

Preventing falls and fractures by proactive Osteoporosis Case finding in Primary Care

A Population intervention study



Dr Sunil Nedungayil

MBBS D.ORTH, DNB (ORTH), MSc ORTH Engg, MRCPGP

GP & Clinical Lead, The Castle Medical Group, Clitheroe

Lead GP, Ribblesdale Primary Care Network

Clinical Lead, Osteoporosis, East Lancashire CCG

GP with Special Interest (MSK), IMPReS, Pennine Lancashire

sunil.nedungayil@nhs.net

Ms Gemma Hedge

Service Redesign Support Manager

NHS East Lancashire CCG

gemma.hedge@nhs.net

THE PROBLEM

THE CARE GAP

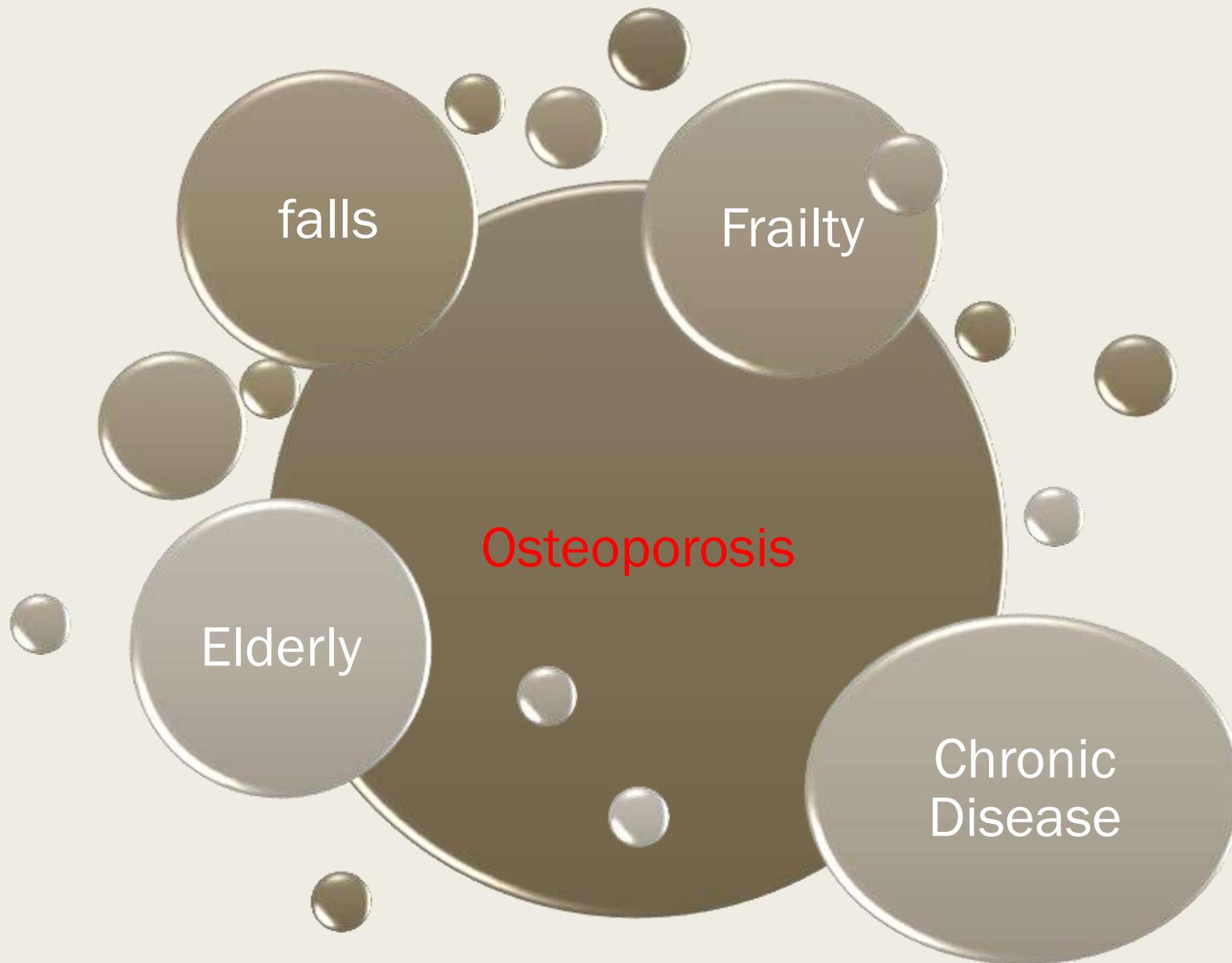
THE NEED

THE PILOT

THE East Lancashire CCG Quality Improvement Programme

The Long View





THE AGEING POPULATION

The number of people aged 65 and older is projected to rise by over 40% in the next 17 years to more than 16 million.

Thirty percent of people aged 65 and over will fall at least once a year.

For those aged 80 and over it is 50%.

Effective, planned, evidence-based approaches to falls and fracture risk reduction are of key importance to the health and wellbeing of people living in our communities

Professor Martin Vernon, National Clinical Director for Older People, NHS England 2017

The ageing process should not necessarily be perceived as a burden on society; on the contrary, people over the age of 60 should be given any and every opportunity to continue making valuable and important contributions to our communities and our economy, with their expectation of a sound quality of life realised.

World Health Organisation. Active Ageing

THE PROBLEM OF FALLS

255,000 falls-related emergency hospital admissions in England among patients aged 65 and older

Falls are estimated to cost the NHS more than £2.3bn a year

The annual total cost of fragility fractures to the UK has been estimated at £4.4bn

Public Health England. Falls and Fragility Fracture Consensus Statement: Supporting commissioning for prevention. January, 2017

500,000 new fragility fractures arise each year

One every minute

79,000 hip fractures,

66,000 vertebral fractures

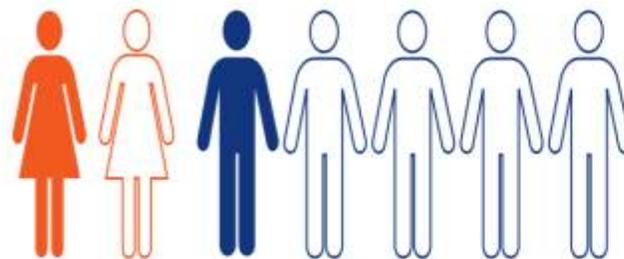
69,000 forearm fractures

322,000 other fractures².

The problem

Osteoporosis is the fragile bone disease that can cause painful and debilitating fractures (broken bones), sometimes resulting in premature death. Every year, people in the UK suffer more than 300,000 fragility fractures; often from just a minor bump or fall. Many of these could be prevented with earlier diagnosis and treatment.

