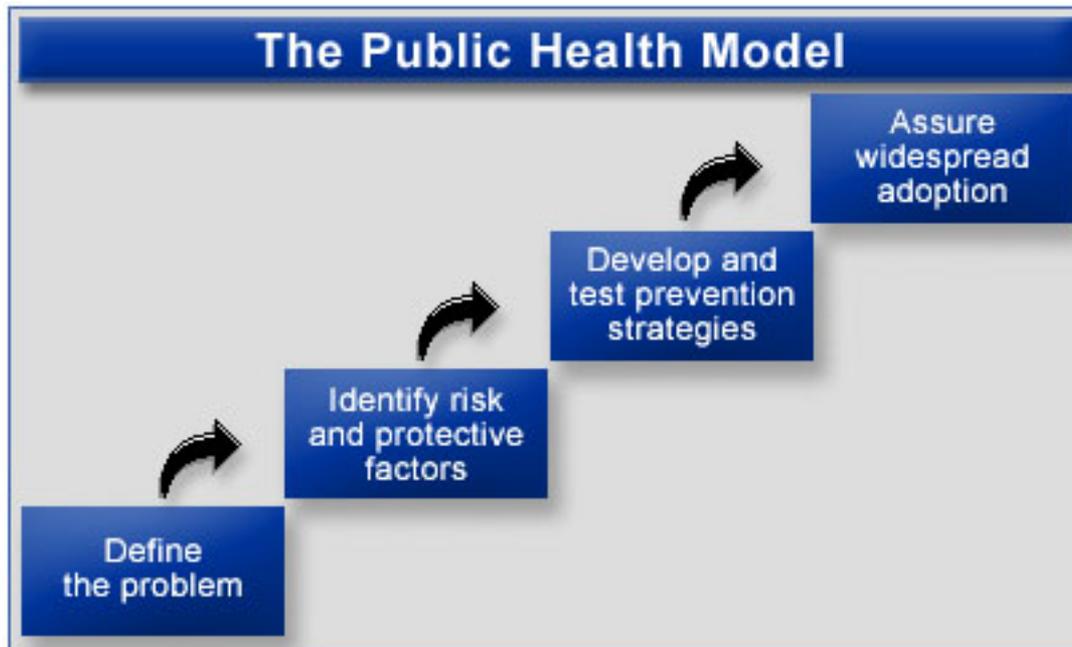


ICE on Injury Statistics and its Success in Problem Identification & Description

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Public Health Approach & Injury Control (CDC)



Information Needs & PHA

- Define the problem
 - Surveillance data from various sources
 - Identification of at-risk populations
 - Description of potential risk factors

Information Needs & PHA ct'd

- Identify risk/protective factors
 - Comparison of data across environments (sites, sub-populations, countries etc.)
 - Characterization of injury patterns
 - Case-mix comparisons
 - In-depth research studies

Information Needs & PHA ct'd

- Develop and test intervention strategies
 - Evaluation for effectiveness
 - Indicators for monitoring

Information Needs & PHA

- Define the problem
 - Surveillance data from various sources
 - Identification of at-risk populations
 - Description of potential risk factors

Challenge I

- To establish data collection systems
 - Absence of an information culture
 - Resistance to data
 - Knee-jerk and short-sighted reaction to problems vis-a-vis designed and evaluated interventions
 - Lack of resources
 - Human – staff shortages, mobility
 - Skills and knowledge re IS implementation
 - Materials

Injury ICE Response

- In collaboration with WHO and CDC, developed a “How To” manual, adaptable to any environment
- Injury Surveillance Guidelines provide a basis for continuity in a situation of high staff mobility

Injury Surveillance Guidelines

Manual

- Identifies potential data sources
- Describes minimum data that should be collected for major types of injuries
- Provides options for increased data collection if resources are available
- Recommends data analyses and outputs

Injury Surveillance Guidelines ct'd

- Outlines the steps to establishing an ISS
 - Identifying and engaging stakeholders
 - Seeking resources
 - Identifying and overcoming potential obstacles
 - Monitoring and evaluating the system and its outputs

Information Needs & PHA ct'd

- Identify risk/protective factors
 - Comparison of data across environments (sites, sub-populations, countries etc.)
 - Characterization of injury patterns
 - Case-mix comparisons
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Challenge II

- To operate and maintain injury data collection systems
 - What data to collect?
 - Quality of data
 - Comparability and compatibility of injury data

Injury ICE Response

- An injury data classification system, the International Classification of External Cause of Injury (ICECI) that
 - standardises injury data and
 - facilitates comparability
- Initiative to standardise questions for household surveys (work in progress)

