



Preventing Future Fractures

Baseline Data

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Osteoporosis

- **2.2 million Australians**
- **Age > 60yrs** **1 in 2 women will fracture**
 1 in 3 men will fracture
- **Increasing % population aged over 65yrs**
- **Increased Morbidity and Mortality**

Minimal trauma fractures (MTF)

Fractures in people 45 years and over that occur as the result of a slip, trip or fall from a standing height or less

Osteoporosis is presumed the underlying cause unless proven otherwise

NCAHS Preventing Future Fractures Study



- 06/07 all MTF admissions = >45 yrs at 2 sites
- 07/08 1 yr Pilot Intervention at 1 site
- 07/08 all MTF admissions = >45yrs at 2 sites
- Compare pre and post intervention measures at intervention site and with control site

Hospital Admissions- Study Site 2

Primary Diagnosis	COPD	CHF	Osteoporosis (MTF)
2007	156	143	216

Critical Health Intervention Point

- **Risk** of future fracture is **2x** with MTF at a single site
(*Sambrook*)
- **Risk** continues to rise with subsequent MTF fractures
3+ = **11x** risk
(*Kanis*)
- Progression of osteoporosis can be **curtailed**
Cochrane CD 004523
- Future fracture risk **can be halved** with effective
treatment
(*Bluick*)



Best practice

- Assess bone mineral density
- Exclude secondary causes
- Assess Calcium Intake - supplement
- Measure Vit D – supplement
- Bisphosphonate – raloxifene, HRT, strontium
- Exercise
- Falls prevention

Patients hospitalised for MTF 06/07 n=459

Age	< 70 yrs	26%
	70 -79 yrs	24%
	80+yrs	48%
Fracture site	Femur	52%
	Radius	19%
	Pelvis	7%
Admitted from RACF		17%
Discharged to peripheral hospital		37%
Discharged to rehab unit/ RACF		12%
Discharged home		37%

Identification of osteoporosis/risk in inpatient file

Identified in (medical) progress notes	16%
Evidence noted in Xray report	11%
Evidence noted in theatre report	1%
Identified in discharge summary	11%
Vit D 25 hydroxy levels	6%

Patient reported 4-8 months post discharge

Informed of minimal trauma fracture or underlying osteoporosis during admission	17%
<i>Advised need for further tests or given information</i>	8%
Visited GP post fracture	97%
Discussed Osteoporosis with primary health care providers	45%
<i>Discussed with their doctor</i>	35%
Had BMD test post discharge	21%
Received a falls prevention intervention	45%

Minimal trauma fracture history

History previous MTF documented in file	25%
Patient reported previous MTF	36%
Sustained New MTF	5% 14 people

Osteoporosis Medications

	Admission n = 459	Pre fracture self report n=278	Discharge	Post fracture self report n=278
Calcium	7%	13%	14%	26%
Vit D	3%	3%	9%	8%
Bisphosphonate	12%	16%	12%	28%
<i>Ceased OP medications</i>				16%

Lifestyle Factors

Patient/Carer/NH reported	Known factor	Done in the last week
Daily exposure to sunlight	11%	7%
Smoking/excessive alcohol	1%	
Exercise	44%	34%
Calcium diet	23%	14%

PFF Baseline predictors

- Males were less likely to be currently on OP treatment post admission for MTF

OR 0.42 CI 0.19-0.91

no other correlation: age/fracture site/previous #/discharge to

- People who were informed of MTF and or risk of future fracture during hospitalisation were more likely to have DXA post discharge

OR 1.93 CI 1.03-3.61

What does this data tell us?

- PFF regional hospitals do not pro-actively support patients or their GP to manage fracture risk post MTF
- < 30% of rural people, at high risk of future fractures, were taking bisphosphonate post fracture
 - The majority of rural people at high risk of future fractures are unaware of the lifestyle factors affecting bone formation
- 1/3rd rural people at high risk of future fracture are actively engaged in exercise to protect bone density
- >80% rural people at high risk of future fracture are not actively pursuing a high calcium diet

Pilot Intervention

- **6 hr /wk RN**

Osteoporosis risk screen during admission

Patient consent for case review

- **Rheumatologist / OP specialist GP**

Monthly case review

Letter to patient's GP

North Coast Best Practice Guideline

Funding Sources

- **PHCRED** - Research clinician
PFF baseline 2007
- **NCAHS** – supported secondment
- **IRCST** – grant to implement a
rural model of care and evaluate
the outcomes 2007-2008

*The cost of the 1 year pilot = hospital cost of
managing 1 uncomplicated #NOF \$16,000*