1 in 2 women and 1 in 5 men
over the age of 50 will break a bone.²



3 million people
in the UK are estimated to have osteoporosis.³



The problem of Osteoporosis

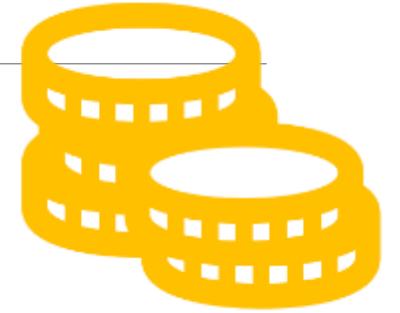
Osteoporosis related fractures are the **second highest cause of hospital admissions** in the UK ⁵.

They are also one of the **commonest reasons for GP appointments** in primary care ⁵.

Consequences Post Fracture

Hip fracture (data taken from 2015 National Report of Hip Fracture Database)

Care costs – EXCLUDING social care costs – exceed **£2billion per year**



Loss of mobility – **50% of patients suffer permanent disability**



Loss of independence – 46% of patients return home within 30 days



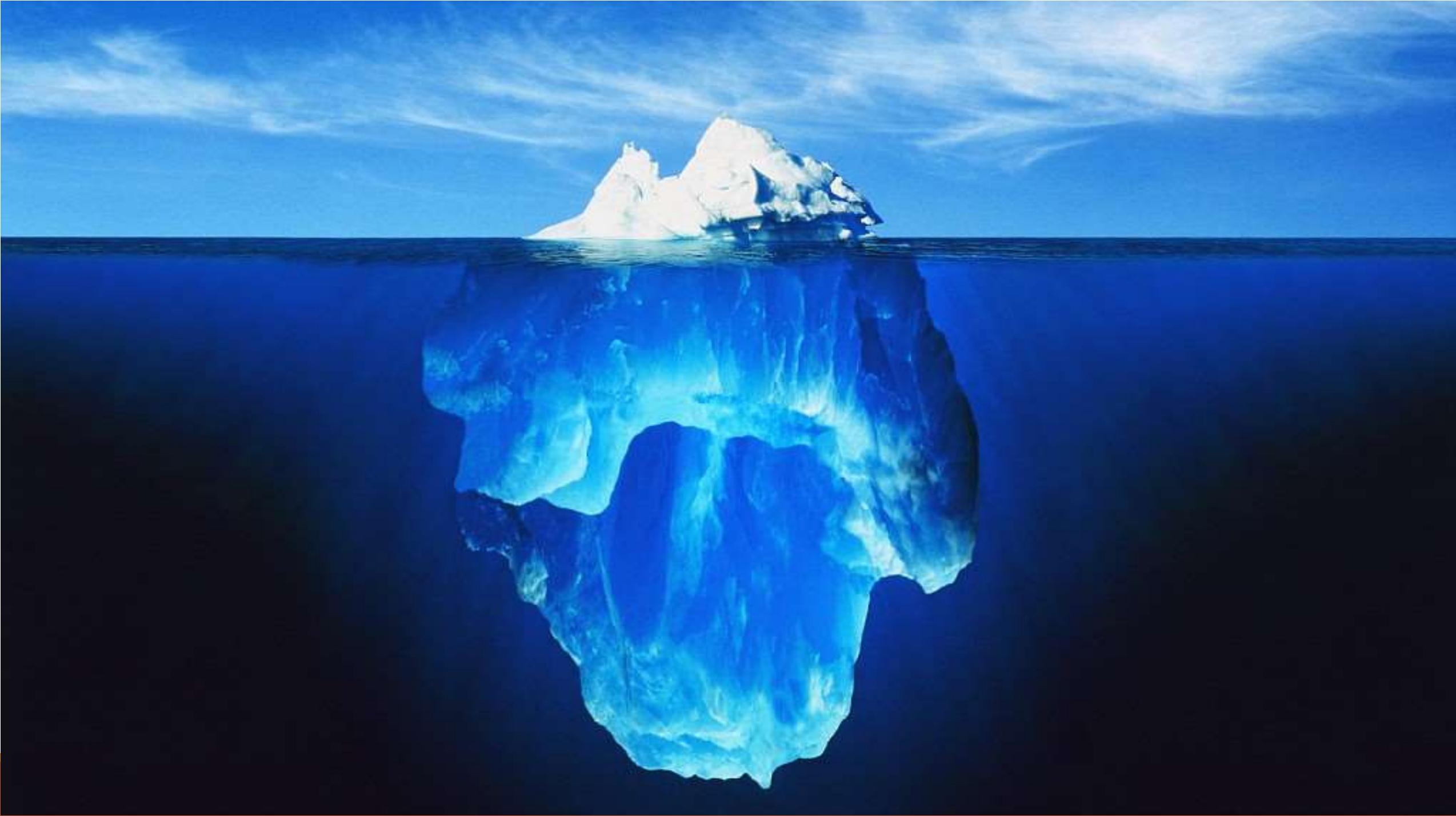
Account for **~4000** in patient beds **DAILY**

Around **65,000** hip fractures occur annually in the UK



Commonest Cause of injury related death
30 day mortality rate 8.2%





The Ground Realities

64,426 patients registered on the 2015/2016 Quality and Outcomes Framework (QOF)

656,090 (monthly average) patients that have had medicines dispensed in primary care for osteoporosis

Only 1 in 10 of the patients who should be registered on the QoF register are on it ^{7,8}

