damage that results when a human body is suddenly or briefly subjected to intolerable levels of energy.
- The time between exposure to the energy and the appearance of an injury is short.

- This is the traditional definition, treating injury as a physical issue. Thinking on this has evolved—now must think of injury beyond only physical causes and effects.
CAUSES OF INJURY: ENERGY TYPES

- Mechanical or kinetic
- Thermal
- Electrical
- Chemical
- Radiation
- Absence of vital energy
THE HUMAN COST OF INJURY
The direct costs (health care costs arising from injuries) of injury in 2004 were 54% of total injury costs.

The indirect costs (costs related to reduced productivity from hospitalization, disability and premature death) were 46% of total costs arising from injury.
SEVERITY: THE INJURY ICEBERG

1 Death

21 Hospital Admissions

348 treated in Emergency Departments

Treated in Physicians’ Offices, elsewhere, at home or never treated

Less is known about the data that is “under the surface”

Source: Ontario Trauma Registry, CIHI, 2003
# Total Burden of Injury, by Select Causes, 2004

<table>
<thead>
<tr>
<th>Description</th>
<th>Deaths</th>
<th>Hospitalizations</th>
<th>Non-hospitalizations</th>
<th>Permanent partial disability</th>
<th>Permanent total disability</th>
<th>Total costs ($ Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport Incidents</td>
<td>3,067</td>
<td>30,932</td>
<td>286,086</td>
<td>7,738</td>
<td>760</td>
<td>$3,699</td>
</tr>
<tr>
<td>Falls</td>
<td>2,225</td>
<td>105,565</td>
<td>883,676</td>
<td>29,576</td>
<td>2,500</td>
<td>$6,155</td>
</tr>
<tr>
<td>Suicide/Self-Harm</td>
<td>3,616</td>
<td>18,210</td>
<td>41,930</td>
<td>3,879</td>
<td>199</td>
<td>$2,442</td>
</tr>
<tr>
<td>Violence</td>
<td>507</td>
<td>8,050</td>
<td>90,463</td>
<td>1,899</td>
<td>201</td>
<td>$  871</td>
</tr>
</tbody>
</table>
## More Recent Ontario Data

### Top 5 Injury Causes of Death (2001-2005 Calendar year)

<table>
<thead>
<tr>
<th>Description</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Harm</td>
<td>5,026</td>
</tr>
<tr>
<td>Falls</td>
<td>4,663</td>
</tr>
<tr>
<td>On Road</td>
<td>3,288</td>
</tr>
<tr>
<td>Poisoning</td>
<td>1,589</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>783</td>
</tr>
</tbody>
</table>

### Top 5 Injury Causes of Hospitalization (2006/07 and 2007/08 fiscal year)

<table>
<thead>
<tr>
<th>Description</th>
<th>Hospitalizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falls</td>
<td>72,135</td>
</tr>
<tr>
<td>Inanimate</td>
<td>8,986</td>
</tr>
<tr>
<td>Self-Harm</td>
<td>8,897</td>
</tr>
<tr>
<td>On Road</td>
<td>8,126</td>
</tr>
<tr>
<td>Sports</td>
<td>5,475</td>
</tr>
</tbody>
</table>

### Top 5 Injury Causes of ER Visits (2006/07 and 2007/08 fiscal year)

<table>
<thead>
<tr>
<th>Description</th>
<th>ER Vists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falls</td>
<td>755,326</td>
</tr>
<tr>
<td>Inanimate</td>
<td>709,533</td>
</tr>
<tr>
<td>Sports</td>
<td>324,033</td>
</tr>
<tr>
<td>Animate</td>
<td>170,683</td>
</tr>
<tr>
<td>On Road</td>
<td>131,223</td>
</tr>
</tbody>
</table>
POPULATIONS AT HIGHER RISK OF INJURY

- Children and youth
- Older people
- First Nations peoples
- Rural and Remote populations
**CHILDREN AND YOUTH**

- Injury is the leading cause of death among children (over one) and adolescents.
- 7 of every 10 deaths among people ages 15 - 24 are injury related.
- In Canada more young lives between ages 10 - 34 are lost to injury than to all other causes of death combined.
OLDER PEOPLE (65+)

- Account for only 13% of the population but 23% of all deaths and hospitalizations due to injury.
- In 2031 they will account for 24% of the population and 35% of injury deaths and hospitalizations.
Potential Years of Life Lost (PYLL) by Cause of Death, First Nations and Canada, 1999
Injury mortality is higher in rural areas than in urban areas.

The more rural the setting the higher the rates.

