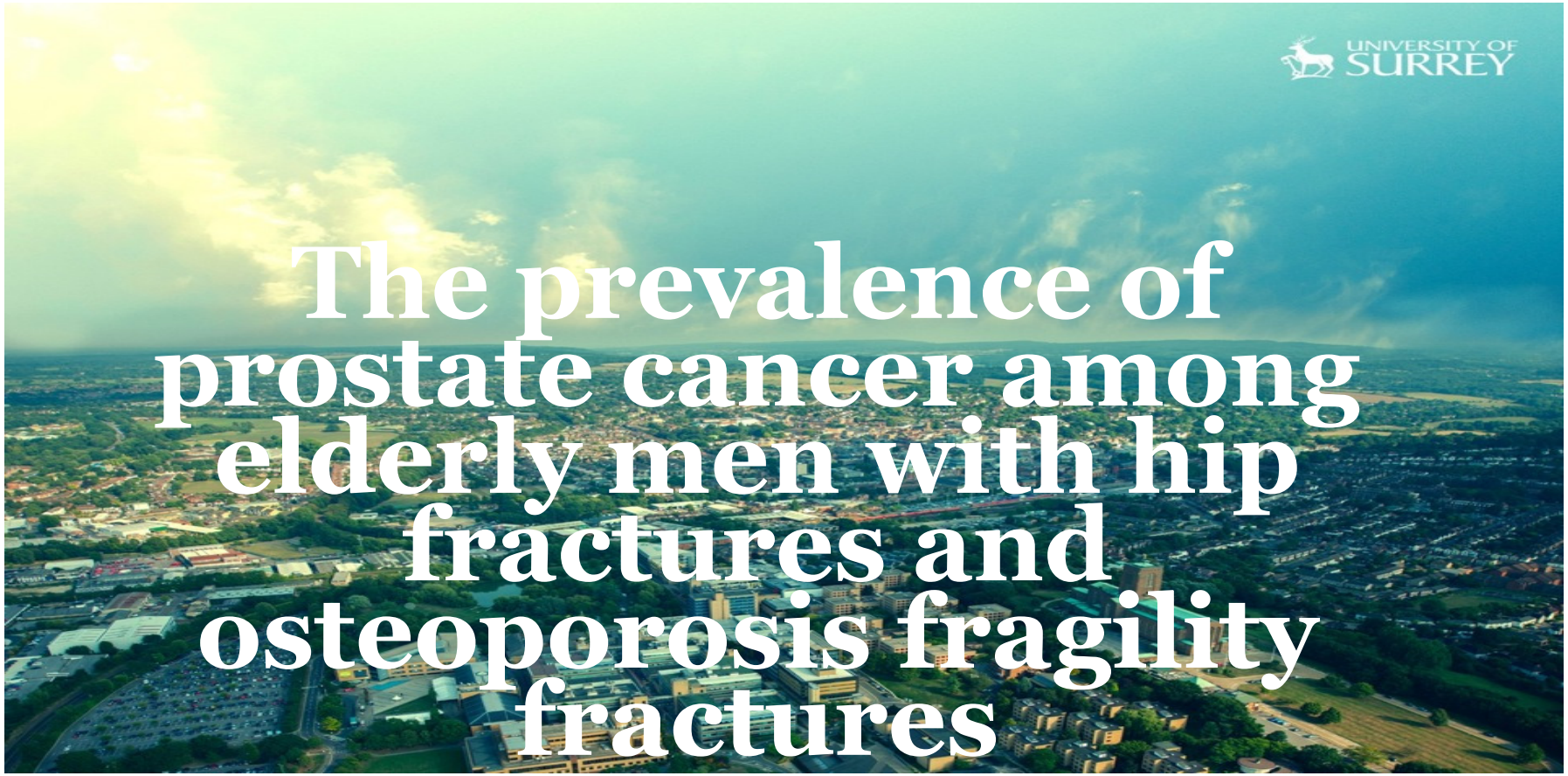

The prevalence of prostate cancer among elderly men with hip fractures and osteoporosis fragility fractures