ICECI

- The ICECI is
 - Comprehensive (encompasses all types of injuries), with definitions for all terms
 - Multi-axial (covering all factors that describe the circumstances of the event)
 - Flexible (modular with optional levels of detail, appropriate to capacity)
 - Compatible with the ICD-10

International Classification of External Cause of Injury (ICECI)

ALL INJURIES

- Demographics
- Intent
- Mechanism
- Object
- Place
- Activity
- Alcohol Use
- Other Psychoactive Drug Use
- Nature of Injury
- Severity
- Disposition/Outcome

MOTOR VEHICLE INJURIES

- Mode of Transport
- Type
- Counterpart

ASSAULTS/HOMICIDES

- Perpetrator/Victim Relationship
- Circumstances of Assault

SUICIDES

- Proximal Risk Factor

OTHER e.g. SPORTS, OCCUPATIONAL

Place Of Occurrence (First Two Levels of Detail)

Place of Occurrence

Category of place where the injury event occurred

Codes

- 1 Home, *includes garden, garage and other building attachments*
- 2 Street/highway
- 3 School, *includes playground; excludes sports field*
- 8(98) Other *This may be further separated into*
 - 4 *Institution , includes prison, shelters, old people's home*
 - 5 *Sports and athletics area*
 - 6 *Other Transport area*
 - 7 *Industrial/construction*
 - 8 *Commercial*
 - 9 *Farm, excludes farmhouse*
 - 10 *Countryside, water, sea*
- 9(9) Unknown

Place of Occurrence (Third Level of Detail)

5 Sports and athletics area

51 Sportsground (outside)

52 Sportshall (inside)

53 Public swimming centre

54 Racetrack, racecourse

55 Riding school

56 Skating rink, ice palace

57 Ski area

58 Other specified sports and athletics
area

59 Unspecified sports and athletics area

Information Needs & PHA ct'd

- Develop and test intervention strategies
 - Evaluation for effectiveness
 - Indicators for monitoring

Challenge III

- To transform data into information such that
 - Data are easily understood and interpreted
 - Data are comparable across countries, in different environments
- Specifically to group 1200 codes into meaningful but standard groups for reporting.

Injury ICE Response – Data Reporting Frameworks - I

- External Cause of Injury Matrix
 - Based on the axes of intent and mechanism (from the external cause code)
 - 4 x 12 matrix, expandable to 5 x 26
 - < 50 groups, suitable for mortality data
 - Updated from ICD-9 to ICD-10
 - Provision for a third variable

External Cause of Injury Matrix (ICD-9)

Mechanism	Intent			
	Unintentional	Suicide	Homicide	Undetermined
Drowning				
Poisoning				
Fall				
Fire/burn				
Cut/pierce	<i>E920</i>	<i>E956</i>	<i>E966</i>	<i>E986</i>
<i>Etc.</i>				

Injury Ice Response – Data Reporting Frameworks II

- Barell Matrix
 - Framework presenting ICD9-CM codes (morbidity) using body region and nature of injury
 - Basic 5 x 12 expandable to 10 x 12 and to 36 X 12 cells

Barell Matrix

The Matrix structure

	Nature of injury		
Body Region			

ICD-9-CM injury codes

Injury ICE Response – Data Reporting Frameworks – III

- Injury Mortality Diagnosis Matrix:

ICD-10

- Framework that combines the two main axes of injury description, *viz* the body region and the nature of injury
- Reduction from 1169 ICD-10 codes to a minimal 17X16 matrix that captures all of all injury deaths
- Option of a more detailed 43 x 20 matrix
- Potential for use with morbidity data

Injury Mortality Diagnosis Matrix

	Nature of injury				
	Fractures	Dislocations	Internal	Open wound	Amputation
Body region					
Head and Neck Traumatic Brain Injury specific sites					
Spine and upper back specific sites					
Torso specific sites					
Extremities specific sites					
Unclassifiable Multiple body regions System wide					
Unspecified					



ICD-10 'S' or 'T' code

Challenge IV

- To monitor changes in injury situations and evaluate interventions
 - Valid stable indicators that reflect real changes and not artifacts
 - More accurate identification of risk and protective factors

Injury ICE Response – Indicators Working Group

- Finalizing a set of valid, robust indicators
- Determining a set of severity scores.

ICE – A Mechanism for Global Injury Data

- Tools for data collection
- Methodologies for analysis
- Frameworks for information dissemination

Conclusion

All ICE efforts serve multiple objectives toward the goal of information for global injury prevention – truly a mechanism of globalization for injury prevention and control