

What works in care home settings?

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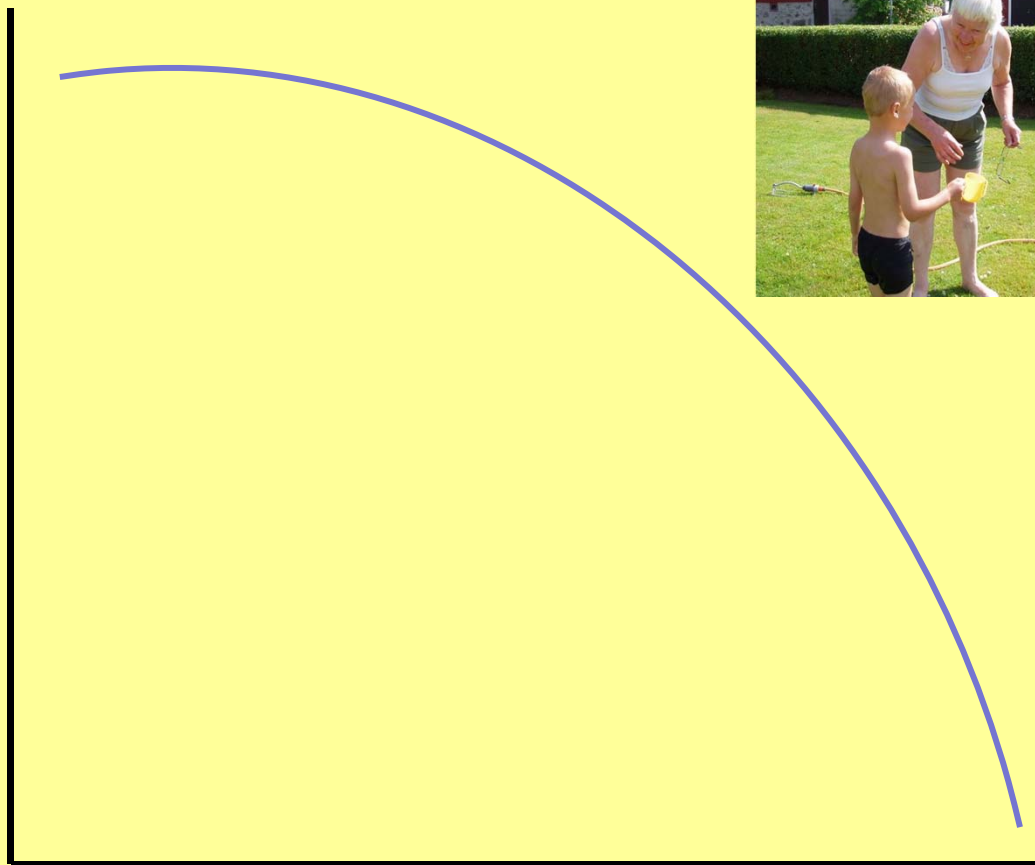


Umeå N63°
Arctic Circle N66°



"Older" = heterogeneous group

functioning



3rd age



4th age



years

Fall rate

Community dwelling	Residential care facilities	Rehabilitation wards	Psychogeriatric wards
0.2-1 fall/PY	2-4.6 falls/PY	2-6.5 falls/PY	4-6.2 falls/PY

Lord S et al 2007, Nordin E et al (unpublished), Kallin K et al 2002 and 2004, Rosendahl E et al 2003 and 2008, Lundin-Olsson L et al 2003, Nyberg L et al 1995 and 1997, Sze K et al 2001, Teasell R et al 2002, Suzuki T et al 2005, Czernuszenko A et al 2007, Eriksson S et al 2007 and 2008,

1.5 falls/PY women
2.2 falls/PY men

Rapp K et al 2011

Circumstances

differs between settings, level of care

- Activities
 - 1/3 walking
 - 1/3 from/to lying or sitting
 - 1/5 to or from bathroom
 - 1/25 outdoors
- Around the clock
 - 1/4-1/3 during night

Jensen J et al 2002, Eriksson S et al 2008, Nyberg L et al 1995 and 1997,
Sze K et al 2001, Teasell R et al 2002, Suzuki T et al 2005,
Czernuszenko A et al 2007, Rapp K et al 2011