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Impact on increasing use of ADT

- Less than 10% of men with prostate cancer will die of their disease
  - **Co-morbidity** in elderly cancer population

- **Increasing use** of Androgen Deprivation Therapy
  - First line for metastatic disease with depot Gonadotrophin releasing hormone agonists (GnRH)
  - Improves survival in locally advanced or high risk (6 months)
  - For high risk 3 years of therapy recommended after radical treatment
  - Skeletal integrity is compromised by ADT
  - Fracture is rare but has significant implications for both patient and health care providers

NICE Clinical Guideline Prostate cancer: diagnosis and treatment Jan 2014

Prostate cancer: Risk of fractures with long term ADT

Study	Men	ADT duration	Fracture risk all sites		Fracture risk Hip	
			ADT	No ADT	ADT	No ADT
Shahinian et al 2005 NEJM	50613	1yr-5years	19.6	12.6	4.06	2.06
Smith et al. 2005 JCO	11661	>12 years	7.88*	6.51*~	1.26*	0.98*
Alibhai et al. 2010 JU	19079	6.7 years	17.2~~	12.7~~	2.6	2

** Rate per 100 person years;~relative risk 1.21; p0.001 ~~hazard ratio 1.65, 95% CI 1.53-1.78*

Butoescu V & Tombal B (2014) Canadian Journal of Urology, April 2014

Retrospective analysis

Aim - To explore the prevalence of prostate cancer in local fracture datasets.

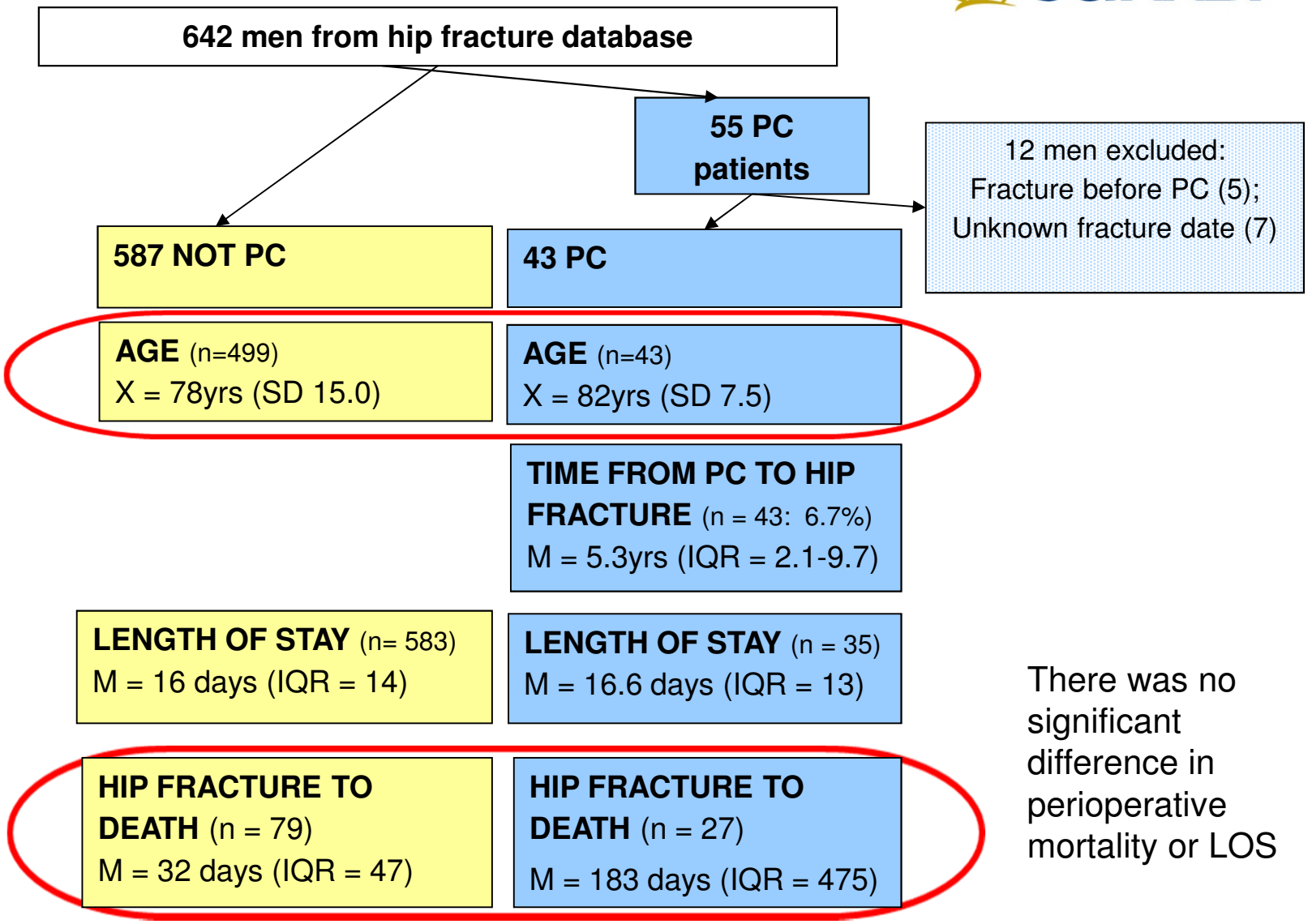
Method - Men were identified from two local sources;

