IMPROVING SURGICAL OUTCOMES IN LONDON

“Getting it Right First time”
Lessons and Next Steps
Royal College Surgeons England
Monday 8th February 2016

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Professor of Orthopaedic Surgery  The Royal National Orthopaedic Hospital
National Director of Clinical Quality and Efficiency
Past President of the British Orthopaedic Association
Background: MSK in the NHS “The Perfect Storm”

• Annual musculoskeletal disease budget = £5-£7 billion

• 33% of surgical workforce
• 25% surgical interventions in secondary care

• Referrals increasing by 7- 8% per annum
Examples of current practice

THR and TKR
• 47,000 in 2004
• 181,000 in 2013
• >200,000 in 2014
• Each increasing by over 7% annually

Cost effective £7.50 per week
15 yr survivorship 90%

In the last five years......
• 92.1% increase in revision total knee
• 49.1% increase in revision total hip replacement
• Annual increase of 18.4% and 9.8% respectively
• Other joint replacements -10% annual increase

£1.5 -£2 Billion over next 10 years
Background: Recent News NHS settlement

• The NHS settlement for 2016-2017 has given the provider sector some breathing space but also challenges.

• £3.8 billion additional funding from the Treasury, and the 1.06% inflation uplift together with only a 2% tariff efficiency factor (most providers were expecting 3.8%)

• Provides some short term stability.

• In real terms 1% per annum real terms increase funding next 5 years

• However the provider sector will still need to critically evaluate itself to maintain long term sustainability. This will require efficiency planning, and some centralisation of services across all sectors of provider provision
London

Provision of Care is the Key

- Annual Health Budget £16 Billion
- £1 Billion into primary care
- £2 Billion into Mental Health
- £13 Billion spent in HOSPITALS (Providers)

- In London 23 Trusts carrying out 13% of total orthopaedic and spinal elective activity in England

- Provision of Care is 80% of the cost ie Secondary care providers

- We as Clinicians need to make the changes to our practice
How do we justify this?

Grade 1V OA right Hip
Age at primary implantation - 65 years

Cost of Implant - £3500-£4,000
Cost of bearing/cup - £1300+ £5,000

Vertical cup ASR bearing

Our Acetabular cup of Choice is Tantalum for all !!!!
GIRFT Objectives

• Supporting the following in elective orthopaedic care:
  • Improved patient experience
  • Re-empowering clinicians
  • Improved patient safety
  • Better outcomes in terms of joint longevity, infection – SSI and acquired, complications, readmissions and mortality
  • Significant taxpayer savings from reduced complications; infections; readmissions; length of stay and litigation; better directed care pathways; reduction in loan kit costs; and introduction of evidence based procurement and procedure selection.
Data sources – 12 sets of data collected for each trust

- Data accumulation and collation is complete
- A comprehensive orthopaedic dashboard has been created for each provider. Data sources include:
  - NJR (disappointingly not all data is available by provider – e.g. Longevity/revision rate by different prosthesis/weight bearing surface etc)
  - HES
  - HSCIC
  - NHS Comparators
  - NHS Indicators
  - Productivity Metrics
  - PROMS
  - National data sources – waiting times etc
  - National Hip Fracture Database
  - NHS Litigation Authority
  - NHS Atlas of Variation
  - Arthritis Research UK Musculoskeletal Calculator

Visits started in September
Peer to Peer review
Trust receives data 14 -21 days before visit
We want to understand the data
GIRFT

NHS Wales GIRFT – Report sent CMO August 2015
NHS Scotland GIRFT – Report completed
NHS NI GIRFT – April 2016
Southern Ireland – June 2016

Number of hospital visited 243
Number of clinicians seen – 1900+
Senior managers - 600+
Lessons learnt

Lesson 0 Data is key and data set is broadly accurate
Clinical engagement with clinically led peer review excellent - good template for future reviews

1. Huge variation in practice
2. Low volumes of specialist activity
3. Cemented vs. Uncemented
4. NJR compliance and use
5. Morale
6. Procurement
7. The Capacity Gap and AQP
8. Changing Behaviour
9. Networks/Hub and Spoke
10. Follow the Evidence
Lesson 1. Variation in Practice... Huge and widespread