227 "real falls" in common areas

Robinovitch SN et al, Lancet, 2013

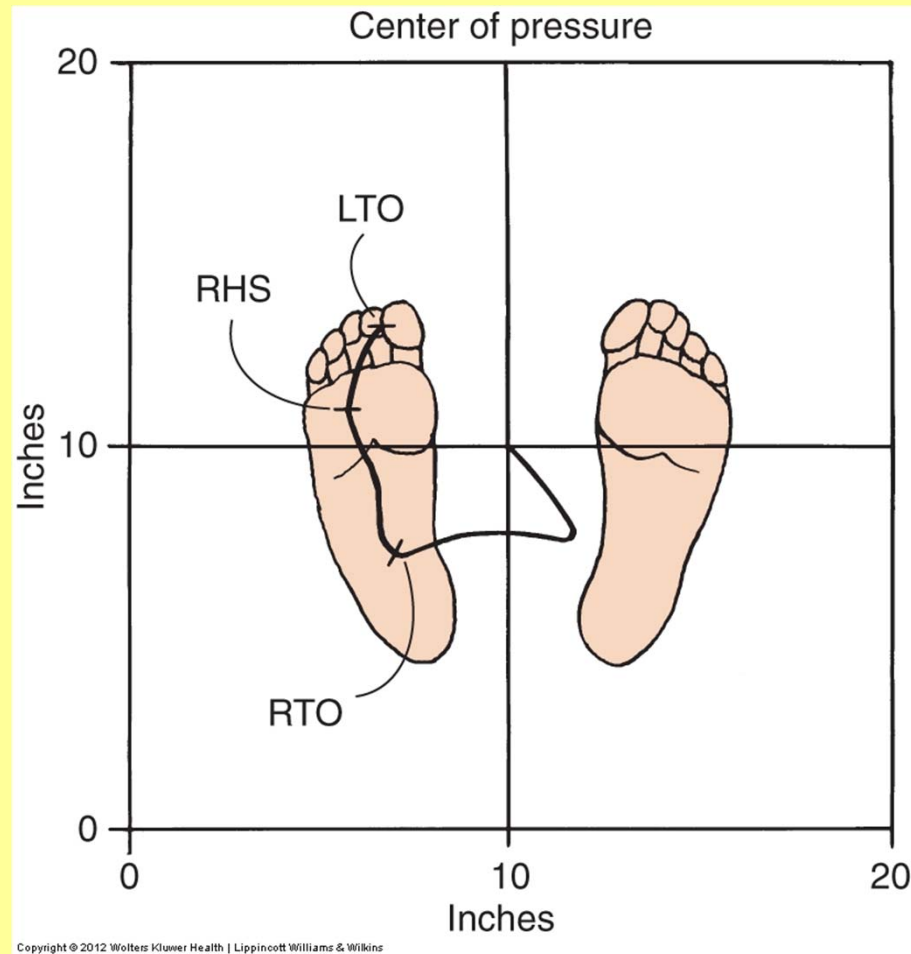
- Incorrect transfer or shifting body weight
- Falls while **walking**, 49%
 - Forward 24%
 - Initiating walking 11%
 - Backward, sideways 7%
 - Turning 7%
- **Sitting** down, getting up, 27%
- **Standing**, 24%

227 “real falls” in common areas

Robinovitch SN et al, Lancet, 2013

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Anticipation - Initiation of gait



Anticipation & body weight shifting while turning



Predisposing and precipitating factors

Baseline:
Predisposing
factors



- High age
- Impaired
 - balance, muscle strength
 - gait and mobility
 - vision
 - cognition
- Use of
 - psychoactive medication
 - Several drugs

