



Linking Falls Research & Practice for Inland Communities

Dr Rod Pope

*Director
Centre for Inland Health*



City vs coastal rural vs inland rural/remote

- Population: 67% vs 22% vs 11% (2% coastal/inland R/VR)
- High density vs medium density vs medium to very low density
- Mortality rates relative to city – SMR (AIHW 2006):
1.0 vs [0.9IR, 1.1OR/R, 1.7VR] vs [1.25IR/R, 1.15OR, 1.6VR]
- Estimate 1300 ‘excess’ deaths in OR/R/VR coastal rural, 2000 in inland rural – more detailed figures from AIHW awaited
- Indigenous Australians fare worst: SMR 3.0 (20 yrs lower life expectancy) – key reason for high VR SMR (45% indigenous)
- Insufficient information on falls rates/injuries – hospitalisation data by region differs for many reasons unrelated to falls rate
- Major differences: industry, conditions, services, access, social



Factors Relevant to Falls – Inland Rural

- Differences in *proximal* and *root* causes of falls and fall-related injuries highly likely, unknown – countermeasure implications
- Critical mass of *at-risk* populations often lacking for cost-effectiveness & sustainability of city-derived interventions
- Scarce services/workers/resources to address risk factors even if risk identified – makes risk screening much less valuable
- Very hot, very cold and temperature-controlled facilities scarce
- Huge distances absorb huge amounts of staff & client time
- Cultural issues obstruct some intervention acceptance
- Lack of solutions tailored for inland rural communities
- Often strong community networks – a plus!