The Local Context

THE PENNINE-LANCASHIRE BURDEN

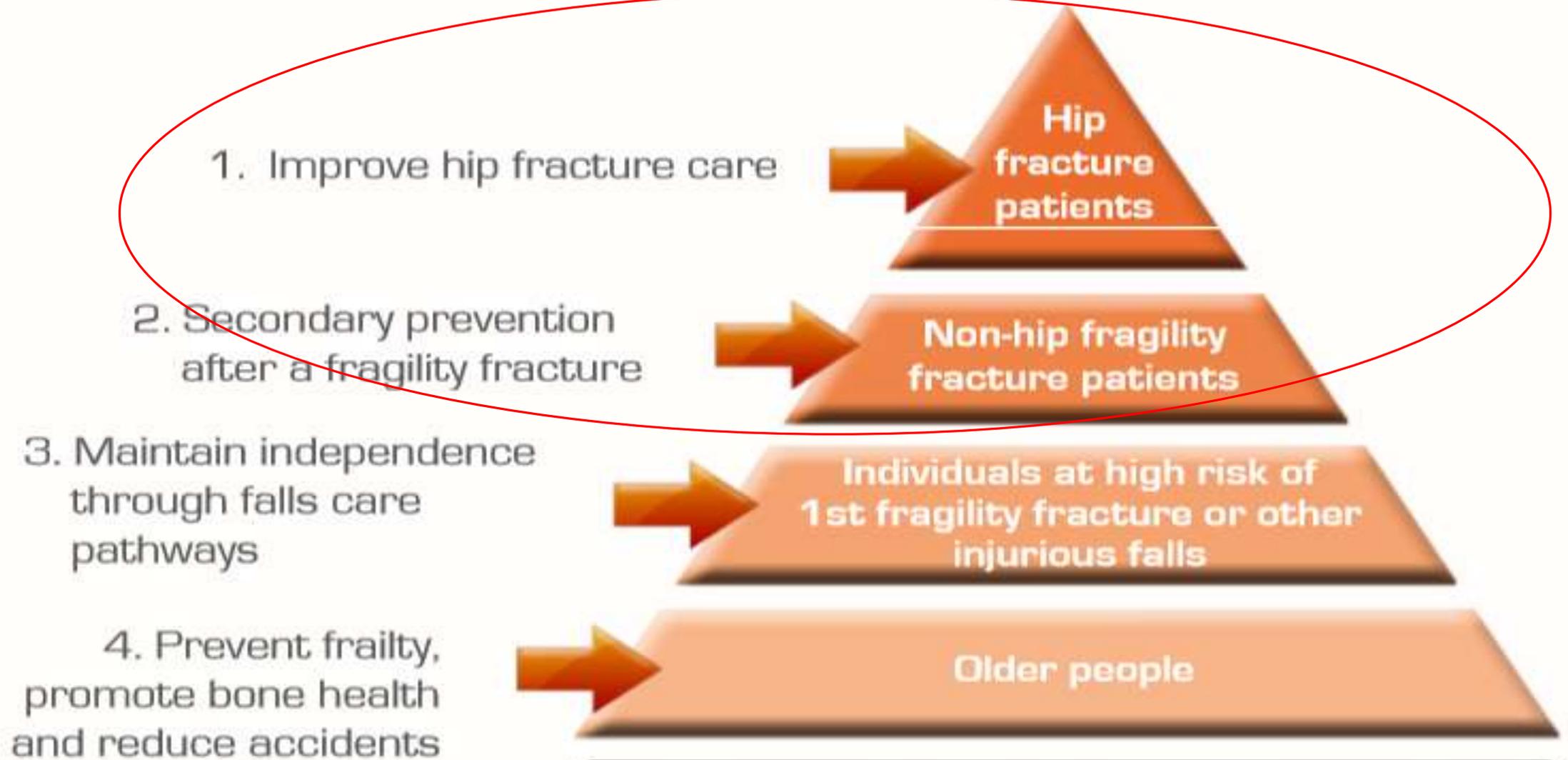
Hip fracture (inpatient)	Other fracture site (inpatient)	Other fracture site (outpatient)	Clinical vertebral	All
404	286	934	129	1753

Year

2016	1753
2017	1778
2018	1807
2019	1826
2020	1847

CARE GAP

Systematic approach⁴⁹: primary care is well placed to manage the bone health of patients



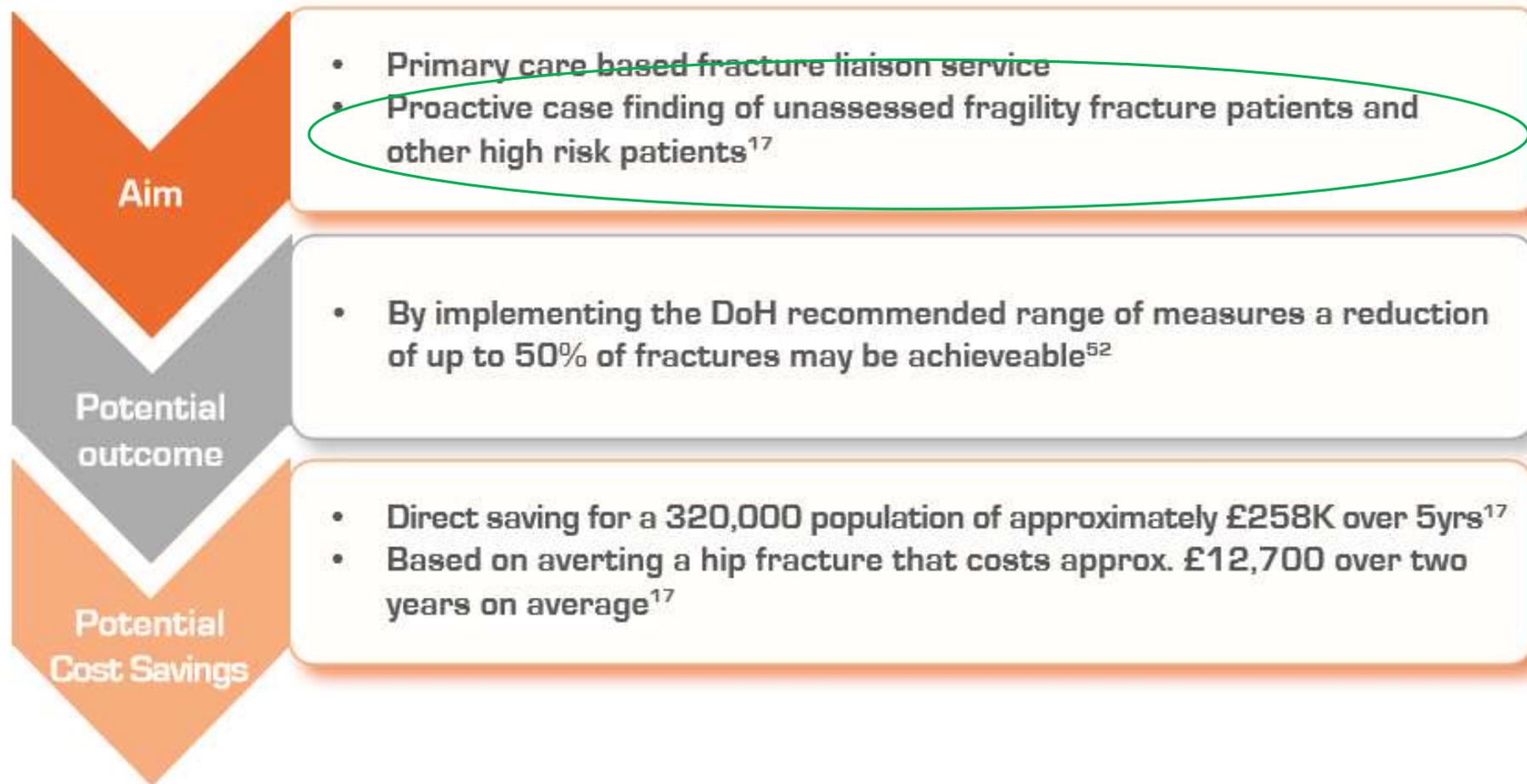
Management options include: GP systematic case-finding can help to identify these patients

