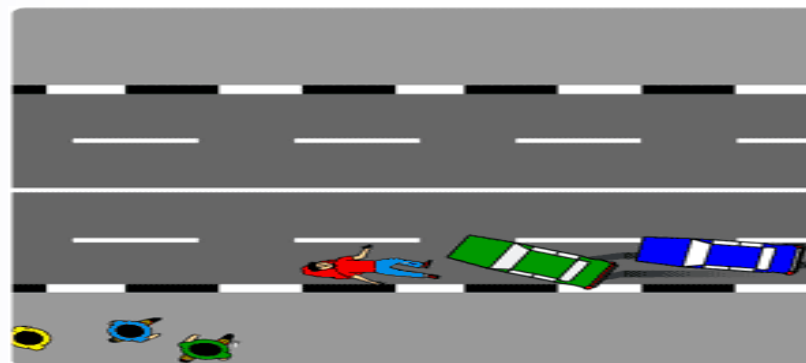




RISK FACTORS FOR ROAD TRAFFIC INJURIES



All this information's are from *Road Traffic Injury Prevention Training Manual* made by World Health Organization



Keywords: crash, identify and analyze risk factors, key risk factors

A road traffic crash **results** from a combination of factors related to the components of the system comprising roads, the environment, vehicles and road users, and the way they interact.

Identifying the risk factors that contribute to road traffic crashes is important in identifying interventions that can reduce the risk associated with those factors