<table>
<thead>
<tr>
<th>National average...</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of post surgery is ....£1,021</td>
<td>£531 to £2,083</td>
</tr>
<tr>
<td>Deep Infection Rates for THR/TKR</td>
<td>0.2% - 5%</td>
</tr>
<tr>
<td>ODEP 10A Acetabular use is...20.2%</td>
<td>0% to 100%</td>
</tr>
<tr>
<td>Knee Arthroscopy washout/TKR in one year</td>
<td>Huge variation</td>
</tr>
<tr>
<td>Return to theatres # NOF in 30 days is... 2.37%</td>
<td>0% to 7%</td>
</tr>
<tr>
<td>Stock take of Rehabilitation</td>
<td>Generally poor</td>
</tr>
</tbody>
</table>
## Surgical site infections – 10 Trusts in same City

<table>
<thead>
<tr>
<th>Trust</th>
<th>Nos of Orthopaedic processes reported</th>
<th>% with infections – initial patient spell</th>
<th>% with infections – initial patient spell+ readmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust 1</td>
<td>349</td>
<td>1.43%</td>
<td>1.43%</td>
</tr>
<tr>
<td>Trust 2</td>
<td>116</td>
<td>1.72%</td>
<td>1.72%</td>
</tr>
<tr>
<td>Trust 3</td>
<td>809</td>
<td>1.11%</td>
<td>2.47%</td>
</tr>
<tr>
<td>Trust 4</td>
<td>685</td>
<td>0.58%</td>
<td>0.73%</td>
</tr>
<tr>
<td>Trust 5</td>
<td>156</td>
<td>3.85%</td>
<td>4.49%</td>
</tr>
<tr>
<td>Trust 6</td>
<td>2657</td>
<td>0.68%</td>
<td>1.05%</td>
</tr>
<tr>
<td>Trust 7</td>
<td>454</td>
<td>0.00%</td>
<td>0.22%</td>
</tr>
<tr>
<td>Trust 8</td>
<td>544</td>
<td>1.47%</td>
<td>2.21%</td>
</tr>
<tr>
<td>Trust 9</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Trust 10</td>
<td>521</td>
<td>0.00%</td>
<td>0.19%</td>
</tr>
</tbody>
</table>
Total Knee Replacements within 1 year of Arthroscopy (%)
Timeframe: 1 Jan 09 to 31 Dec 11 (TKRs: 1 Jan 09 to 31 Dec 12)
(Patients aged 60 and over)

Source: NEQOS Trauma & Orthopaedic dashboard
## Variation in Practice…Huge and widespread

<table>
<thead>
<tr>
<th>National average...</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Litigation cost per spell is...£54.48</td>
<td>£0 to £151</td>
</tr>
<tr>
<td>Cost of implants</td>
<td>Huge variation</td>
</tr>
<tr>
<td>Loan Kit Costs per Trust</td>
<td>Average £200,000</td>
</tr>
<tr>
<td>Choice of implants by Consultant</td>
<td>Huge variation</td>
</tr>
<tr>
<td>Low volumes of specialist activity</td>
<td>Surgeons “having a go”</td>
</tr>
<tr>
<td>Spinal Services</td>
<td>Variable disinvestment</td>
</tr>
</tbody>
</table>
**Litigation data – 10 Trusts same City (trust number not shown)**

<table>
<thead>
<tr>
<th>Claims in 2011/12</th>
<th>Estimated Cost of claims during 2011/12</th>
<th>Estimated Cost per Orthopaedic Spell</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>12</td>
<td>£1,214,315</td>
<td>£99.28</td>
</tr>
<tr>
<td>5</td>
<td>£661,890</td>
<td>£41.55</td>
</tr>
<tr>
<td>3</td>
<td>£472,500</td>
<td>£50.56</td>
</tr>
<tr>
<td>6</td>
<td>£945,000</td>
<td>£43.04</td>
</tr>
<tr>
<td>10</td>
<td>£1,418,375</td>
<td>£36.47</td>
</tr>
<tr>
<td>7</td>
<td>£1,102,500</td>
<td>£60.27</td>
</tr>
<tr>
<td>29</td>
<td>£3,987,113</td>
<td>£134.90</td>
</tr>
<tr>
<td>8</td>
<td>£644,655</td>
<td>£31.13</td>
</tr>
<tr>
<td>16</td>
<td>£2,090,698</td>
<td>£50.39</td>
</tr>
</tbody>
</table>

National average cost per orthopaedic spell is £54.42

* Permission from trust not given to access this data.

