

Using Data to Drive Prevention in Your Community

Which types of injuries are prominent in your community? What information do you need before planning, implementing or evaluating an injury prevention program? How can you measure success?

Data gives your prevention programs credibility! At this workshop we will focus on the importance of data in supporting effective injury prevention programming and securing funding. We will identify easily accessible and reliable sources of data, and you will develop a worksheet to take back to your community detailing the steps of the injury prevention and evaluation cycle.

Objectives

- introduce the steps of the injury prevention & evaluation cycle (IPEC)
- describe the roles of data in injury prevention (based on IPEC)
- provide sources for locating data/information (Internet sources, agencies)

How Data Drives Injury Prevention

What is the link between data and prevention?

What information is needed before planning, implementing or evaluating an injury prevention program?

What kind of data is needed?

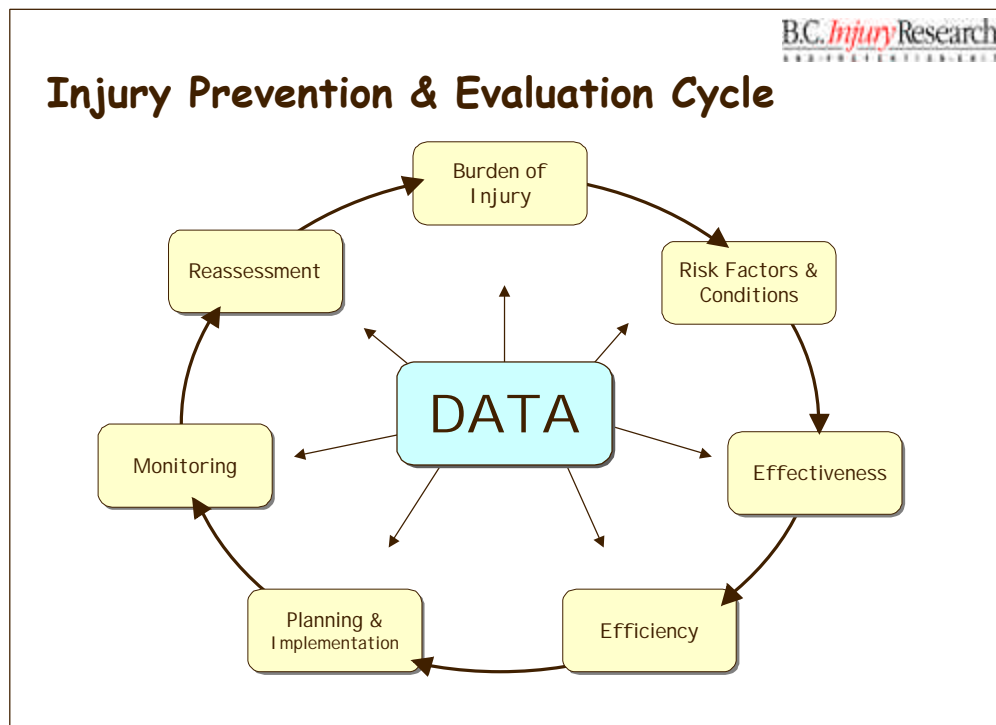
Where can these data be found and is it reliable information?

How is success monitored?

The **Injury Prevention and Evaluation Cycle** is a framework which describes the steps required to answer these questions as well as highlighting the role of **data**.

IPEC

The Injury Prevention and Evaluation Cycle



Step 1: Burden of Injury

Which types of injuries are prominent in the community?

Injuries can be described in many different ways. Data currently available on injuries is sorted by the outcome of the injury, be it death, hospitalization, or a visit to the emergency department. The **Injury Pyramid** represents the differences in numbers and severity of injuries for each of these levels.



