

DEVELOPING A COMMUNITY INJURY SURVEILLANCE PROGRAM: From Inspiration to Implementation

Yoshitomi, K.¹, McIntyre, K.¹, Scanlan, A.², Raina, P.² & SFHR Working Group¹

Author Affiliations:
¹ South Fraser Health Region
² British Columbia Injury Research and Prevention Unit

Introduction

Background

Motivated to get more involved in Injury Prevention after a local youth was hit and killed by a vehicle while crossing the street, the Emergency Department (ED) Staff at Peace Arch Hospital in White Rock contacted the BC Injury Research and Prevention Unit (BCIRPU) in 1998.

Rationale

Unintentional Injuries in the SFHR, published in August 1997, revealed that mortality and hospitalization rates due to injury are lower in the South Fraser Health Region (SFHR) than the provincial average, however variation across the region was observed. Approximately 70,000 injuries present to the SFHR EDs each year, and injury related MSP costs for 1995/96 amounted to \$10 million. Information on injuries that are dealt with in EDs is not systematically collected.

Purpose

To develop and pilot an Emergency Department Injury Surveillance System (EDISS) in the SFHR, in partnership with BCIRPU. This is part of a broader provincial initiative to implement EDISS across BC with the goal of developing data driven injury prevention through sustainable community programs.

Comparison of BCIRPU and NACRS Data Sets

Field Name	BCIRPU Minimum Data Set	NACRS	Data Abstraction Method
1 Chart Number	✓	✓	Electronic via ADT
2 Health Care Number	✓	✓	Electronic
3 Postal Code	✓	✓	Electronic
4 Gender	✓	✓	Electronic
5 Birth Date	✓	✓	Electronic
6 Date of Visit	✓	✓	Electronic
7 Main Problem (N-Code)	✓	✓	Manual
8 Other Problem(s) (N-Code)	✓	✓	Manual
9 E-Code	✓	✓	Manual
10 Place of Occurrence of Injury Event	✓	✓	Manual
11 Narrative Description of Injury Event	✓	✓	Manual
12 Activity When Injured	✓	✓	Manual
13 Visit Disposition	✓	✓	Manual
14 Province Issuing Health Care Number	✓	✓	Electronic
15 Birth Date Estimated	✓	✓	Manual
16 Responsibility for Payment	✓	✓	Manual
17 MSP Functional Centre Code	✓	✓	Manual
18 Provider Type(s)	✓	✓	Manual
19 Primary Provider Type	✓	✓	Manual
20 Provider Identification	✓	✓	Manual
21 Main Intervention	✓	✓	Manual
22 Other Interventions	✓	✓	Manual
23 Blood Transfusion	✓	✓	Manual
24 Blood Components/Products	✓	✓	Manual
25 Triage level	✓	✓	Manual
26 Anaesthetic Technique	✓	✓	Manual
27 Date Visit Completed	✓	✓	Manual
28 Registration Time	✓	✓	Manual
29 Disposition Time	✓	✓	Manual

Hospital Encounters

Hospital	ED Encounters/Year	Injuries Seen/Year
Delta Hospital (DH)	22000	8800
Peace Arch Hospital (PAH)	32000	12800
Langley Memorial Hospital (LMH)	45000	18000
Surrey Memorial Hospital (SMH)	76000	30400
Total	175000	70000

Health Record Technician Costs

Hospital	# Injuries /Year	5.5mins/chart	Hours	1879hrs/FTE	+10% for Analysis	Hand Searching	Total FTE	\$54,402/FTE ¹
DH	8,800	48,400 min	807	0.43	0.47	0.5	0.5	\$27,201
PAH	12,800	70,400 min	1173	0.62	0.68	0.3	1.0	\$54,402
LMH	18,000	99,000 min	1650	0.88	0.97	1.0	1.0	\$54,402
SMH	30,400	167,200 min	2787	1.48	1.63	0.8	2.4	\$130,565
Total				3.75 FTE			4.9 FTE	\$266,570

¹Includes vacation, sick relief and benefits

Stakeholder Buy In and Commitment

BCIRPU

In a developing partnership, ongoing meetings have been held with interested and committed staff from SFHR since Spring 1998. Through an annual contract with SFHR, BCIRPU provides \$12,500 "seed money" with matching funds from SFHR.

SFHR and Regional Board

The Regional Medical Health Officer (MHO) presented the magnitude of the burden of injuries and the EDISS proposal to the South Fraser Regional Health Board. He obtained approval for the program and under the Strategic Priority "Advocate for Changes to Improve Health" identified EDISS as an objective for the Region for 1999/2000.

Hospitals

During the spring of 1998 four local hospitals and community services were amalgamated into one Health Region.