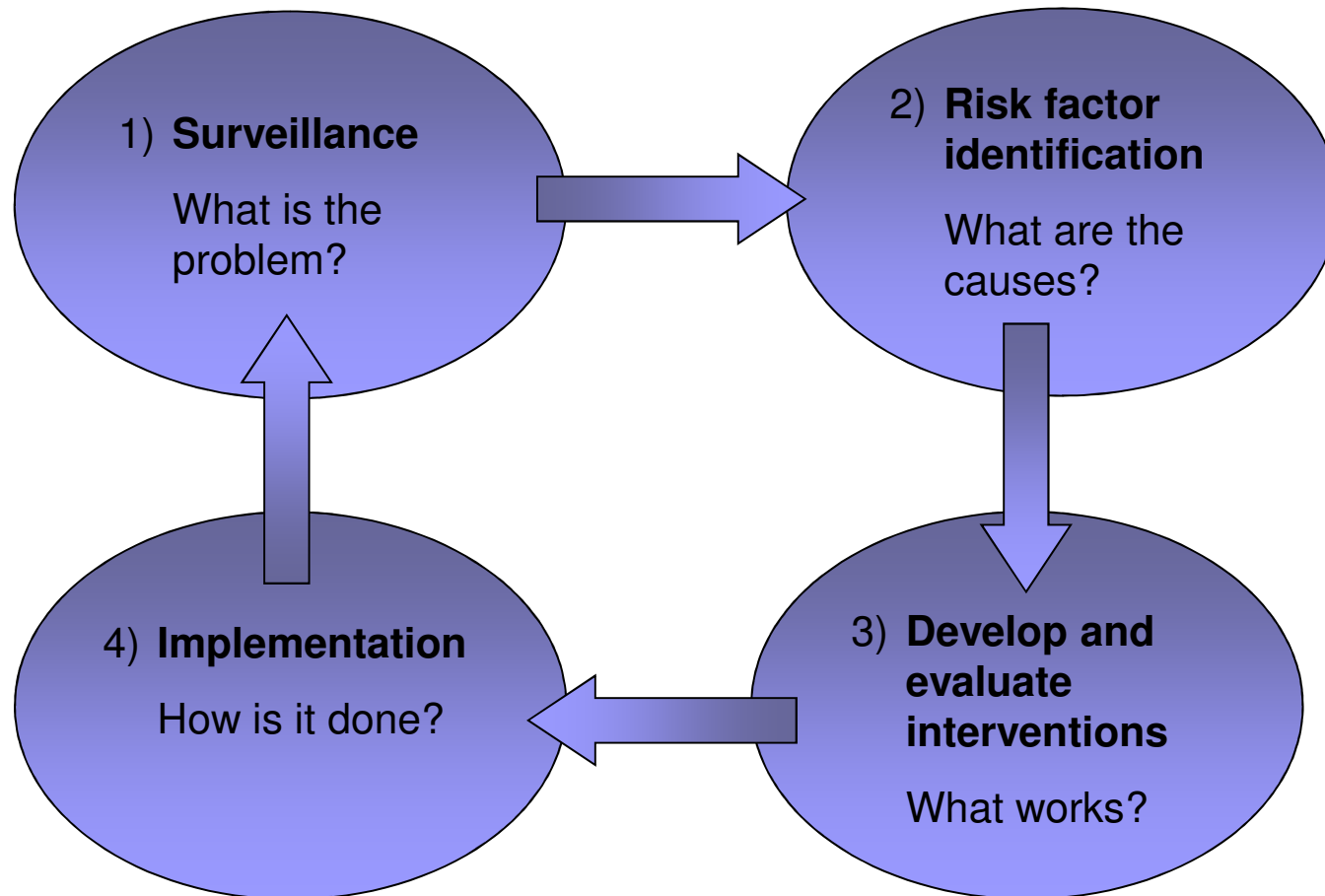
Analytical frameworks

Various analytical frameworks can be used to identify the risk factors involved in road traffic injuries.

In this presentation, we will show three frameworks or approaches:

- The public health approach
- The Haddon matrix
- The systems approach

THE PUBLIC HEALTH APPROACH



Understand the four inter-related steps of the public health approach

What is the problem?

- Determine the magnitude, scope and characteristics of the problem.

What are the causes?

- Identify factors that increase the risk of disease, injury or disability.
- Determine factors that are potentially modifiable.

Understand the four inter-related steps of the public health approach

What works?

- Assess measures that can be taken to prevent the problem.
- Pilot test and evaluate interventions.

How is it done?

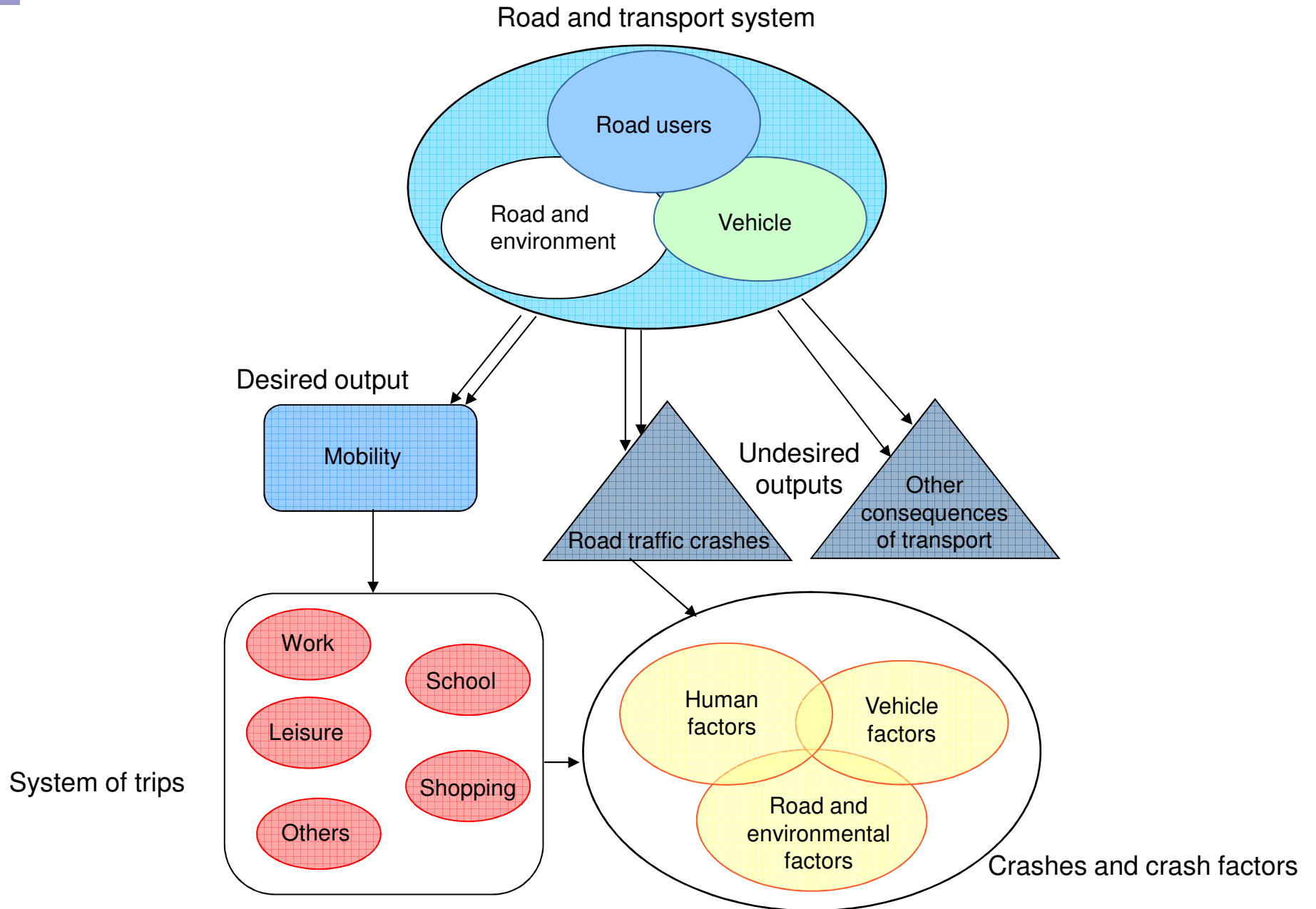
- Implement proven and effective interventions.
- Evaluate effectiveness of interventions.