Benefits of Secondary Prevention

Number of fractures prevented

	Year	Hip fracture (inpatient)	Other fracture site (inpatient)	Other fracture site (outpatient)	Clinical vertebral
Number of fractures prevented in each of 5 years for patients treated in year 1 only	2016	12.4	8.0	8.0	4.1
	2017	8.8	3.9	3.9	3.4
	2018	9.1	3.4	3.4	2.9
	2019	5.7	2.8	2.8	1.8
	2020	3.6	1.7	1.7	1.0
	All years		39.6	19.8	19.8

Implementation benefits of QIPP and DoH guidelines for fracture prevention



Benefits per fracture

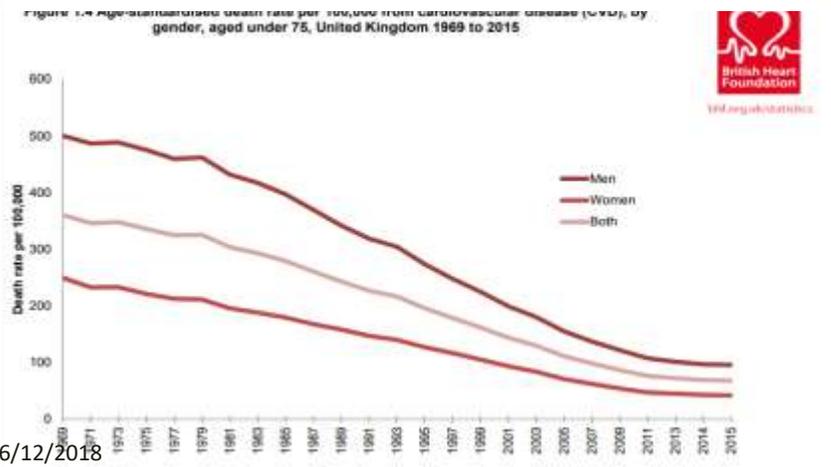
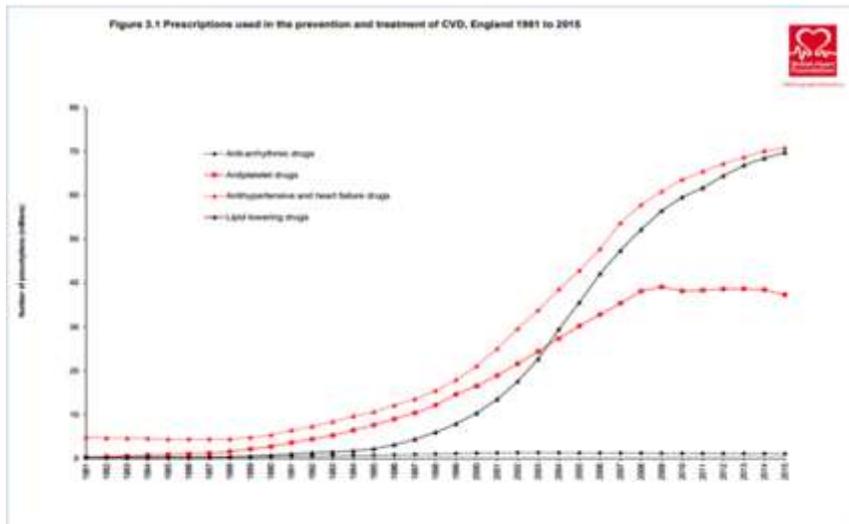
	Hip fracture (inpatient)	Other fracture site (inpatient)	Other fracture site (outpatient)	Clinical vertebral
Acute care	£8,478	£1,911	£396	£2,079
Community and primary care	£448	£57	£57	£59
Social care	£8,237	£150	£150	£2,908
All	£17,163	£2,118	£603	£5,046

THE NEED

CVD

7 million living with CVD

£ 9 billion annual spend on CVD



OSTEOPOROSIS

500000 with fragility fractures

3 million with osteoporosis

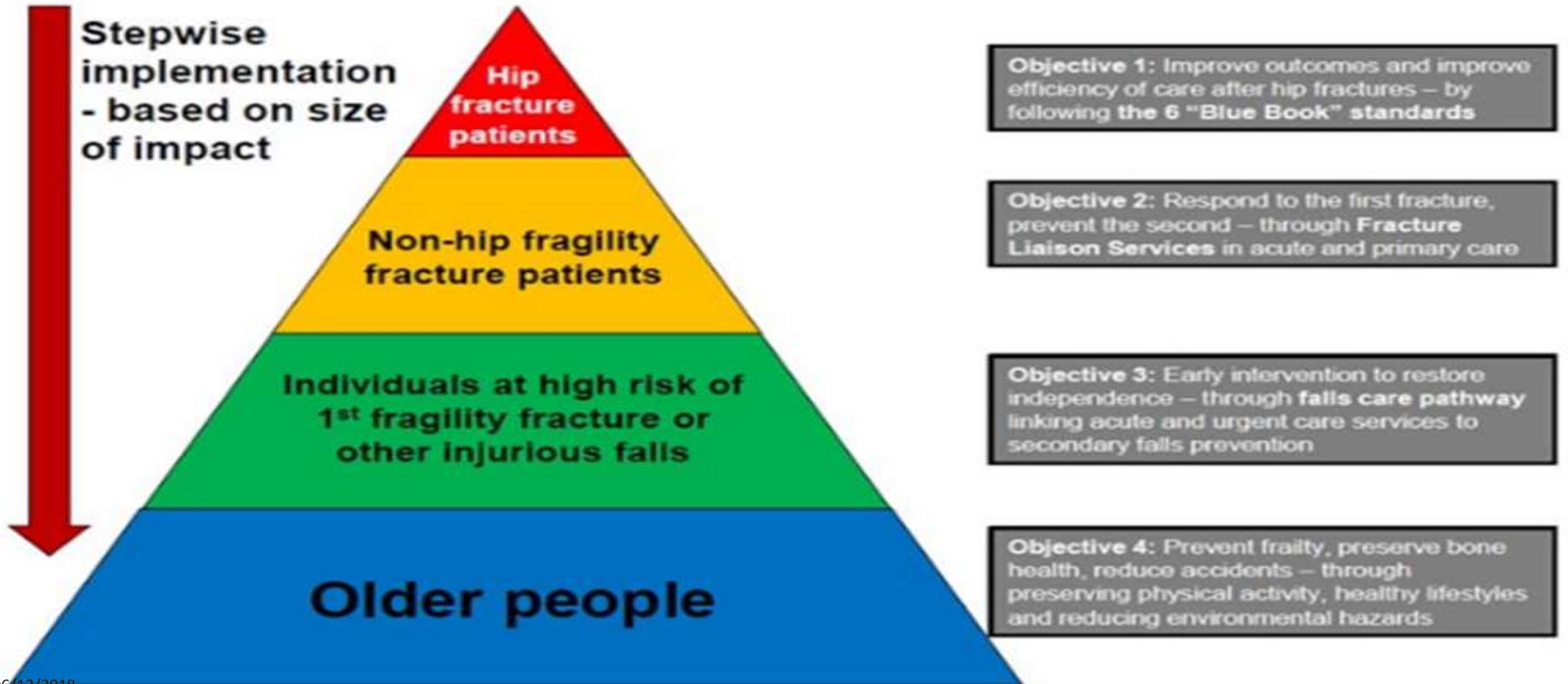
Projected to rise three fold in 10 years