Regional Team Members

A variety of hospital staff were invited and have attended numerous meetings to develop EDISS over the past two years including:

- Information Services
- Health Records
- Admitting
- Directors of the four EDs
- Managers of the EDs
- Regional Director of Health Records (once the position was developed)
- Medical Health Officer
- Public Health

Data Collection Needs Assessment

Minimum Data Set

Chart Audit

Over a 7-day period, 700 emergency charts were reviewed at Langley Memorial Hospital (LMH), approximately 80% of the total patient encounters excluding those admitted to hospital. Of these 700 (34.7%) were injuries.

Results:

- Legibility of charting was an issue.
- Recording of the data elements was complete to a large degree.
- Little difference was found in the time required to collect the BCIRPU minimum data set and NACRS.

Review of Current Practice

The BCIRPU staff visited each ED to determine what information was being collected, by whom, where, when, and in what format (electronically or manually).

- Admitting clerks using a variety of manual and ADT software collected registration information.
- Health record data were abstracted only on patients admitted to hospital using a variety of abstracting software packages.
- Software to abstract ambulatory care data was not available.

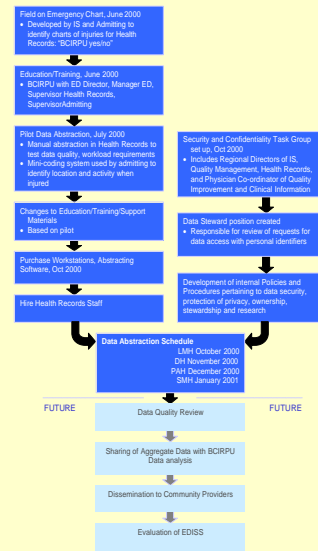
Selection of Pilot Site

LMH was chosen as the pilot site for EDISS within SFHR because:

- LMH is the only hospital using Meditech as the vendor of their ADT system, to which the other hospitals will be switched. Programming changes to the ADT system will then be transferred to the other hospitals.
- LMH Health Records department expressed strong interest and support in being the pilot site.
- LMH is a mid-size hospital, manageable.

Meetings changed to the LMH site and all relevant staff were heavily recruited and involved in process.

Implementation



Education/Training

- Workshops were provided for admitting, health record, physician and nursing staff. Physicians did not attend their workshop. Physicians on duty in ED were visited and spoken to one on one.
- Pocket cards describing the required data elements were provided to physicians.
- Posters were developed for the ED describing the importance of completeness and legibility of charting.
- An extensive training manual was provided to the Health Records staff.
- Mini-codes to provide initial coding of location/nature of injury on initial presentation were developed for the admitting staff.

Implementation

Funding

A variety of funding models were explored:

- Shared funding model initially of "seed money" from BCIRPU, gave legitimacy to project, encouraged administrative buy-in.
- Grant applications were prepared and submitted through a coordinated effort. However, funding was not approved.
- Business plan developed and presented to senior management of SFHR. SFHR was not able to contribute funds needed to proceed.
- Health Canada (HC) proposes funding for two year pilot for all four EDs.
- Long term plans to maintain EDISS once HC funding complete. SFHR is responsible for obtaining ongoing funding.

Lessons learned

- Educating ED staff of the importance of injury surveillance and prevention encourages buy-in.
- The actual time needed is far greater than the desired speed of change.
- Must have a champion to keep everyone motivated and committed.
- Team work and relationship building is essential.
- Need to be committed to the plan but flexible enough to make it work in the current health care environment.

DATA Needs ASSESSMENT of LMH

Field Name	Is this information being collected? (Yes or No)	If so, in what format? (ie: alpha, numeric or both give an example of how it is recorded such as '61395')	How often is the information collected? (ie: percent of time such as 80% of the time, 50%, etc.)	Who collects the information? (ie: Admitting, Emergency, etc.)
Chart Number	Yes	Numeric 999999-9	100%	Admitting
Health Care Number	Yes	Numeric 9999 999 999 Alphanumeric A9A 9A9	100% when available	Admitting
Postal Code	Yes	Alphanumeric A9A 9A9	80% if known	Admitting
Gender	Yes	Alpha	100%	Admitting
Birth Date	Yes	Numeric 99/99/9999	100%	Admitting
Date of Visit	Yes	Numeric 99/99/9999	100%	Admitting
Main Problem (N-Code)	No			
Other Problem(s) (N-Code)	No			
E-Code	No			
Place of Occurrence of Injury Event	Yes	Alpha	100%	Admitting, Triage, Nurse, Physician
Narrative Description of Injury Event	Yes	Alpha	95%	Admitting, Triage, Nurse, Physician
Activity When Injured	Yes	Alpha	95%	Admitting, Triage, Nurse, Physician
Visit Disposition	Yes	Alpha	80%	Nurse, Physician