Judgement
Tissue damage
Procedure
Unsatisfactory Outcome
Lesson 2 Low volumes of routine and specialist activity

Too many surgeons are still ‘having a go’ at complex procedures

May apply to large and small hospitals e.g. smaller and non-specialists hospitals with high numbers per surgeon
# Knees – 12 month surgeon profile (144 Trusts)

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Operations*</th>
<th>Total Surgeons</th>
<th>Average Ops per surgeon</th>
<th>Nos of surgeons conducting 5 or fewer (%)</th>
<th>Nos of surgeons conducting 10 or fewer (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Knee</td>
<td>80299</td>
<td>1675</td>
<td>47.9</td>
<td>109 (6.5%)</td>
<td>263 (15.7%)</td>
</tr>
<tr>
<td>Unicondylar Knee Replacement</td>
<td>7068</td>
<td>719</td>
<td>9.8</td>
<td>352 (49%)</td>
<td>535 (74.4%)</td>
</tr>
<tr>
<td>Patello-Femoral Replacement</td>
<td>1304</td>
<td>390</td>
<td>3.3</td>
<td>313 (80.3%)</td>
<td>369 (94.6%)</td>
</tr>
<tr>
<td>Knee Revision</td>
<td>6309</td>
<td>1011</td>
<td>6.3</td>
<td>531 (53.0%)</td>
<td>818 (81.7%)</td>
</tr>
</tbody>
</table>

*Source: NHS Choices website, 2012 data. (%)*

Note: Not all consultants have consented to releasing this data. If this is the case for the Trust, then the values above may under-represent the true values for the Trust. A full listing of the consultants who have not consented, and their reasons for doing so can be found at the NHS Choices website.

* To create totals those with a note of <5 are counted as 5, this may impact on the average number per surgeon.
THR – Revisions in London

Hip revisions

GETTING IT RIGHT FIRST TIME

Improving the Quality of Orthopaedic Care within the National Health Service in England
Low volumes of specialist activity

- Average 21 shoulder replacements per trust (increased by 8 higher volume specialist centres) Usually 6 at most centres

- Average 4 elbow replacements (increased by 11 higher volume centres)

- Average 4 ankle replacements (increased by 11 higher volume specialist centres – generally less than 2 at most trusts)
Elbow Replacements and Revisions in London
GETTING IT RIGHT FIRST TIME

Improving the Quality of Orthopaedic Care within the National Health Service in England

Spinal Fusion Procedures (London)

70% providers conduct ...of procedures*  91% Total  97% F  93% Inj  95% Decomp/disc  97% other

Where is the evidence?
Spinal Registry mandated by CCGs 5 yrs ago
15% of procedures only entered!!!!!!!
Lesson 3- Changing surgeon behaviour – Evidence based

• Cemented THR – 54% in 2005 reducing to 36% in 2010
• Cementless THR – 22% in 2005 increasing to 43% in 2010

We need to change consultant behaviour
Commercial company driven, New technologies
Is there a need for more robust national guidance on cement?

Cemented vs Uncemented across Manchester

NB – not part of confidential NJR dataset
Fixation Methods – Hospitals in Scotland (>65yr)

Fixation method for hip replacements

Source: Scottish Arthroplasty Project (Operations in 2014)
Country Borough of Teeside
(red line indicates boundary)

North Tees Hospital
Catchment Population
226,798

South Tees Hospital
Catchment Population
523,256
## North and South Tees LAT Analysis (GIRFT)

### Spinal

<table>
<thead>
<tr>
<th></th>
<th>North Tees And Hartlepool (FT)</th>
<th>South Tees Hospitals (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>226,798</td>
<td>523,256</td>
</tr>
<tr>
<td>Epidural</td>
<td>691</td>
<td>245</td>
</tr>
<tr>
<td>Facet joint</td>
<td>924</td>
<td>304</td>
</tr>
<tr>
<td>Injection into joint</td>
<td>132</td>
<td>49</td>
</tr>
<tr>
<td>Nerve root</td>
<td>243</td>
<td>529</td>
</tr>
<tr>
<td>Others</td>
<td>111</td>
<td>63</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2101</strong></td>
<td><strong>1190</strong></td>
</tr>
</tbody>
</table>