£ 2 billion annual spend on HIP fractures alone

£4.4 billion on Fragility Fractures

NO emphasis on primary prevention

Systematic management of Osteoporosis (DOH, RCP, QIPP)



The Pilot

What is the prevalence of osteoporosis?

Are we underdiagnosing osteoporosis?

Are we undertreating osteoporosis?

Are we following the recommended standards of care?

Is it feasible to have a primary prevention approach to osteoporosis?

THE PILOT

P815

KRAKOW
2018

**THE UNDER-DIAGNOSIS AND UNDER-TREATMENT OF
OSTEOPOROSIS DUE TO INACCURATE CODING PRACTICES IN
PRIMARY CARE IN UK**

Dr SK Nedungayil, Dr R Azzam, Dr S Cooper, Dr S Davis, Dr M Ninan
East Lancashire and Blackburn with Darwen CCG, United Kingdom

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A FEASIBILITY STUDY**

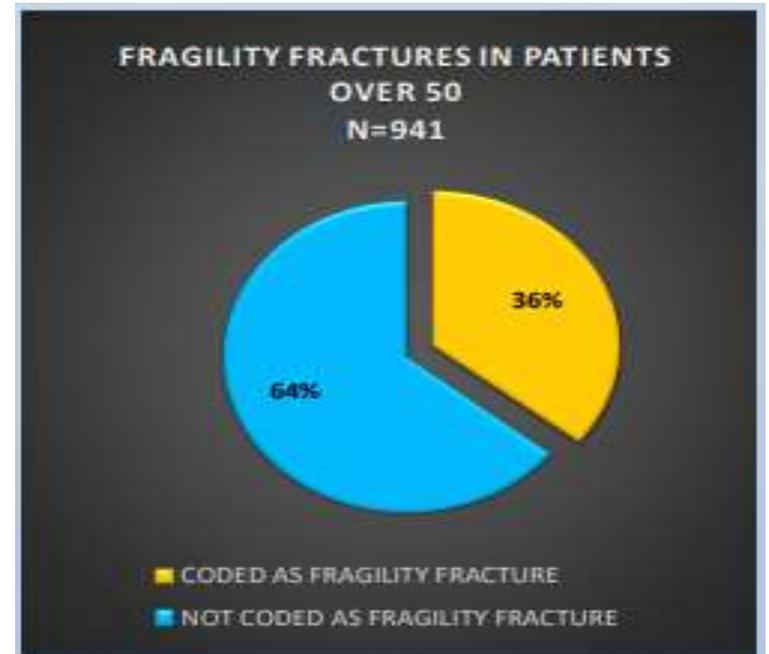
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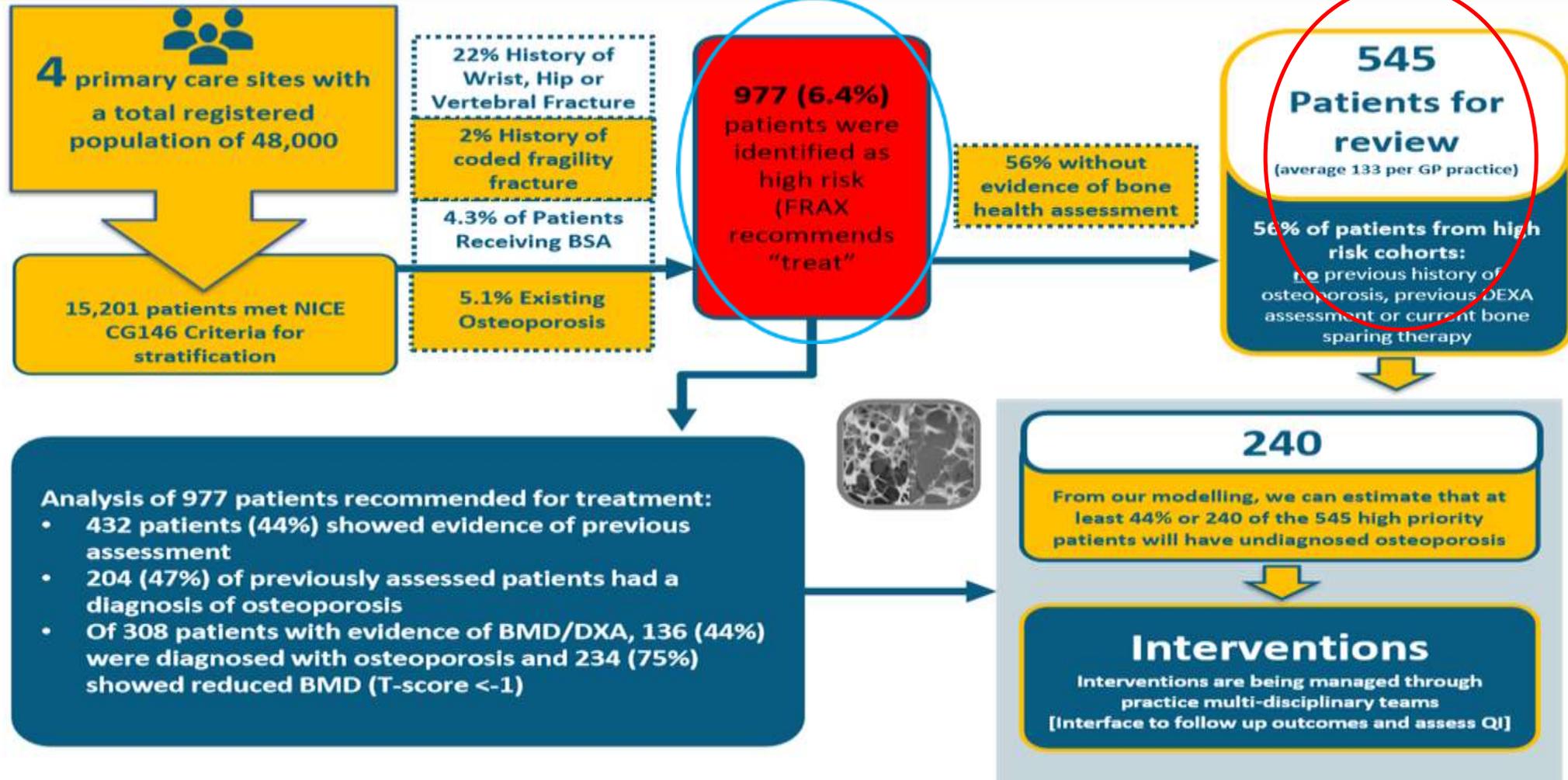
FIGURE 4- UNDER-DIAGNOSIS AND UNDER-TREATMENT