- Deaths: few numbers, extreme severity
- Hospitalizations: higher numbers, high severity
- Emergency departments: very high numbers, moderate to high severity

In Canada there is national program collecting injury data from emergency departments. This is the Canadian Hospitals Injury Reporting and Prevention Program (**CHI RPP**), including 10 pediatric and 6 general hospitals. This program provides details of the injury events, however it is not a representative sample of Canada. In British Columbia, the BC Children's Hospital is the only hospital reporting to CHI RPP. Therefore the data only include the type of injuries seen at this hospital. The injuries seen in the emergency departments in the Northern Interior may be very different in terms of the injury events.

A new initiative in British Columbia is the Emergency Department Injury Surveillance System (**EDI SS**). This is a pilot project through the BC Injury Research & Prevention Unit, with funding from the BC Ministry of Health, Health Canada, as well as the participating regions and hospitals. Injury data

is currently being collected in 10 hospitals in the Thompson Health Region, the South Fraser Health Region, and the North West Health Services Society. The intention is to expand this system across the province, with the possibility of expanding nationally.

Aside from age, sex and region of the patient, this system is collecting information the actual injury event:

- When did it happen?
- How did it happen?
- Where did it happen?
- What was the person doing when the injury happened?
- What were the injuries?

These data are summarized to present a picture of injuries happening in these regions (see [workshop: How to Interpret Injury Data](#)). Types of **injury statistics** include:

- Frequency
- Rate
- Injury type

We also want to understand the costs of injury. **Costs** may include:

- Societal: medical services, social services, gross national product
- Personal: medical, loss of employment, physical & emotional pain
- Disability: short- or long-term

Step 2: Risk Factors and Conditions

What are the risk factors for this type of injury?

Risks are **heterogeneous** between different groups of people. That is, one population will have different risks for a certain type of injury than a separate population. Therefore different target populations require different prevention strategies.

To find out what we already know about the risk factors for a certain type of injury, scientific literature must be accessed. The best source of information is **evidence-based**. That is, the evidence has been collected

through rigorous methods to insure unbiased results. Anecdotal evidence is not sufficient.

Web-based resources available include:

- Medline: available through some libraries & free over the internet
e.g. PubMed at <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>
- Web-of-Science (available through some libraries)

Risk factors are present at different levels, such as personal and societal.

Personal risks can include:

- age group
- sex
- cause
- social economic status (SES: education, employment, income)
- geographic location

Societal risks can include:

- social environment
- behaviour & attitudes
- physical environment
- economic prosperity
- health care
- health (disease)
- well-being

Are these?

If injuries are to be prevented, the risk factors need to be understood, and be reduced or removed. Therefore, these factors must be both **measurable** so that change can be quantified and **modifiable** so that these changes can happen.

What community injury prevention programs currently exist?

Injury prevention programs are the result of a positive response from the community based on the assumption that prevention will reduce injury.

What injury prevention programs are currently running in the community?

- Are these programs **addressing real concerns**?
- Do they have attainable **goals**?
- Are they **reaching their goals**?
- Who is their **target audience**?
- Are **resources being well spent**?

Should these programs be continued?

Be modified?

Be expanded?

To answer these questions, the effectiveness and efficiency of the programs need to be assessed. **Effectiveness** describes if the program can do what it is designed to do, for example reduce the number of falls among the elderly. **Efficiency** describes if this program is using its resources in the best manner to attain the desired results.

Steps 3 & 4: Effectiveness & Efficiency

Injury Prevention Program Evaluation

(see [workshop "How to Plan and Evaluate a Prevention Program"](#))

- Process Evaluation: the steps of the program
- Outcome Evaluation: the results of the program

To collect the information and data needed to evaluate a prevention program, reliable & valid tools may be required. **Reliable** means that the tool will produce similar results under similar circumstances. **Valid** means that the tool is really measuring what it is supposed to be measuring.

Methods for collecting information include **quantitative** (quantity = numbers) and **qualitative** (quality = descriptions).

Quantitative Methods:

- survey
- counting
- document review (secondary data)

Qualitative Methods:

- focus group
- personal interview
- observation
- case studies

Selection of data elements can be influenced by many factors, including:

- ethical & privacy issues
- objectivity of investigators
- finances, time, technical expertise
- political support

Step 5: Planning & Implementation

(see workshop "[How to Plan and Evaluate a Prevention Program](#))

In order to both plan & implement, as well as to evaluate a program, very clear goals and objectives are needed.

