Magnitude Of Injury Mortality In Jordan:

- Accidents and injuries emerge as an increasingly significant problem. According to the **Jordan Traffic Institute**, there were **62115 r**oad accidents in 2003 causing **832** deaths and **18368 injuries**.

- According to the same source**, road traffic accidents** have been increasing over years and leading to more human and economic losses.

- **Occupational accidents** amounted to **15619** causing an estimate of **97522 work day's lost.**

Prevention of injuries

- To date, injury prevention has tended to be an issue only in wealthier countries.

- The highest rates of death and permanent disability due to injury are, however, currently found in the poorer nations; It is these countries therefore that have the most urgent need for prevention strategies that are appropriate, cost-efficient and effective. In this context, **"appropriate"** means taking into account:

  - ✓The complexities of the problem
  - ✓The availability of resources and, furthermore,
  - ✓What strategies have been shown to work elsewhere.

- To develop effective prevention strategies, most countries need better information.

- In particular, countries need to know about the numbers and types of injuries that occur and about the circumstances in which those injuries occur.

- Such information will indicate how serious the injury problem is, and where prevention measures are most urgently needed

Injury Control:

The primary focus of injury control is to:

- ✓ Identify energy forces which cause injury,
- ✓ Define mechanisms of human exposure,
- ✓ Identify precisely where interventions can interrupt the causal pathway.
- ✓ Unlike many chronic diseases, the agent and time of injury onset is almost always known and can be measured, the mechanism of energy transfer from reservoir to host can be described.
- ✓ With several exceptions, **injuries usually occur immediately after exposure** and rarely have the long incubation or latent periods like many infectious and chronic conditions

Primary Prevention

which occurs during **the pre-event phase,** prevents the injury event by eliminating the mechanisms of energy transfer or exposure: **examples:**

1. Traffic safety laws
2. Vehicle modifications which prevent automobile crashes,
3. fences around swimming pools which prevent submersion,
4. Trigger locks on guns,
5. Safety caps on poisonous substances

Secondary Prevention

which occurs during the **injury phase,** its goal is to **eliminate or reduce** injury severity once an energy transfer has occurred. **Examples:**

1. Motorcycle helmets,
2. seatbelts,
3. life vests,
4. Bullet proof vests

While measures on the secondary level do not prevent the event which causes injury, they do reduce the energy absorbed by the host.

It is important to note that some of the most effective secondary prevention strategies do not eliminate all injuries.

For example, the motorcycle helmet is very effective in reducing head trauma in motorcycle crashes, but is not effective in preventing trauma to other body regions

Tertiary Prevention:

- Which occurs in **the post injury phase**, aims to reduce the consequences of the injury once an injury-producing energy transfer has occurred.

Examples:

1. Emergency and trauma care, as well as rehabilitation efforts.
2. Some of the most important advances in injury control have been improvements in the early response and treatment of serious injury.

Specific Injury-prevention Strategies

can be divided into **two very broad groups based on need for host actions.**

1. **Passive intervention** requires **no input or action by the host** and is usually accomplished by **modifying the *agent, vehicle, vector, or environment*.** Modifications in **car design** to improve brakes and increase the energy absorbed by vehicle components are two **examples.**
2. **Active intervention** requires that **the *host* take some type of action** for the intervention to work. Seatbelts and helmets are examples of active intervention

- ✓Intervention strategies to be effective, they should incorporate both active and passive ones.
- ✓**Passive** intervention strategies are usually considered **more effectiv**e, especially when compared with active interventions which require frequent or time-consuming action.
- ✓**Air bags**, for example, require no driver action, whereas **seatbelts** can only be effective when fastened by the occupant. However, the most effective crash **protection occurs when both are available.**

The Haddon Matrix, a model of the **agent–host relationship in injury causation,** was the foundation for the study of motor vehicle crashes and countermeasures for highway safety, and continues to be an applicable theoretical framework for injury prevention.

The Haddon Matrix divides the timing of the injury event into three phases, these phases correspond to the three levels of prevention defined by public health:

- **Pre-event,**
- **Event,**
- **Post event**.

Each of these phases is influenced by three factors:

1. **The human (host),**
2. **Vehicles or vectors,**
3. **The environment,** which can be separated *into physical and social, with economic and cultural aspects*.

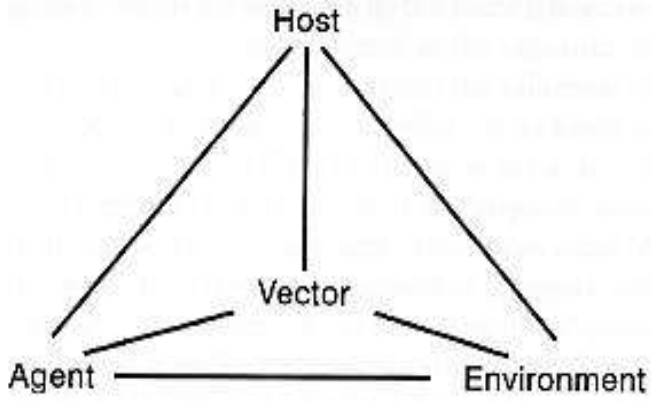

FIGURE 2–1. The epidemiologic triad of a disease.

These different 3 phases and 3 factors can be used to create a 3 by 3 matrix.

•In developing a program of injury control measures for a particular injury problem, we can **go systematically through each cell of the matrix** and **think up all possible countermeasures** applicable to that cell.

•The usefulness of the matrix is as a tool for generating ideas, at this stage **every possible strategy should be documented** and **nothing held back because of political or financial considerations.**

Factors / Phases	Human	Vehicle & Equipment	Environment
Pre-event	**1**	**2**	**3**
event	***4***	***5***	***6***
Post-event	**7**	**8**	**9**

Phase	Human	Vehicles/Equipment	Environment
Pre Crash (Crash Prevention)	Information Attitude Impairment Police Enforcement	Roadworthiness Lighting Braking Handling Speed Management	Road Design and Road Layout Speed Limits Pedestrian facilities
Crash (Injury Prevention during the crash)	Use of Restraints Impairment	Occupant Restraints Other Safety Devices Crash Protective Design	Crash-protective Roadside objects
Post Crash	First-aid skills Access to Medics	Ease of Access Fire Risk	Rescue Facilities Congestion