1) A database of all hip fractures in (2006-2012) in a regional centre N=642

2) A database held by the Clinical Nurse specialist for osteoporosis and falls preventions in a NHS Trust (2002-2009); N=459

Datasets were matched against Thames cancer registry to determine cancer diagnosis.

1. Results – Hip fractures data base



There was no significant difference in perioperative mortality or LOS

Data set 2: Osteoporosis service

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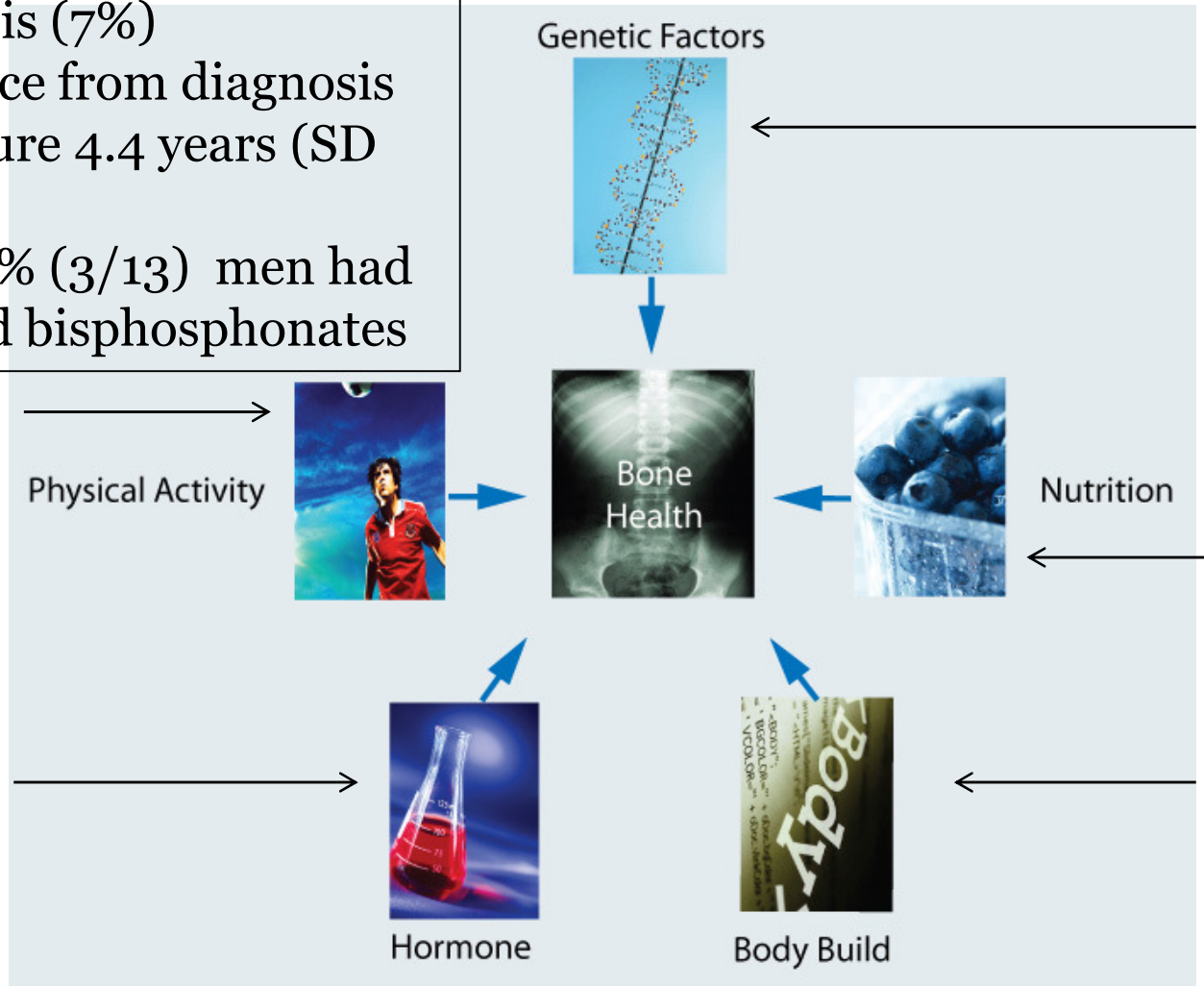
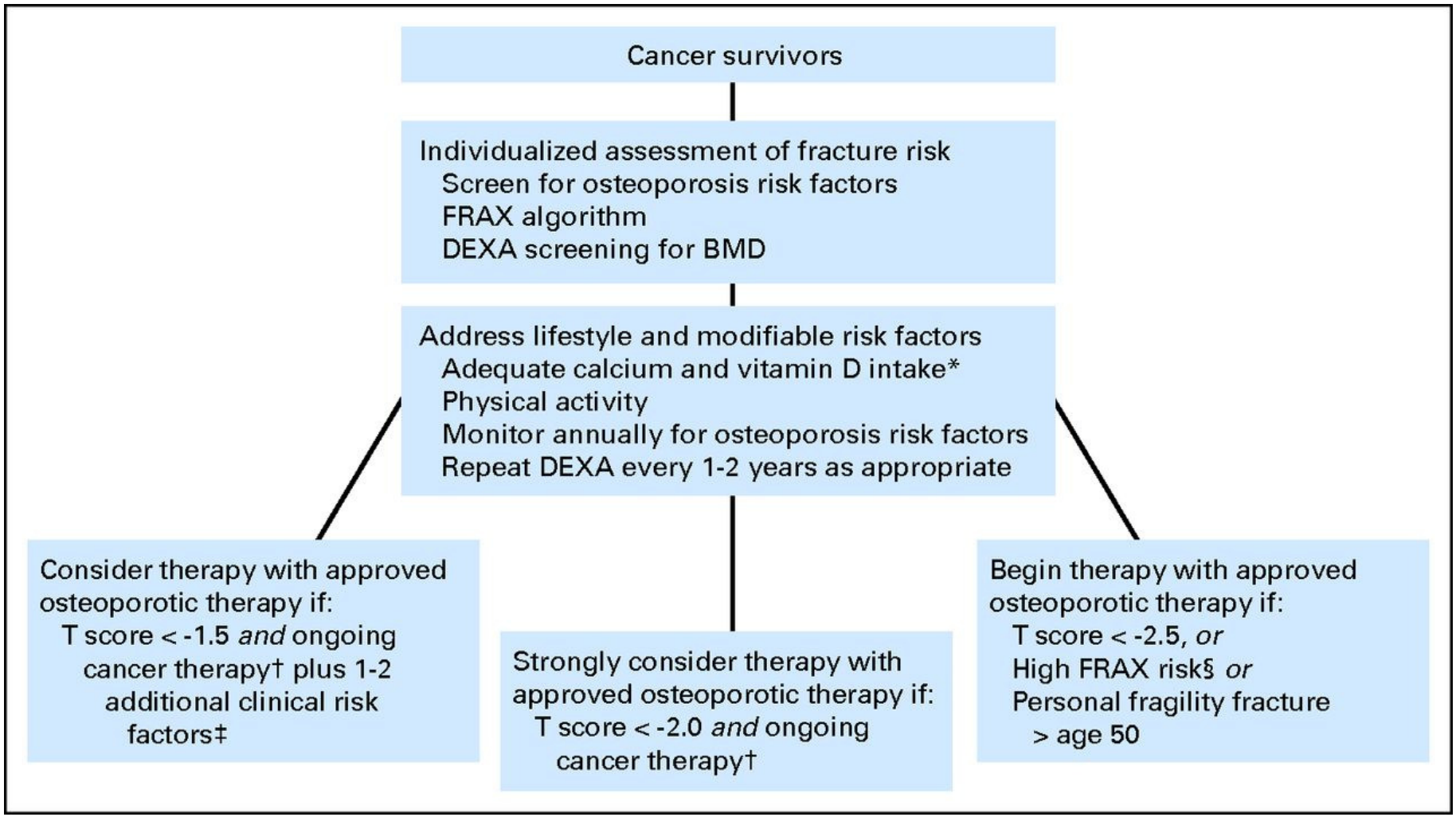
- 459 men only 32 had PC diagnosis (7%)
- Incidence from diagnosis to fracture 4.4 years (SD +2.5)
- Only 15% (3/13) men had received bisphosphonates



