



MONASH University
Accident Research Centre



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April 2008, Creating Environments for Positive Aging

The interaction between the person and the environment

Falls injury prevention

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Presentation Outline

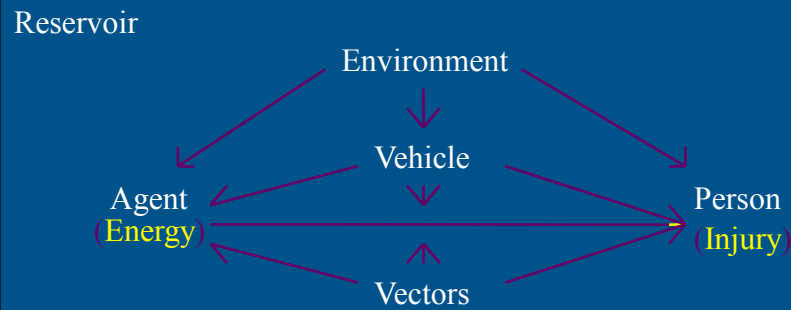
1. The epidemiological model of causation
2. The population approach to falls prevention
3. Quantifying the person-environment interaction



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The epidemiological model of causation



Personal risk factors

- Impaired balance/reduced muscle strength
- Sensory impairments
- Impaired cognition
- Medical conditions
- Medications

Environmental protective factors

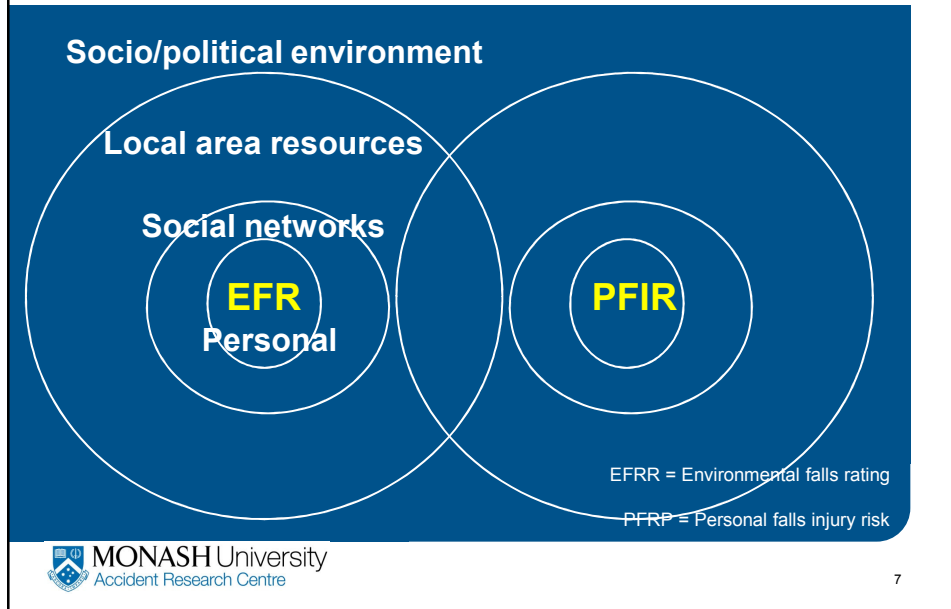
“Falls safe” environments are

- Self explaining
- Stability assisting
- Hazard minimised
- Forgiving

Population approach to falls prevention

- In “five star” environments, people with no adverse risk factors, should not be sustaining serious injury from falls.
- The goal of injury prevention is to “shift the curve” in two areas throughout the community, ie
 - Improve the star rating of all environments
 - Improve the risk factors for all the population

Population approach to falls prevention



The person-environment interaction

$$F[EFRR + (EFRR \times PFRP) + PFRP] = Pf$$

- Where EFRR = Environmental falls risk rating
- PFRP = Personal falls risk product*
- Pf = Probability of fall#

*(ie risk of falling x risk of serious injury given a fall)

relationship to incidence of falls at the population level

Conclusion