POPULATION SCREENING TO RISK STRATIFY AND TARGET PRIMARY PREVENTION MEASURES FOR OSTEOPOROSIS IN PRIMARY CARE IN UK- A FEASIBILITY STUDY

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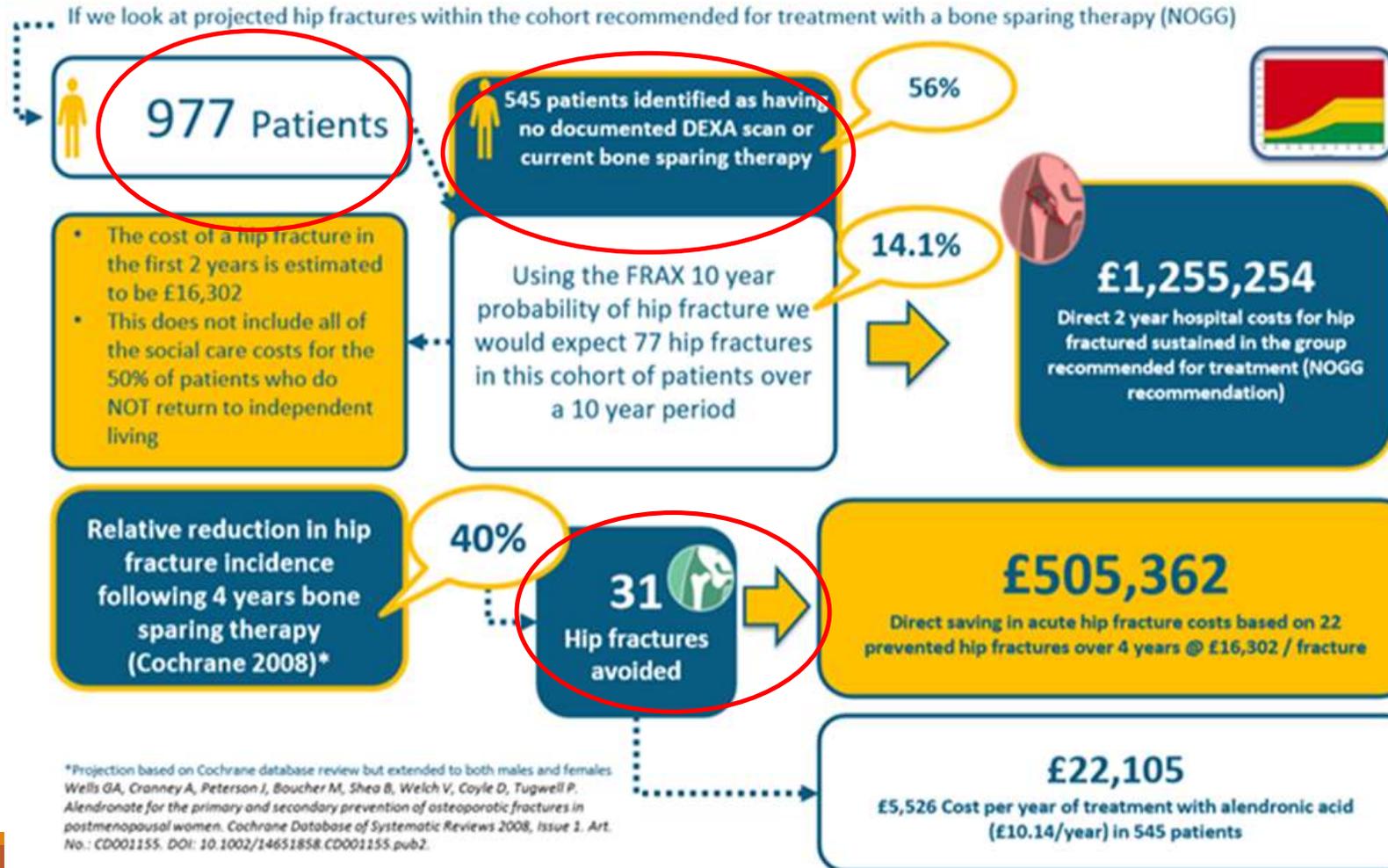
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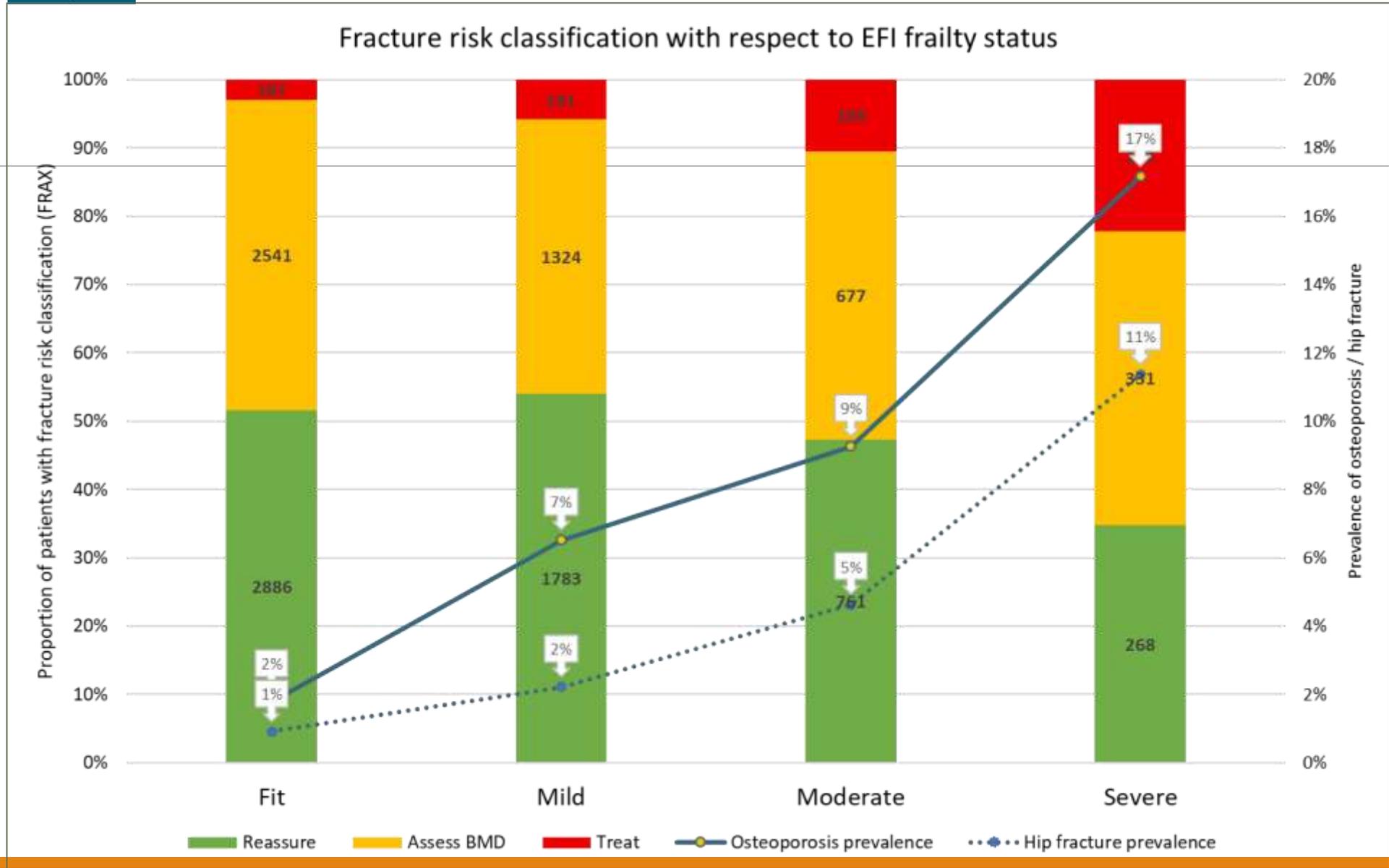