Close to 40% of all MVCs (including off-road vehicle crashes) occurred in rural areas and small towns.
Canada Lagging Behind

Injury Deaths per 100,000 Children Aged 1 - 14 in OECD Countries
INJURY PREVENTION CUTS COSTS

- $1 spent on smoke alarms saves $69
- $1 spent on bicycle helmets saves $29
- $1 spent on child safety seats saves $32
- $1 spent on road safety improvements saves $3
- $1 spent on prevention counseling by pediatricians saves $10
- $1 spent on poison control services saves $7
THE INVISIBLE EPIDEMIC

- Prevention vs. Cure
- ‘Accident’
- Identity
- Training
- Research
- Taxonomy
- Someone’s Fault
INJURY AS A POPULATION HEALTH PROBLEM

This is Jason.

He is in the hospital.
Why is Jason in the hospital?  
*Because he has a bad infection.*
Why is Jason in the hospital?  
*Because he has a bad infection.*

But why does he have an infection?  
*Because he got a bad cut on his leg and it got infected.*
INJURY AS A POPULATION HEALTH PROBLEM

Why is Jason in the hospital?
Because he has a bad infection.

But why does he have an infection?
Because he got a bad cut on his leg and it got infected.

But why does he have a cut on his leg?
Because he was playing on a poorly maintained playground next to his apartment building and he fell on a sharp broken edge.
Why is Jason in the hospital?
Because he has a bad infection.

But why does he have an infection?
Because he got a bad cut on his leg and it got infected.

But why does he have a cut on his leg?
Because he was playing on a poorly maintained playground next to his apartment building and he fell on a sharp broken edge.

But why was he playing on a playground with old broken equipment?
Because his neighbourhood is kind of run down, and a lot of kids play there unsupervised.
But why was he playing on a playground with old broken equipment?
   Because his neighbourhood is kind of run down, and a lot of kids play there unsupervised.

But why does he live in that neighbourhood?
   Because his parents can’t afford a nicer place to live.
But why does he live in that neighbourhood?

But why can’t his parents afford a nicer place to live?

But why does he have an infection?

Because he got a bad cut on his leg and it got infected.

But why does he have cut on his leg?

Because he was playing on a poorly maintained playground next to his apartment building and he fell on a sharp broken edge.

But why was he playing on a playground with old broken equipment?

Because his neighbourhood is kind of run down, and a lot of kids play there unsupervised.

But why does he live in that neighbourhood?

Because his parents can’t afford a nicer place to live.

But why can’t his parents afford a nicer place to live?

Because his dad is unemployed and his mom is sick.
But why can’t his parents afford a nicer place to live?

Because his parents can’t afford a nicer place to live.

But why can’t his parents afford a nicer place to live?

Because his dad is unemployed and his mom is sick.

But why is his dad unemployed?

Because he doesn’t have much education and can’t find a job.
But why can’t his parents afford a nicer place to live?

Because his dad is unemployed and his mom is sick.

But why is his dad unemployed?

Because he doesn’t have much education and can’t find a job.
THE CONTEXT

POLICY & SOCIAL CONTEXT

What is the setting/community’s perception of the injury problem?

What are the characteristics of the community that enable or inhibit the prevention of this injury?

What resources are available to address this injury problem?

What is the meaning of the injury to the individual/family?

What is the political climate for preventing this injury and for sustainability?

Injury and Population of Interest
A PUBLIC HEALTH APPROACH

Policy & Social Context

- What is the setting/community’s perception of the injury problem?
- What are the characteristics of the community that enable or inhibit the prevention of this injury?
- What is the meaning of the injury to the individual/family?
- What is the political climate for preventing this injury and for sustainability?

Injury and Population of Interest

- What resources are available to address this injury problem?

Selecting an Intervention

- Implementing the Program

Defining the Problem

- Evaluating the Program
LEVELS OF ENGAGEMENT

PUBLIC HEALTH APPROACH

POLICY & SOCIAL CONTEXT

INJURY AND POPULATION OF INTEREST

DEFINING THE PROBLEM

WHAT IS THE SETTING/COMMUNITY’S PERCEPTION OF THE INJURY PROBLEM?

WHAT IS THE MEANING OF THE INJURY TO THE INDIVIDUAL/FAMILY?

IDENTIFYING RISK & PROTECTIVE FACTORS

WHAT IS THE POLITICAL CLIMATE FOR PREVENTING THIS INJURY AND FOR SUSTAINABILITY?

SELECTING AN INTERVENTION

WHAT RESOURCES ARE AVAILABLE TO ADDRESS THIS INJURY PROBLEM?