Objectives need to be:

- Specific
- Measurable
- Action-oriented
- Realistic
- Time-limited

PLANNING

The following topics must be addressed:

- goals & objectives
- costs of running the program
- social preferences
- social expectations
- feasibility: technological, political & financial

IMPLEMENTING

How will the program be implemented? What is the program addressing?

Examples:

- education
- environment modification
- advocacy

Step 6: Monitoring / Surveillance

Monitoring a prevention program can take both short- and long-term outcomes into account. Ultimately the impact the program has had on the community is of interest. Have injuries or the consequences of injuries been reduced?

EVALUATE

Now comes the time to evaluate the new program. This is the same as steps 3 & 4: Effectiveness & Efficiency. The plan for evaluation should be developed as part of the program planning process so that the required information will be collected, and time and resources for the evaluation allocated in the budget.

There are different types of evaluation strategies that focus on different aspects of the program ([see workshop "How to Plan and Evaluate a Prevention Program"](#)). These include process, impact, outcome and efficiency.

Evaluating the delivery of the program:

Process Evaluation

- Was each step completed?
- Was the target audience reached?
- Was the information/equipment delivered?

What was the:

- % population covered?
- # program participants?
- # recommendations developed?
- # new laws/regulations created?
- # persons trained?

Evaluating the short-term outcomes of the program:

Impact Evaluation

Was there a change in:

- knowledge

- attitude
- behaviour
- skill
- risk factors

Evaluating the long-term outcomes of the program:

This step requires

- selected markers representative of the issue
- surveillance system for the population

These can be provided by standard data collection currently available, such as mortality and hospitalization data, or data collected by specific organizations, e.g. drowning data collected by the Red Cross.

Outcome Evaluation

Did the program achieve:

- reduced mortality (deaths)
- reduced morbidity (hospitalizations)
- reduced health care costs
- reduced personal costs
- reduced disability

Step 7: Re-evaluation

What changes in the Burden of Injury have occurred?

Should the program continue as is?

Adopt changes?

End?

Finally, the efficiency of the program needs to be assessed and re-assessed.

If the program is ongoing, then the efficiency will need to be assessed periodically. A program that is efficient in its first month or year may not be efficient in five years.

Efficiency

- select perspective: government, society
- estimate costs of intervention and effect on outcomes
- describe costs & benefits that could not be measured

Sources of Data

BC Vital Statistics

<http://www.vs.gov.bc.ca/>

- Mortality Data
Dave.ONeil@gems8.gov.bc.ca

BC Ministry of Health

- Hospitalization Data
Office for Injury Prevention: Nader Farid: nader.farid@moh.hnet.bc.ca
- Health Care Providers Data
Karlic Ho Information and Analysis, BC Ministry of Health
karlic.ho@moh.hnet.bc.ca
- Ambulance Services
www.hlth.gov.bc.ca/bcas
telephone: (250) 952-0888
- BC Ministry of Health
<http://www.gov.bc.ca/hlth/>
 - Preventive Health Programs (Injury Prevention)
 - Health Files – facts about injury rates, risks, prevention tips, other links
 - Child Care – preventing injuries in a child care setting
 - Publications – government reports/publications
 - Provincial Health Officer Annual Report
- Health Data Warehouse
<http://www.hdw.moh.hnet.bc.ca/hdw/index.htm>
*see "Access to the Health Data Warehouse"

BC Stats:

<http://www.bcstats.gov.bc.ca/>

*see attachment

- Quick Facts About BC
- Community Fact Sheets
- Provincial Electoral District Profile

BC Drug & Poison Information Centre

St. Paul's Hospital
1081 Burrard St. Vancouver BC V6Z 1Y6
1-800-567-8911
(604) 682-5050 (local)
(604) 631-5262 Fax
e-mail: daws@dpk.bc.ca
<http://www.vcn.bc.ca/dpic/>
*see attachment