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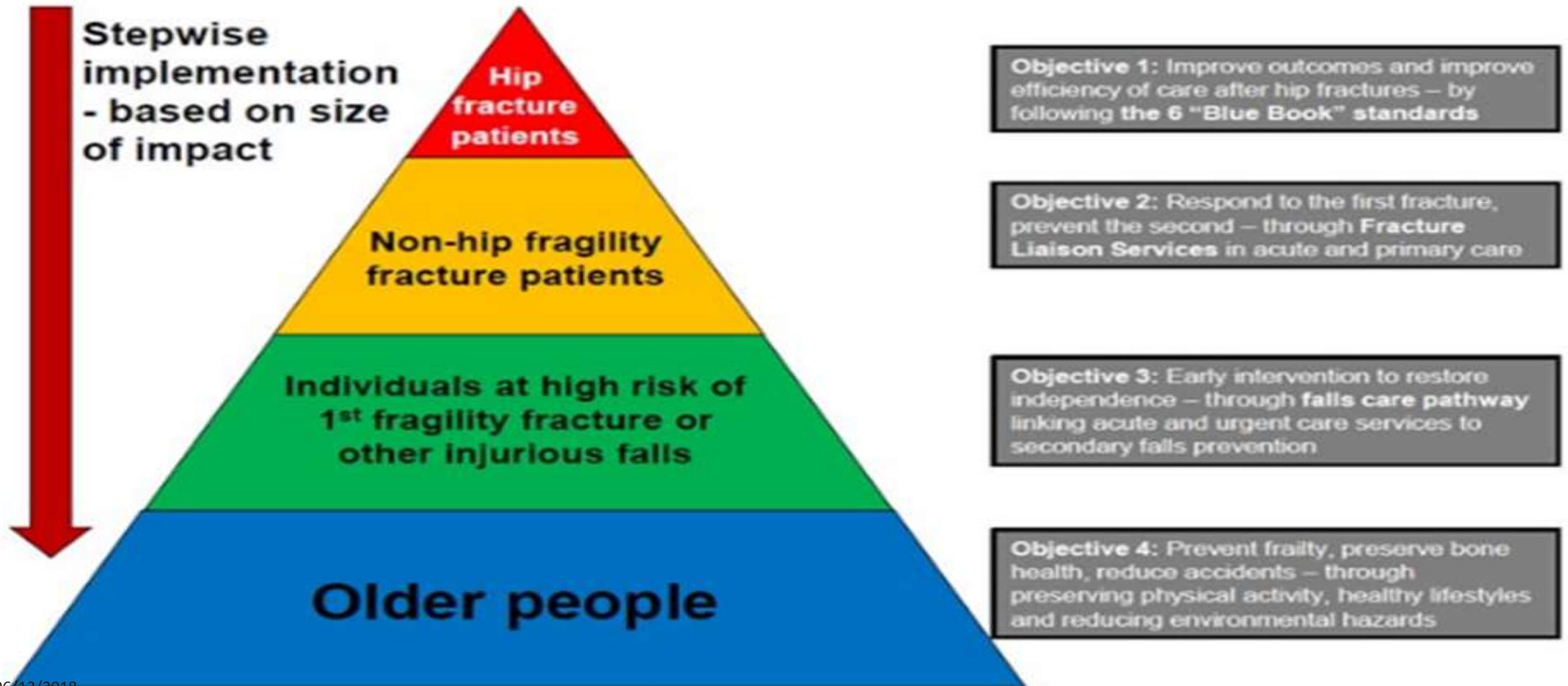


Frailty analysis (EFI)



The East Lancashire Osteoporosis Quality Initiative Framework

Systematic management of Osteoporosis (DOH, RCP, QIPP)