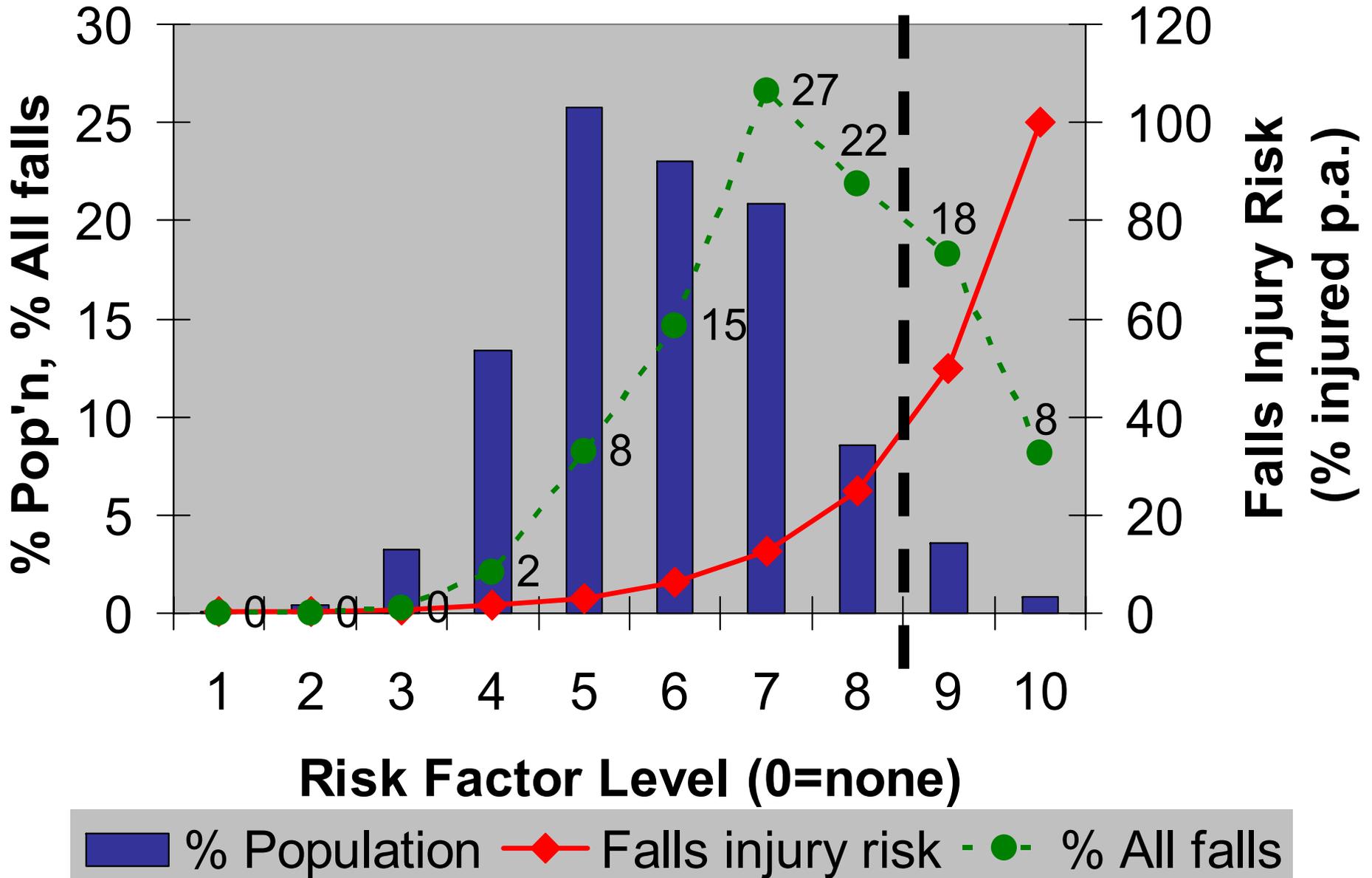
Approaches to prevention

- *Risk factor identification* is valuable for steering research towards effective countermeasures
- *Risk screening/ assessment* is valuable for identifying risk faced by each individual & key sources, to then be addressed for the lucky individual client *where resources for this are available*
- *At the individual client level*, this combined approach can reduce risk faced by the lucky individual, dramatically, particularly if both *intrinsic* and *extrinsic* risk factors are considered
- However, *individual* risk based approaches are often much less valuable when we are trying to reduce fall or injury rates across an entire population or community – though this is typically the major justification for such programs and their resourcing



Approaches to prevention

- One reason for this is that such an approach usually focuses on the *very small percentage* of people who meet high risk criteria, & not the *very high percentage* of people at more moderate risk
- The small number at high risk, as a group, account for very few falls and fall-related injuries when compared to the very high number at lower risk (but risk nonetheless).
- Intervening with the 5% of the population at highest risk might reduce falls or injury rates at the population level by 10-15%, *if the interventions are extremely effective (eg halve injury rates)*, but the effect will otherwise be less.
- If we seriously want to reduce falls and injury rates across an entire population or community, we need to consider how we can reduce risks for the *whole* of that community





Approaches to prevention

- Additionally, any given single risk factor tends to account for only *1 to 5% or less* of the variability within a population in individual injury risk.
- This means that it would often take between 25 and 100 different risk factors & interactions to account for *much* of the variability, if we could ever identify that many – and in fact there will be an almost *infinite* number of factors that play *some* role.
- Acknowledging this reminds us that falls and injury *causation* is *multifactorial* and *multi-layered*, and that interventions will only be strongly & sustainably effective across a population if they are *multi-faceted* and address both *proximal* and *root* causes.
- We can depict this multifactorial and multi-layered causation using two valuable tools – a modified *Haddon's Matrix* (William Haddon) and a *cause-effect tree diagram*.



Modified Haddon's Matrix

	System Factors & Failures	Injured Person	Other People	Hazards & their Carriers	Physical Environ	Social Environ
Pre-event						
Event						
Post-event						



So what are we doing to address falls in older people of our inland communities?

Working & planning with GSAHS, RDGP & other local service providers to:

- Examine the rates of falls and fall related injuries in older people of inland communities
- Identify existing falls prevention and management services, strategies and innovation employed across the AHS
- Analyse proximal and root causes of falls and fall-related injuries in older people of inland communities
- Identify or develop multi-faceted interventions, comprised of countermeasures for specific proximal & root causes
- Adapt these for the context & to achieve viability
- Trial & assess these, from all angles



Centre for Inland Health

People from inland Australia working together for the health of inland Australia

www.csu.edu.au/special/inland-health

Questions?

rpope@csu.edu.au