Red Cross

<http://www.redcross.ca/>

- drowning research

ICBC:

<http://www.icbc.com>

- Road Safety
- Geared 2 Youth
- Auto crime & Fraud
- Commercial Vehicles
- In Your Community

WCB

<http://www.worksafebc.com>

- Occupational safety
- Youth

Municipal Statistics

Ministry of Municipal Affairs publication:
"Municipal Statistics, Including Regional Districts"
Ministry of Municipal Affairs – www.gov.bc.ca/marh
Statutes – www.qp.gov.bc.ca/stat_reg/sup-acts.htm

- distance and types of roads
- area of parks, playgrounds
- water supply
- sewer services

Library Branches

Ministry of Municipal Affairs, Library Services Branch
www.marh.gov.bc.ca/library/types.html

- types and locations of library branches

Sports Areas, Community Centres

BC Recreation and Parks Association
www.bcrpa.bc.ca

- publications, e.g. BC Recreation and Sports Guide (hardcopy publication)
- other resources ie., BCRPA Arena Survey, Aquatic Facility Survey

BC Chamber of Commerce – www.bcchamber.org

Liquor Distribution

British Columbia Liquor Distribution Branch, Annual Report, Ministry of Attorney General (hardcopy publication)
www.gov.bc.ca/ag

- Annual Sales

Elections BC

<http://www.elections.bc.ca/>

General Helpful Source

Vancouver Public Library, Social Sciences Research Department

Product Recalls

CBC "Marketplace"

<http://cbc.ca/consumers/market>

<http://www.babyresource.com/recalls.htm>

<http://notice.com>

(Canada & USA)

<http://www.safetyalerts.com/>

Consumers' Reports

<http://www.consumerreports.org>

National Highway Traffic Safety Commission (USA)

<http://www.nhtsa.dot.gov/cars/problems/recalls/recmmy1.cfm>

<http://familyeducation.com/topic/front/0,1156,1-3508,00.html>

http://www.hipimplantlaw.com/product_nos.htm

http://www.findarticles.com/m3289/3_169/61759523/p1/article.jhtml

Good Housekeeping

<http://goodhousekeeping.women.com/gh/buysmart/recalls/00reca21.htm>

Food Safety and Inspection Service (USA)

<http://www.fsis.usda.gov/OA/news/xrecalls.htm>

Consumer Product Safety Commission

<http://www.cpsc.gov/cpscpub/prerel/category/topic.html>

<http://www.keepkidshealthy.com/welcome/recalls.html>

Sources of Funding

Funding Opportunities

<http://fundingopps2.cos.com>

Charity Village

<http://www.charityvillage.com>

Access to the Data Warehouse

Because of a licensing agreement with BC STATS, access to the HDW is currently restricted to Ministry of Health and related staff in health authorities and Ministry for Children and Families.

Public health nurses can register for free access to HDW (since they work for a health region).

Basically, whenever anyone (e.g. health professionals, students, contractors, etc) request access to the service, we review their registration information -- particularly, their title, host organization, address -- and decide whether or not to grant access. If a person does not work for MOH, MCF, nor health authority, but is on contract with any of these organizations, they may be granted access upon sending more information regarding the contract (e.g. supervisor, phone number, duration of contract).

Please follow the steps below to begin the registration process:

Using a web browser (e.g. version 4 of Netscape, Internet Explorer):

1. Register at the Health Matters Web Site (<http://admin.moh.hnet.bc.ca/>) - 'New Users Register Here!'
2. Using the user-id/password from the Health Matters registration (step 1) go to the HDW web site registration page (<http://admin.moh.hnet.bc.ca/hdw/regform.html>), complete the form, and press 'Submit access request'.

Confirmation of the access request will be returned by e-mail.