HADDON MATRIX

Phase		Factors		
		Human	Vehicles and equipment	Environment
Pre-crash	Crash prevention	Information Attitudes 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	Life sustaining	First-aid skill Access to medics	Ease of access Fire risk	Rescue facilities Congestion

SYSTEM APPROACH

- Understand the system as a whole.
- Understand interactions between different components.
- Consider not only underlying factors, but also role of different agencies and actors in prevention efforts.



MAJOR RISK FACTORS ARE IDENTIFIABLE

■ Factors influencing exposure to risk

- economic factors
- demographic factors
- land-use planning practices
- traffic mix
- road function versus design and layout

■ Risk factors influencing crash involvement

- speed
- alcohol or drugs
- fatigue
- male
- vehicle defects
- youth driving together
- vulnerable road users

■ Risk factors influencing crash severity

- speed
- seat-belts, child restraints
- helmets
- non-crash protective roadside objects
- insufficient vehicle crash protection
- alcohol and other drugs

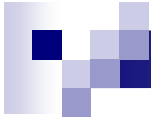
■ Risk factors influencing post-crash outcome of injuries

- delay in detecting crash
- delay in transport to a health facility
- fire resulting from collision
- leakage of hazardous materials
- alcohol and other drugs
- rescue, extraction, evacuation
- poor trauma care and rehabilitation

CONCLUSIONS

- A road traffic collision is the outcome of the interaction among a number of factors, some of which may not appear to be directly related to road traffic injuries.
- The **public health approach** is helpful in the analysis of risk factors and guiding decision-making.
- The **Haddon matrix** helps to identify human, vehicle and environmental factors during pre-, crash- and post-crash phases.

- The **systems approach** considers all factors contributing to road traffic injuries as well as the role of different agencies and actors in prevention efforts.
- **Main risk factors** can be categorized into four groups:
 - factors influencing exposure to risk
 - factors influencing crash involvement
 - factors influencing crash and injury severity
 - factors influencing post-crash injury outcomes



THANK YOU !

All this information's are from Road Traffic Injury Prevention Training Manual made by World Health Organization

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