Orthopaedics, from low value to high value

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Low value care

• “Ineffective” surgery
How do we know what is ineffective?

Randomised Trial Support for Orthopaedic Surgical Procedures

Hyeung C. Lim¹*, Sam Adie¹,², Justine M. Naylor¹,²,³, Ian A. Harris¹,²,³
Knee arthroscopy

• 70,000 per year in Australia

• 7x variation between regions

• Mostly done in over 50 y.o.
The evidence

Arthroscopic surgery for degenerative knee: systematic review and meta-analysis of benefits and harms

J B Thorlund,1 C B Juhl,1,2 E M Roos,1 L S Lohmander1,3,4
Practice change

• 2011, SWSLHD, policy change by head of department
How did it work

• Clinician led

• Scientific justification

• Admin buy in and support
High value care

The operation of the century: total hip replacement

Ian D Learmonth, Claire Young, Cecil Rorabeck

Lancet 2007; 370: 1508-19
How does it compare?
How to improve value

• Improve outcomes

• Reduce cost
Reduce cost for joint replacement

• Implants

• Bed days

• Rehab
Improve outcomes

- Revision
- PROMs
Revision

• National Joint Replacement Registry
Improving PROMs

Why?
PROMs measures

• Joint specific pain and function

• Health related quality of life

• Complications

• Satisfaction / patient rated improvement
PROMs reporting
ACORN

• Aim: to improve the quality and safety of joint replacement surgery
• Method: centralised monitoring, evaluation and reporting patient-centred outcomes to stakeholders to inform future decision-making
Research platform

- Reliability of data extraction
- Reliability of follow-up interview (telephone)
- Effect of mode of administration on Oxford score
- Effect of mode of administration on EQ5D VAS & Utility
- Reliability of patient-reported complications
- Prospective cohort studies
- Randomised trials
How is it funded?

User pays
How far have we come?

• Data collection from 6 hospitals (2014)
• 90-95% complete
• Data verification
• First annual report 2014
• Second annual report 2015
• Currently 11 hospitals
Reporting

1. Public report
   - Annual report of pooled data

2. Departmental report
   - Institutional data, compared to all others, pooled

3. Surgeon report
   - Surgeon results, compared to all others, pooled
Table 7.6: Primary Hip Arthroplasty: Success at 6-months by Gender

<table>
<thead>
<tr>
<th>Primary Hips</th>
<th>Success at 6-months (N = 335)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Much better N (%)</td>
</tr>
<tr>
<td>Male</td>
<td>138 (89)</td>
</tr>
<tr>
<td>Female</td>
<td>160 (89)</td>
</tr>
<tr>
<td>ALL</td>
<td>298 (89)</td>
</tr>
</tbody>
</table>
7.1.5 Oxford Hip Scores

Table 7.11: Primary Hip Arthroplasty: Oxford Hip Score

<table>
<thead>
<tr>
<th>Primary Hips</th>
<th>OHS Responses Primary Surgery</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Poor (&lt;27) N (%)</td>
</tr>
<tr>
<td>Preoperative Responses (N = 337)</td>
<td>303 (90)</td>
</tr>
<tr>
<td>Postoperative Responses (N = 333)</td>
<td>19 (6)</td>
</tr>
</tbody>
</table>

![OHS Pre-Post (95% CI)](image)
Figure 7.2: Hip Arthroplasty: Pre- and Post-operative EQ VAS All Hospitals
(with 95% Confidence Interval) [see Appendix 4 for data notes]
Hospital Reporting
Does it work?

ANZHFR
30 day mortality in NSW

Number and percentage of hip fracture surgical procedures and adjusted 30-day mortality rate for NSW hospitals with an orthogeriatric service, 2009-10 to 2010-11 adjusted for age, gender and comorbidity

Zeltzer et al, MJA, 2014
Hip fracture audit may have saved 1000 lives since 2007
Where to from here

• Direct electronic data entry by patients

• Live, modifiable reporting

• Combining with AOA NJRR
Reactions from administrators

1. We can do that with administrative data

2. We won’t have control

3. It costs too much

4. Everyone wants a registry – which ones should we fund?
Summary. To improve outcomes we must

• Measure
  • Appropriate, reliable, central

• Report
  • Open, comparative, risk adjusted

• Track over time

• Clinician buy in