Algorithm for management



Lustberg,MB et al. 2012 Bone health in adult survivorship JCO 30: 3665-3674

Lifestyle factors ignored

- Elderly men have lower Vit D than healthy populations
- Vit D deficiency associated with increased spinal fractures
  - Studies equivocal!
- Vit D dosage controversial
- Calcium intake controversial
- Weight bearing exercise shown to be beneficial, but also reduce falls

Theodoratu E et al. (2014) Vitamin D and multiple outcomes: umbrella systematic reviews and meta analysis BMJ 348

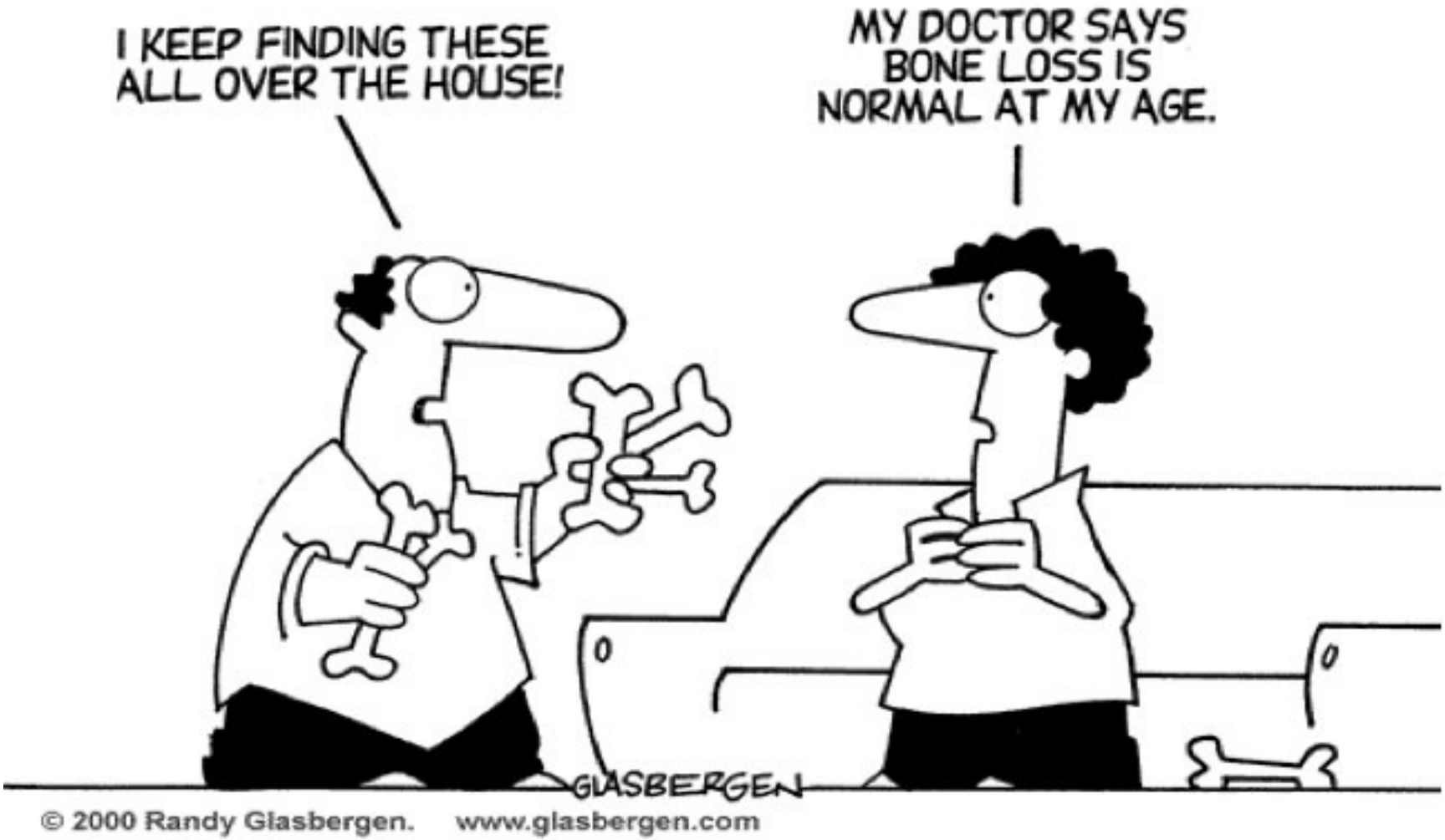
Falls in men with PC

- Falls and fall induced injuries among older people major health issue, higher in men with ADT
- 70% of all injury related admission
- 1 prospective cohort study risk of falls over 12 months
  - Most falls occurred in the first 3-6 months of ADT initiation
  - Prior history of falls, arthritis and being single
  - Prior screening recommended
- Recommend physical activity and resistance training

Hussain S et al. J Geriatric Oncology (2010) 32-39

Using effectively what we already know

- Assessment:
  - does FRAX, QFracture and Garvan, work sufficiently in this population?
  - Who is assessing bone health ?
- How do we collect routine data of SR events?
- How to apply evidence from multi-disciplinary fields i.e. risks and falls services, osteoporosis and older people care?
- Need to recommend lifestyle interventions
- Use existing resources and raise men's awareness
- Multi component interventions

Aspray T (2013) New Horizons in fracture risk assessment, Age and Ageing 42 548-554

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