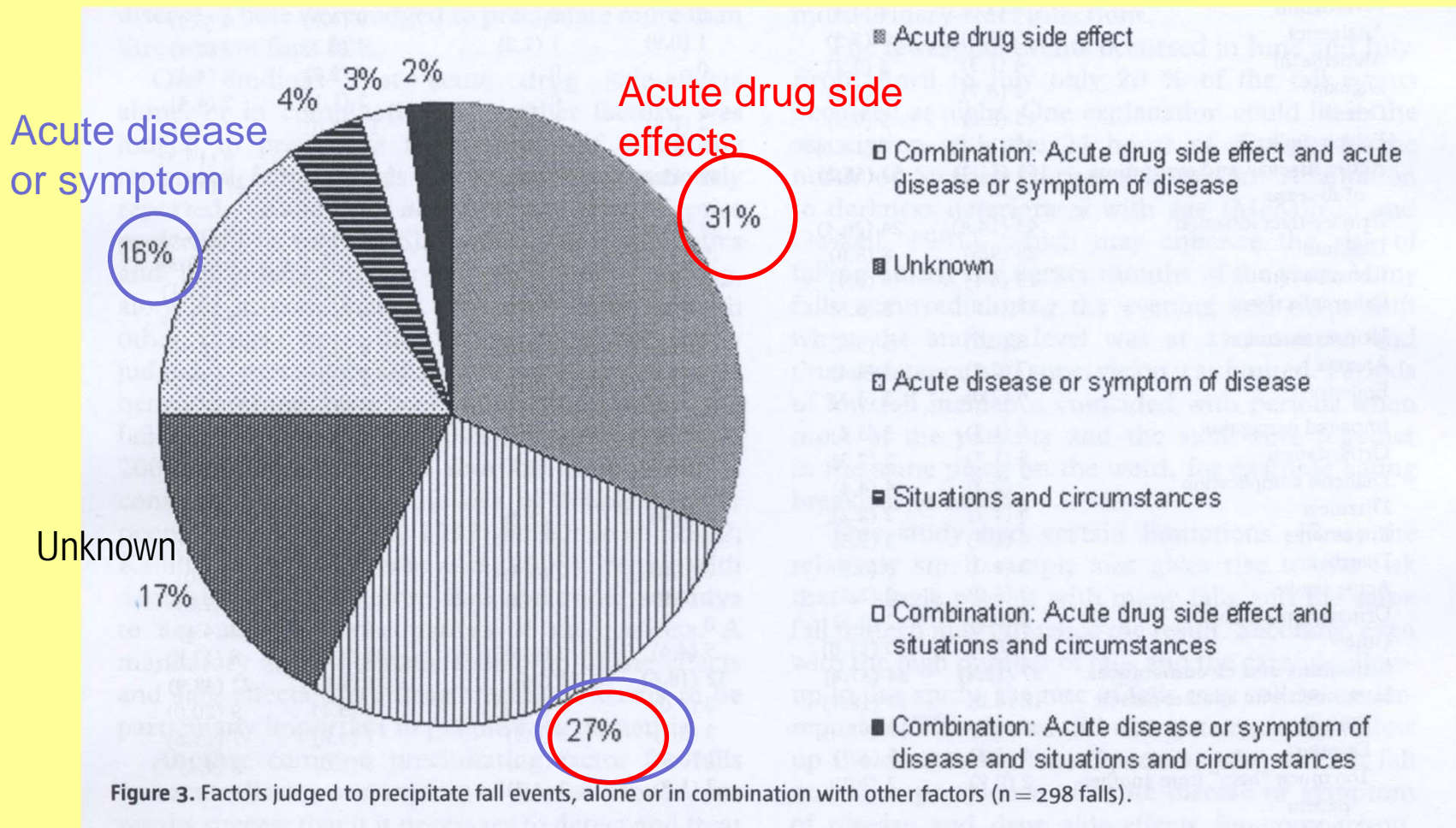
A fall event:
Precipitating
factors



- Acute illness, disease
- Drug side effects
- Situational factors
- Orthostatic hypotension

time

Probable precipitating factors – hospital ward, dementia



N=291 falls

Effect single interventions?

Cameron ID et al, Cochrane review, 2012



- **Vitamin D**, decreased rate, not risk
 - probably low Vitamin D levels
- **Exercise**, overall no effect
 - May be effective in intermediate level of care
 - Not effective in high level of care
- **Medication review**
- **Social environment, staff training**

