RNSH OSTEOPOOROSIS REFRACTURE PREVENTION SERVICE

Lillias Nairn
Fracture Liaison Coordinator
October 2016
ACKNOWLEDGEMENTS

- Robyn Speerin
- Christine Collins, Fiona Niddrie, Sally Warland, Jayne Hyde, Sandra Denton, Verina Walsh
- Gary Rolls and the Physio Staff at RNSH
- Lyn March and Rory Clifton-Bligh
- Endocrinology Department BMD and Admin Staff
- RNSH Orthopaedic and Hand Surgeons
- Belinda Jones and Sami Baranwal
OUTLINE OF PRESENTATION

● BACKGROUND
  – Refracture risk and burden of minimal trauma fractures
  – “Osteoporosis care gap”
  – Evidence for Osteoporosis Refracture Prevention (ORP) Services

● RNSH ORP SERVICE
  – Model of care
  – Referral pathway
  – Clinic activity
  – Evaluation
  – Innovations
REFRACTURE RISK AFTER 1ST MTF

- Risk of fragility fracture if >50
  - women 50%
  - men 20%
- After 1st MTF – 2x risk of subsequent #
- Vertebral compression #
  - 1 # → 4x refracture risk within 1 year
  - 2 # → 9x risk
- Small fractures predict larger fractures
- Hip fracture patients - 50% prior MTF

In 2012

- 140,882 Osteoporotic fractures → 180,000 by 2022
- $1.6 billion in direct costs
- REFRACTURES alone cost $223 million
  - $104m on hip #
  - $40m on spine #
  - $12.6m on wrist #
  - $66.6m on other #
“The majority of Australians who suffer osteoporotic fractures are neither investigated nor do they receive appropriate treatment.

As a consequence, many of these men and women experience further fragility fractures, which we know lead to significant morbidity (illness) and excess mortality (death).”

3 First National Forum on Secondary Fracture Prevention (November 2015)
THE OSTEOPOROSIS CARE GAP

IN PRIMARY HEALTH CARE SETTING

- **Eiseman, Clapham and Kehoe**\(^5\) (2004)
  - 88,040 post-menopausal women from 927 GP practices
  - 29% had \(\geq 1\) MTF
  - Of these \(< \frac{1}{3}\) were on specific OP medications

- **Chen, Hogan, Lyubomirsky and Sambrook**\(^6\) (2008)
  - 37,957 patients in general practice
  - 17,754 (30%) spinal X-ray
  - 5344 vertebral compression #
  - 203 (3.8%) were on OP medication

---


THE OSTEOPOROSIS CARE GAP

IN TERTIARY HOSPITAL SETTING

- **Vaile, Sullivan, Bennett and Bleasel** (2007)
  
  157 MTF admitted to RPA Emergency Department in 1 month
  - 20% had BMD scan
  - <20% were put on treatment
  - 35% had a subsequent fracture
  - 30% died

- **Teede, Jayasuriya and Gilfillan** (2007)
  
  1829 MTF presenting to Australian hospital ED
  - 10% were appropriately investigated
  - 9% had OP treatment initiated

---

National and international studies have demonstrated the benefits of ORP services in reducing refracture rate after the 1\textsuperscript{st} MTF.
EVIDENCE

- **Nakayama, Major, Holliday et al**\(^9\). (2015)
  - 40% reduction in refracture rate

- **Van der Kallen, Giles, Cooper et al**\(^10\). (2014)
  - Refracture rate
    - 5.1% in ORP versus 16.4% in the non clinic group
  - OP treatment initiation
    - 66.8% were on Rx in ORP patient cohort
    - 34.1% were on Rx in non clinic cohort

- **Lih, Nandapalan and Kim**\(^11\) (2010): Concord - 4 yr prospective study
  - 80% reduction in non-vertebral refracture rate

---


RNSH ORP SERVICE

- Funded until End June 2017
- By Ministry of Health “Planning and Innovation Fund” for Integrated Care
- Part of NSLHD wide service - Ryde Hospital ORP initiated
- Based on **Agency for Clinical Innovation Model of Care**
- Staff Specialists - Endocrinology and Rheumatology
- Full time Fracture Liaison Coordinator (FLC)
- Part-time Administrative Officer
AIM
Reduce the refracture rate after MTF in people aged 50 years and over, living in the RNSH catchment, through early screening and treatment initiation, self-management and referral to appropriate services.
ACI ORP Model of Care