IMPLEMENTING THE PROGRAM

WHAT ARE THE CHARACTERISTICS OF THE COMMUNITY THAT ENABLE OR INHIBIT THE PREVENTION OF THIS INJURY?

EVALUATING THE PROGRAM

OTHER KEY STAKEHOLDERS

POLITICAL

PARTNERSHIP

COMMUNITY

ENGAGEMENT
If you do not start out with a clear and focused problem definition, the program will get into trouble.

If you don't know where you are going, you might wind up someplace else.

-Yogi Berra
Based on the defined problem, identify the factors that increase or decrease the risk of injury

“One of the most important public policy issues faced by those concerned with preventing injuries is taking research findings that show how the day-to-day living conditions people experience – the social determinants of health – are important determinants of injury…”

Dennis Raphael
Professor of Health Policy and Management, York University
IMPLICATIONS FOR INJURY PREVENTION

- Determinants and disparities impact risk and protection
- Must address these issues to prevent injuries.
- Everyone’s health is better when we focus on determinants and disparities
- All areas of disease and injury prevention benefit when we address the root causes
- Address the risk and protective factors with your interventions
- Do not increase disparities through your interventions
ABOUD RESILIENCY

Protective factors often cut across determinants and can mitigate risks associated with certain determinants

- E.g., an individual or a community with strong social supports may not be at higher risk for injury despite low income
SELECTING AN INTERVENTION

Consider factors that can be modified through interventions, based on your policy and social context; review the good practice literature on this issue and select the most appropriate intervention(s).

For every complex problem there is a solution that is clear, simple, and wrong.

-H.L. Mencken
HOW CAN INJURIES BE PREVENTED?

The same way that other population health problems are prevented. Through the five core health promotion strategies:

- Build healthy public policy
- Create supportive environments
- Strengthen community action
- Develop personal skills
- Re-orient health services
GOOD PRACTICE

- A prevention strategy that has been evaluated and found to be effective (either through a systematic review or at least one rigorous evaluation) OR
- A prevention strategy where rigorous evaluation is difficult but expert opinion supports the practice and data suggest it is an effective strategy (e.g., use of personal floatation devices (PFD) to prevent drowning) OR
- A prevention strategy where rigorous evaluation is difficult but expert opinion supports the practice and there is a clear link between the strategy and reduced risk but a less clear link between the strategy and reduced injuries (e.g., secure storage of poisonings) AND
- The strategy in question has been implemented in a real world setting so that the practicality of the intervention has also been examined.
WHERE DO YOU START?

- Harborview Injury Prevention and Research Center Best Practices Overview
- The Cochrane Library Reviews
- EuroSafe
- The Injury Prevention Journal
- CDC's National Center for Injury Prevention and Control
- SafetyLit
- PHAC Best Practices Portal
- OIPRC
- Good Practice Guideline
IMPLEMENTING THE PROGRAM

- Plan the intervention(s) and implement in a variety of appropriate settings.

Without knowledge action is useless and knowledge without action is futile.

- Abu Bakr
IMPLEMENTATION PLANNING

- Know where you are now (your problem)
- Where you intend to be (your goal)
- The best way for you to get there (your objectives, interventions and activities)
- Whether you have the right tools for the job (formative evaluation)
## Why is Implementation Important?

<table>
<thead>
<tr>
<th>Effectiveness of the intervention with and without a team</th>
<th>Implementation Team</th>
<th>No Implementation Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>80% - 3 years</td>
<td>Fixsen, Blase, Timbers &amp; Wolf, 2001</td>
<td>Balas &amp; Boren, 2000</td>
</tr>
<tr>
<td>Effective use of Implementation Science and Practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letting it happen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helping it happen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Monitor the effects of the intervention(s); consider the impact and outcomes and overall cost effectiveness.

“Evaluation is the systematic collection of information about the activities, characteristics and outcomes of programs (and projects or other interventions) to make judgments about the program, improve effectiveness, and/or inform decisions about future programming. Utilization-Focused Evaluation (UFE) is evaluation done for and with specific, intended primary users for specific, intended uses”

Michael Quinn Patton
Utilization Focused Evaluation
USEFUL EVALUATION

- The goal is to get the right information into the hands of the right people, in a timeframe, and format that they can use to make the decisions they need to make.
WHAT WE LEARN FROM EVALUATION

- Stop doing some of what you are doing
- Do more of some things
- Start doing new things

- Almost never, will evaluation say “stop everything and cancel the program!”
Evaluation supports all phases of planning, implementation and ongoing management of your intervention.