The 4R Approach

PHASE 1- IMPROVE DETECTION AND TREATMENT

'REVIEWING' existing Osteoporosis Registers

'RECODING' existing registers

'RECORDING' new diagnosis of fragility fractures

PHASE 2- PRIMARY PREVENTION APPROACH

'RECOGNISING' At-Risk Patients

Preliminary Results

Increase in the Osteoporosis register- **21% increase** in 3 months

Increase in detection of **new osteoporosis cases- 240**

Identification of **new fragility fractures- 123**

Reduction of 'untreated' patients

The future of the QI

Continue Phase 1

Phase 2- April 2019

Pro-active risk assessment programme

Training and education programme for Health Care professionals

Education and support for Patients (rehabilitation, nutrition, exercise)

‘Bone Health Well Being’ programme in the community

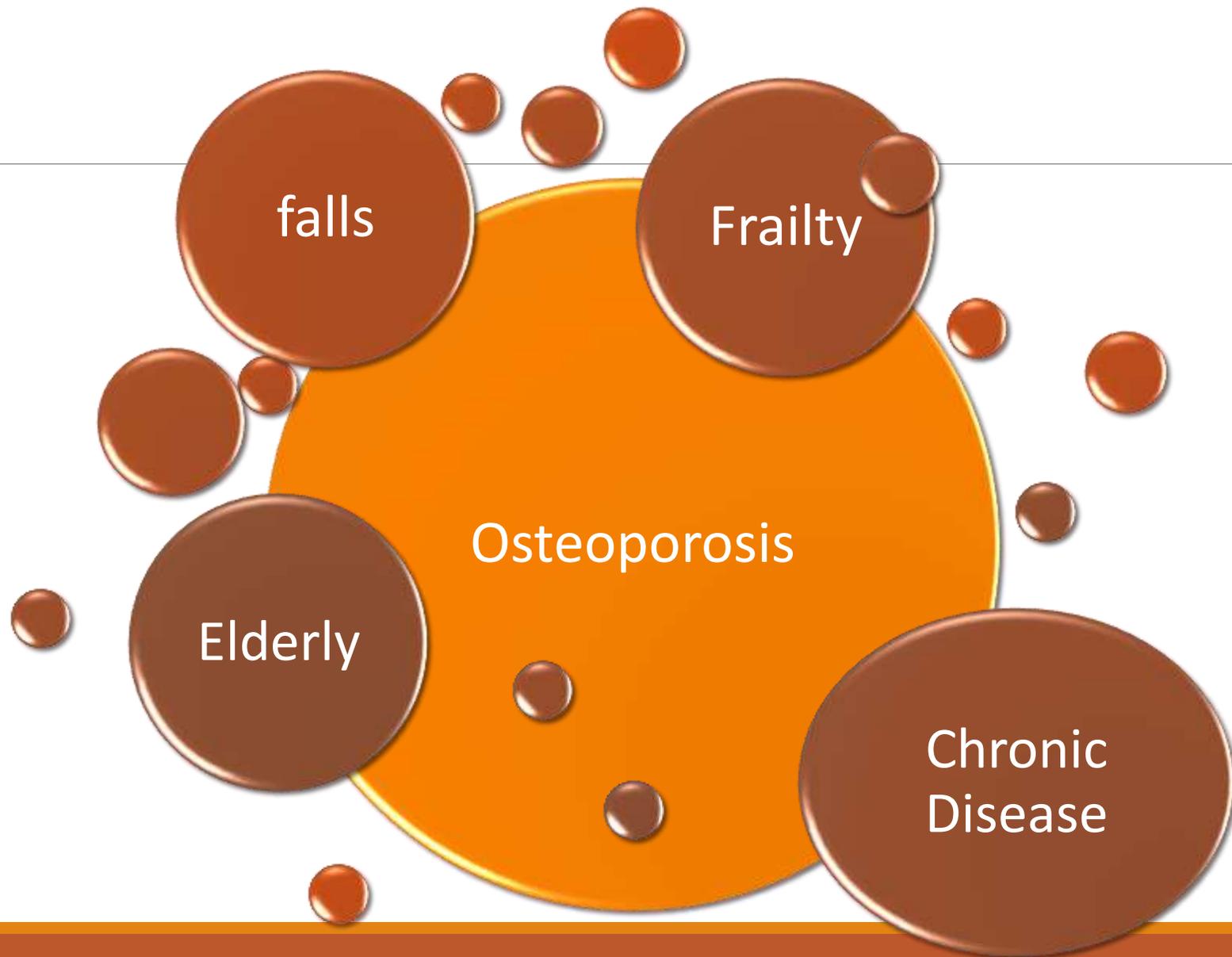
Future Partnerships

Qualitative and quantitative analysis

Quality standards for Osteoporosis and Prevention of Fragility Fractures

Workforce training and development (bone-health)

Population based falls prevention, nutrition and exercise programme



THANK YOU

1. Office of National Statistics (2014). *Annual Mid-year Population Estimates, 2013*. Available at: <<http://www.ons.gov.uk/ons/rel/popestimate/population-estimates-for-uk--england-and-wales--scotland-and-northern-ireland/2013/stb---mid-2013-uk-population-estimates.html>>. ⁱⁱ Kanis J et al (2000). Risk of hip fracture according to the World Health Organisation criteria for osteopenia and osteoporosis. *Bone* 27: 585–90.

2 Svedbom A, Hernlund E, Ivergård M, Compston J, Cooper C, Stenmark J, McCloskey EV, Jönsson B, Kanis JA, EU Review Panel of IOF. (2013). Osteoporosis in the European Union: a compendium of country-specific reports. *Arch Osteoporosis*. 8(1-2):137.

3 Mitchell PJ, (2011). Fracture Liaison Services. *Osteoporosis Int* 22 (Suppl 3): S487–S494.

4 National Osteoporosis Society FLS Benefits Calculator available at: <https://www.nos.org.uk/health-professionals/fracture-liaison-service/implementation-toolkit>

5 Leal *et al* (2016). Impact of hip fracture on hospital care costs: a population-based study. *Osteoporosis International*

6 Papadimitriou *et al* (2017). Burden of hip fracture using disability-adjusted life-years: a pooled analysis of prospective cohorts in the CHANCES consortium

7 Fracture Liaison Service Database (FLS-DB) facilities audit FLS breakpoint: opportunities for improving patient care following a fragility fracture. May, 2016. Royal College of Physicians

8 Quality and Outcomes Framework. Achievement, prevalence and exceptions data, 2012/13. www.hscic.gov.uk/catalogue/PUB12262 Accessed August, 2016

9 National Institute for Health and Care Excellence (2012). *NICE Clinical Guideline 146. Osteoporosis: Assessing the Risk of Fragility Fracture*