Patient identified at entry to health system

Supported access to investigations and medical treatment

Follow-up medical checks – is treatment regimen still appropriate

Data collection, analysis, reporting to inform service needs

Chronic care intervention

Access to community services

Disease management education, behaviour change, self-management support, intermittent check assessments

E.g. Falls Prevention, Heartmoves, allied health, Compaks, Aged Care services, other as appropriate

Supported access to investigations and medical treatment

Follow-up medical checks – is treatment regimen still appropriate

Data collection, analysis, reporting to inform service needs

Chronic care intervention

Access to community services

Disease management education, behaviour change, self-management support, intermittent check assessments

E.g. Falls Prevention, Heartmoves, allied health, Compaks, Aged Care services, other as appropriate

Serum Vit D levels, TFT, parathyroid, Bone Density Scan

Early GP consult, early consult with specialist

Reproduced courtesy of ACI
MTF case Identification (NEW eMR screening tool)

Eligible patients
- Minimal trauma #
- >50 years

Consent to attend ORP Clinic

Clinic Visit 1
BMD and Fracture Liaison Coordinator

Clinic Visit 2
Specialist consult and results

GP and Specialist Reports

Referrals e.g. Falls

Ineligible
- Pathological fracture
- Major trauma
- Under Orthogeriatrics
- High level RACF
- Living out of area

Declined
- Unable to contact
- On appropriate OP Rx
- Not interested

Referrals from Out-Patient

BMD referral

Pathology referral

Collaboration with clinic physiotherapists

GP referral requested

Specialist referral requested

Referrals e.g. Falls

Collaboration with clinic physiotherapists

RNSH ORP SERVICE REFERRAL PATHWAY
RNSH SERVICE ACTIVITY TO DATE

6-MONTH FOLLOW-UPS n= 56
PREMS n= 21

MTF identified n=1216

invited to ORP clinic n=519

ineligible n=682

declined or not contactable n=219

consented to attend ORP n=264

undecided n=36

clinic visits n=353
new patients n=237
medical consults n=146

Osteoporosis 34%
Osteopenia 50%
Normal 16%
684 patients were ineligible

Ineligibility reasons

- Eligible for Orthogeriatric care: 217
- Small bone foot/hand & face: 96
- Out of area: 93
- Not MTF: 77
- Specialist declined: 60
- OP appropriate Management: 43
- >90 years or RACF - GP letter sent: 32
- no response: 16
- Other: 17
- Under Endo/rheum: 14
- Comorbidities: 12
- Pathological #: 7

No. of Patients
219 patients were uncontactable or declined.

Reasons declined:
- No response to invite: 57
- Already of OP medication: 43
- Intends to consult GP: 27
- Not interested/unable to attend: 22
- Out of area: 16
- Under Endo/rheum/Gp for care: 16
- No reason given: 15
- No MTF: 13
- Recent BMD normal: 6
- Other: 5
- Serious comorbidities/deceased: 5

No of pts
**EVALUATION**

<table>
<thead>
<tr>
<th>Clinical outcomes</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>New patients attending clinic</td>
<td>237</td>
<td></td>
</tr>
<tr>
<td>Patients sustaining a further MTF</td>
<td>2</td>
<td>0.8%</td>
</tr>
<tr>
<td>Patients having BMD scan</td>
<td>222</td>
<td>94%</td>
</tr>
<tr>
<td>Patients sent for pathology testing</td>
<td>204</td>
<td>86%</td>
</tr>
<tr>
<td>Patients for whom pharmaceutical treatment was initiated / GP to administer</td>
<td>86</td>
<td>*59%</td>
</tr>
<tr>
<td><em>(146 medical consults)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adherence to anti-resorptive medications</td>
<td>12</td>
<td>78%</td>
</tr>
<tr>
<td>Patients referred to falls prevention programs</td>
<td>49</td>
<td>21%</td>
</tr>
</tbody>
</table>

- **PROMS – patient reported outcomes measures** *(26/56 returned)*
  - DASS21 mood, AQoL-5D, Falls Efficacy Scale (FES-1)

- **PREMS – patient reported experience measures** *(21)*

- **GP feedback**
INNOVATIONS – ORP SCREENING TOOL

Faster
Picks up MTF patients otherwise missed
Relevant information provided – contacts, GP

Triage time
Vertebral # - new or old? Traumatic?
Patients do not know about vertebral #
INNOVATIONS – electronic forms

Still being developed

• auto-populated reports
• Accessibility of data
• Analysis of data

Time consuming
THANK YOU

Contact details

Lillias Nairn

Fracture Liaison Coordinator

Mobile: 0476 830 406

Email: lillias.nairn@health.nsw.gov.au