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## *Section B*

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Injuries Are Not Accidents

# Identifying Risk Factors

- Risk factors can be
  - Non-modifiable
    - ▶ Age, gender
  - Modifiable
    - ▶ Socio-economic status, drug abuse (alcohol included), neglect of safety devices, behavioral issues

# *What Can We Do?*

- Primary prevention or “prevention”
  - Avoid something that might happen
  - Prevent, reduce, or modify hazards or events that cause injury

# *What Can We Do?*

- Secondary prevention or acute care
  - Minimize the damage if it happens
  - Counter the damage already done by the hazard
  - Stabilize and repair the damage

## *What Can We Do?*

- Tertiary prevention or rehabilitation
  - Reduce the sequelae once it has happened
  - Restore the functioning of injured patients to pre-injury levels

## *Primary Prevention, or “Prevention”*

- What do we need to know to prevent injuries?
  - Scope of the problem
  - Trends over time
  - Risk factors
  - Design interventions
  - Effectiveness and efficiency of strategies

## *Secondary Prevention, or “Acute Care”*

- What must we know to evaluate acute care treatment?
  - Nature and severity of the injuries
    - ▶ Nature (e.g., fractures, lacerations)
    - ▶ Severity (e.g., physiological and/or anatomical severity)
  - Treatment provided (or procedures)
  - Outcomes



# Trauma Care Systems

- “A system of health care delivery [that combines] pre-hospital resources and hospital resources to optimize the care and, therefore, the outcome of traumatically injured patients”

## *What Must We Know to Evaluate Trauma Care Systems?*

- Are patients being transferred to the appropriate facility?
  - Sensitivity of the system
  - Specificity of the system
- Development/adherence to established protocols?

## *Tertiary Prevention, or “Rehabilitation”*

- Why are we interested in rehabilitation?
  - Need to identify and characterize those injuries that have relatively lower rates of death or lower severity (or resource consumption at acute care level) but are extremely relevant for the long term (e.g., lower extremity fractures)
  - Evaluate effectiveness and efficiency of rehabilitation services

# *What Must We Know to Evaluate Rehabilitation?*

- Functionality (or limitations) of the individual prior to the injury
- Status of the individual at onset of rehabilitation
- Services provided by rehabilitation
- Status of individual at conclusion of rehabilitation
- Long-term status

## *Injuries Are Both*

- Predictable
- Preventable

# The Haddon Matrix

	Host	Vector	Environment	
	(Person)	(Vehicle)	Physical	Socio-economic
Pre-event	Light-colored clothing	Flag		
Event	Helmet	Re-designed handles		
Post-event				

## *Haddon's Ten Strategies for Injury Prevention*

1. Prevent the creation of the hazard
2. Reduce the amount of the hazard
3. Prevent the release of a hazard that already exists
4. Modify the rate or spatial distribution of the hazard
5. Separate, in time or space, the hazard from that which is to be protected
6. Separate the hazard from that which is to be protected by a material barrier
7. Modify relevant qualities of the hazard
8. Make what is to be protected more resistant to damage from the hazard
9. Begin to counter the damage already done by the hazard
10. Stabilize, repair, and rehabilitate the object of the damage