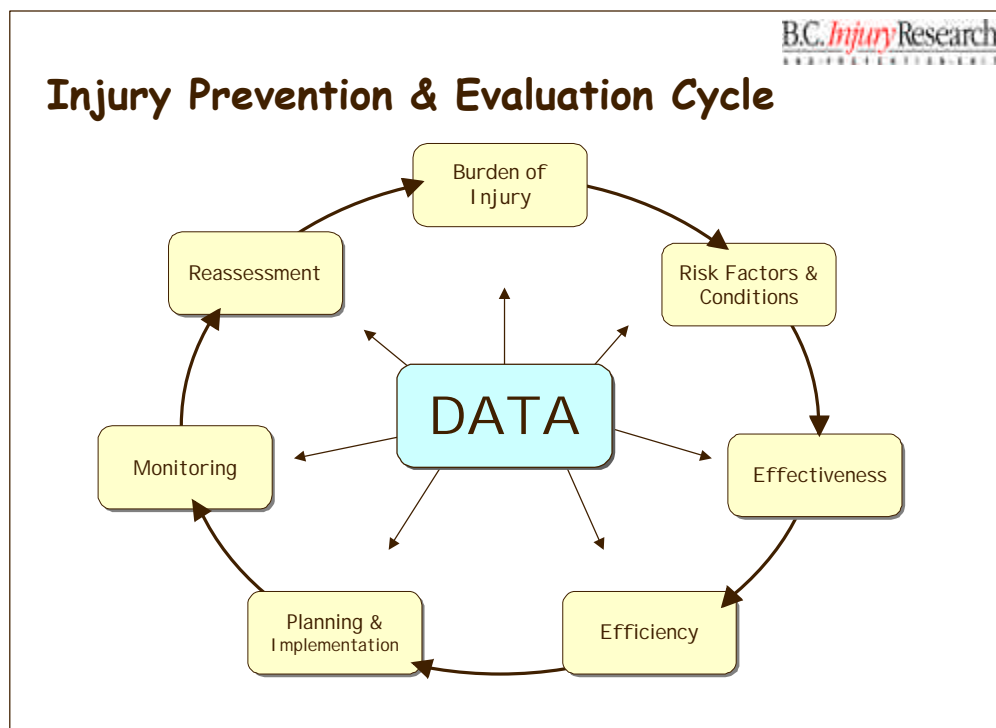
Health Data Warehouse web support
Ministry of Health
hdw@moh.hnet.bc.ca

Prevention Program Work-Sheet

A single prevention program can not be effective and efficient in every setting. Injury Prevention strategies must be specific to the issue and the target population!

Prevention Programs need to be custom designed! Just because something worked in one community does not mean it is the best plan for you.

The following worksheet will assist you in identifying prominent areas for injury prevention in your community. You will be prompted to consider the type of information needed at each step, and potential sources for this information.



The success of your program depends on how well it is planned out!

Which **types of injuries** are prominent in your community?
What is the **burden of injury**?



Information Needed	Where to find Injury Statistics

What community prevention programs currently exist?

Are these programs **effective** and **efficient**?

- Do these programs address real needs and concerns?
- Do these programs have goals & objectives?
- Can these programs reach their goals?
- Who is the target audience?
- Are resources being used wisely? Biggest bang for the buck?
- Should these programs be continued? Be modified? Be expanded?

Details of Existing Programs	Where to find Information

What information do you need to **plan & implement** a prevention program?

Are there injury concerns that are not being addressed?

- Should a new prevention program be planned?
- What will be the goals of this new initiative?
- Are these goals measurable?

New Initiative	Where to find Information
<u>Plan</u>	
<u>Implement</u>	

How will you **evaluate** the success of your initiative?

- What are you trying to show?
- What information do you need to measure change in the community?
- Is this information already being collected?
- Do you need to collect this information?

Elements to Evaluate	Where to find Information
<p data-bbox="285 562 399 596"><u>Process</u></p> <p data-bbox="285 1003 391 1037"><u>Impact</u></p> <p data-bbox="285 1493 440 1526"><u>Efficiency</u></p>	

Who will **fund** your prevention program?

Strengths of your proposal	Potential Funding Sources