Evaluation activity begins immediately.

Different types of evaluation come into play at different stages of the intervention as you answer different questions.
What This Means for Injury Prevention

- Injuries are an important and preventable problem
- Best practice means that scientific evidence must be combined with practitioner expertise and lived experience
- Strengths exist within every community to facilitate action
- A healthy policy environment is fundamental
- Collaboration and partnerships are essential
An Example

A MILLION MESSAGES
A MILLION MESSAGES

- Developed in Alberta for Community Health Nurses to deliver
- Provides consistent injury prevention information on childhood falls to parents
- Targets child’s developmental stage and topics pertaining to growth and development
DEFINING THE PROBLEM IN ONTARIO

- Priority setting exercise completed
- Used qualitative and quantitative data
- Three issues determined for injury
  - Motor Vehicle crashes
  - Falls in seniors
  - Falls in children
IDENTIFYING RISK/PROTECTIVE FACTORS

- Interest from Public Health, hospitals to address issue
- Research started in Central West Ontario
- Literature review done by Waterloo Public Health including risk factors/interventions
- Determined that it is good timing to address childhood falls
SELECTING INTERVENTION

- Safe Kids Canada documented as a Promising Practice, 2006 & 2011
- Alberta receiving more calls from Ontario
- A Million Messages Webinar held Nov. 2010
RESOURCES

- Stakeholder engagement after webinar
  - Hospitals, Public Health, Safe Kids Canada, Ontario Neurotrauma Foundation, University Researchers, Pediatricians, Early Years Centres
  - A Million Messages Steering Committee formed
  - OIPRC supporting/leading where needed
Another Example

NO MORE ACCIDENTS
NO MORE ACCIDENTS

The Grey Bruce Health Unit, Region of Waterloo Public Health, Algoma Public Health, Southwest Injury Prevention Network (SWIPN) and Toronto Area Safety Coalition (TASC) have initiated “No More Accidents …” awareness strategies in their own communities.

Based on two articles from the British Medical Journal
DEFINING THE PROBLEM

- It has been generally accepted within injury prevention circles that most injuries are due to circumstances that are both predictable and preventable, that they are not accidents.
Vocabulary use subtly impacts on public perception.

In the case of “accident” the subtle implication is that the cause of the injury was unpredictable and bound to happen.

With change in the use of words, the goal is to encourage the public to focus on the predictability and preventability of unintentional injuries and to adopt practices that reduce the risk for injury.
IMPLEMENTATION

- Encourage policy development, e.g., media, organization/worksite internal policies
  - Send letters to worksites, e.g., Health and Safety Committees/Newsletter
  - Promote a media challenge among local media outlets, e.g., radio, newspaper, TV, local cable broadcaster

- Send letters to key stakeholders in your community:
  - Rebuttal letters if you hear the word “accident” used
  - Thank you letters when changes made
  - Send letters to professionals, e.g., health care professionals, insurance companies, police, EMS, fire departments, drivers’ education companies, etc.

- Advocate for change of official reporting forms for police, coroner, insurance, etc
EVALUATION

- Scan of media and other sources for changes in frequency of “accident”
- Monitoring uptake and commitment by different stakeholders
- Monitor change in policies (e.g., editorial policy), reporting forms, and other official communications
No more **ACCIDENTS**! Call it what it is...

**INJURY, COLLISION, INCIDENT or CRASH**

**accidents**
Events that happen for no apparent reason.

These were **not ACCIDENTS**.
These were **PREVENTABLE**.

It's time to drop the "a" word.

No more **ACCIDENTS**! Call it what it is...

**INJURY, COLLISION, INCIDENT or CRASH**
No more ACCIDENTS! Call it what it is...

INJURY, COLLISION, INCIDENT or CRASH

By definition, an accident is an act of fate: an unpredictable event that couldn’t be avoided.

Most crashes, collisions, injuries, and incidents are PREDICTABLE and PREVENTABLE and therefore, by definition, are not ACCIDENTS.

Using the word accident to describe these examples is misleading:
- An injury due to not wearing a helmet.
- A car crash due to texting while driving.
- A trip, slip, or fall due to items on the stairs.

These incidents are not accidents. They were predictable and could have been avoided and prevented.

Ontario Injury Prevention Resource Centre
HOW CAN YOU HELP?

- Link to campaign on your website
- Add tagline to your signature file
- Do media advocacy--even if just as a private citizen!
- Work with public health staff to move it into your workplace
- Anything else?
THANK YOU!

Ontario Injury Prevention Resource Centre

www.OnInjuryResources.ca
(416) 596-2700