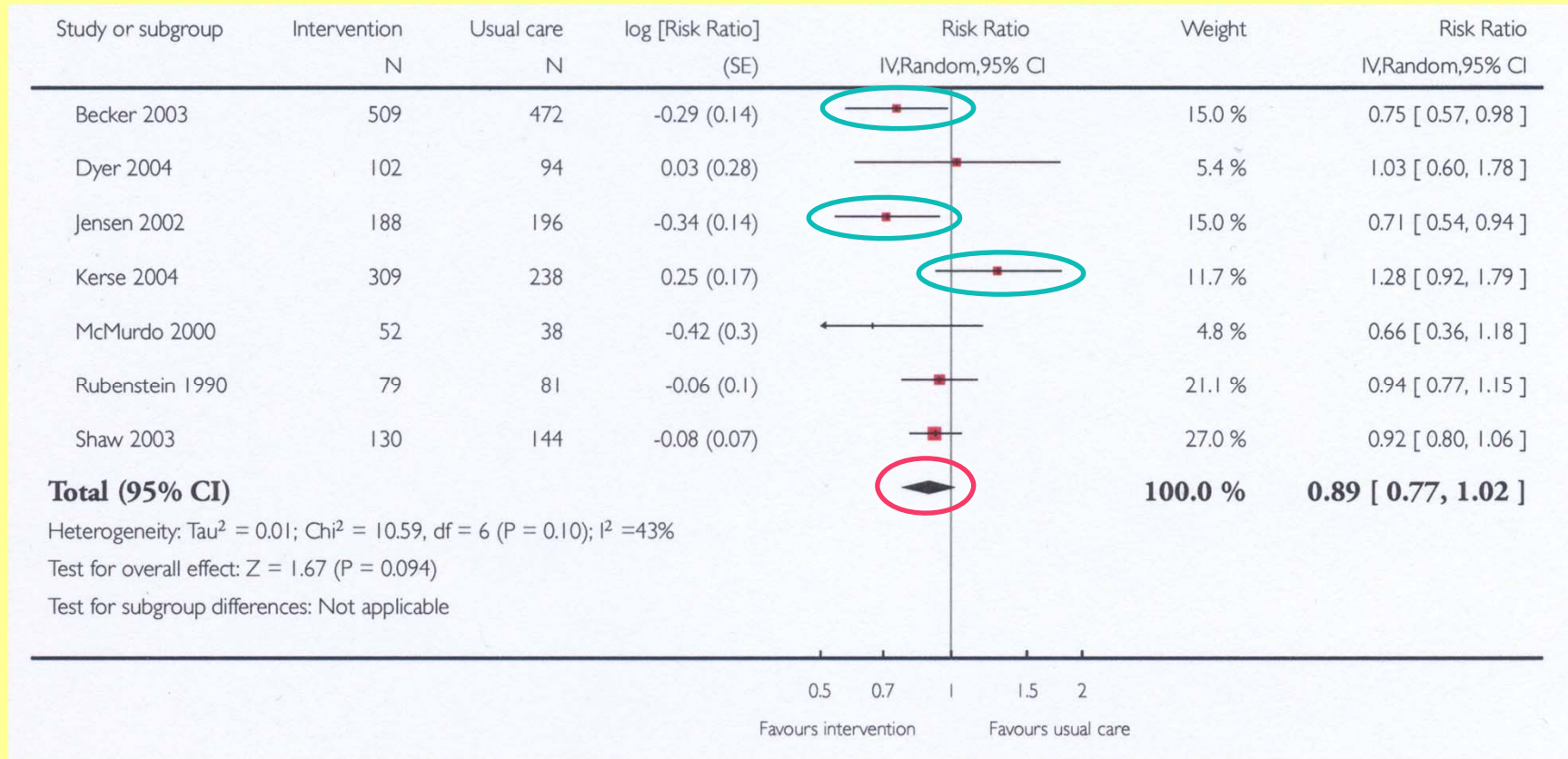
Effect multifactorial interventions?

Cameron ID et al, Cochrane review, 2012

- two or more interventions
- tailored, based on risk profile
- may be effective, large heterogeneity



Falls risk, number of persons



	Kerse, 2004	Becker, 2003	Jensen, 2002
Staff education	1 h 2-4h fall coordinator, written guidelines	1h Written info	45min+4h Written info
Residents	All screened, High risk	All; not chair-or bed bound; stand; self-selection	All screened. High risk (screen + global rating)
Targeted intervention executed by	Fall coordinator, referral	Staff, study nurse and exercise instructor	Staff, study physiotherapists and geriatrician
Staff guidance	At need	Hotline study nurse, regular feed back falls, fallers, injury	Regular conferences

Prevention of femoral fractures

The Bavarian Fracture Prevention Study, Becker C et al 2011

- 20% reduction of femoral fracture rate

INTERVENTION

- Staff education
- Exercise, 2 X week, residents able to stand
- Documentation of falls, feedback
- Environmental adaptations
- Medication review, prescription of vitamin D
- Hip protectors (demonstration)



When?
Where?
What?

FALL PREVENTION
not a separate race

but on the
GOOD CARE
main road