### Disc and Fusion

<table>
<thead>
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<tbody>
<tr>
<td>Population</td>
<td>226,798</td>
<td>523,256</td>
</tr>
<tr>
<td>Anterior lumbar fusion (+/- decompression)</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Cervical spine: decompression (+/- fusion)</td>
<td>95</td>
<td>133</td>
</tr>
<tr>
<td>Lumbar decompression discectomies (without fusion)</td>
<td>140</td>
<td>527</td>
</tr>
<tr>
<td>Primary posterior lumbar fusion (+/- decompression)</td>
<td>116</td>
<td>65</td>
</tr>
<tr>
<td>Revision lumbar decompression</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>Revision lumbar fusion (+/- decompression)</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>365</strong></td>
<td><strong>772</strong></td>
</tr>
</tbody>
</table>

### Why the variation in practice and interventions?

Note: Using Commissioning Spinal Services - getting the service back on track definitions
Lesson 4 - Procurement of Prostheses

GETTING IT RIGHT FIRST TIME
Improving the Quality of Orthopaedic Care within the National Health Service in England

Findings – Hip Stem Brand Pricing by Trust (NJR Pilot)

Cemented THR
£595-£822

Uncemented THR
£1225-£2529

Uncemented THR
Ceramic/Ceramic
£1722-£3411

Primary TKR
£1050-£2466
Max £4,000

Transparency letter on THR/TKR
Lesson 5 Loss of Morale/Disengagement

Loss of Morale is a serious problem in some trusts. Results in disengagement and conflict

The lack of ring fenced orthopaedic beds, and in some cases ring fenced orthopaedic theatres/theatre staff – is undermining good practice and is often experienced as a lack of commitment to the service by management.

Top down management is NOT working

Shoulder to shoulder is working

GIRFT and Ring Fenced beds

40% of trusts **NO** true ring fenced beds

Trust 1  Loss of “Ring fenced beds” during winter.
10 infected Knee/Hip Replacements during this period

Trust 2  “Ring fenced beds” breached by “clean surgical patients ENT”
Increased incidence of streptococcus wound infections in TKR/THR
Lesson 6. The Capacity Gap/Any Qualified Provider

>50% of Trusts cannot hit 18 weeks

**Different models**

Trusts losing 10% - 40% of elective activity to AQP £££Billions/year – risk of destabilisation of health economy

33% of NHS Hip and Knee replacement done by AQP

AQP – Cherry picking, multiple co-morbidites, complex cases, emergency readmissions.

Underlines the importance of:

a) a level playing field in terms of governance

b) Incentive to ensure that specialist work can be identified accurately by coding and that the tariff covers the cost

c) Lower tariff price for AQP

Highlights the need for ring fenced orthopaedic beds in NHS – elective units

Short term solution for patients but long term financial destabilisation of DGHs within NHS especially with financial austerity

WE NEED TO REPATRIATE THIS WORK BACK INTO THE NHS
Currently up to 30% of patients occupying acute beds in the provider network are ready to be discharged, their medical or surgical condition treated. These "bed blockers" occupy beds costing £675 per day – STOP ELECTIVE ACTIVITY

Increase Early Discharge
Enhanced Recovery Programme
Hospital at home / SWOT Warwickshire
Step down/Rehabilitation Beds – local / network

£2 million funding
First NHS Veterans Rehab Unit
Open to all NHS patients
What did the GIRFT Pilot in Orthopaedics tell us?

• Huge variations in practice and outcomes in terms of device and procedure selection, clinical costs, infection rates, readmission rates, and litigation rates.

• Scope to tackle many of these variations and drive short, medium and longer-term improvements in quality of delivery (through adopting best practice), reducing supplier costs (for example of implants) and generating savings, for example from reduced readmission and re-operation rates.

• Many of the answers are already out there

• There is no consensus as to what constitutes best practice in areas of activity where there is no NICE or formal guidance from the BOA or other professional sub-specialty association. This provides a significant opportunity to drive efficiency.
Lesson 7. The Outlook

Need to control costs – “think of cost”

Surgeons must collect and use the evidence base
Changing surgeon behaviour - Complex cases “Don’t have a go”!!

The Low Volume Surgeon – higher volume usually means better outcomes

Networks will be required - The complex cases and revision burden is growing and the rate increasing –

Increasing complexity means more two surgeon operations – right for quality, right for litigation protection but reduction in capacity/throughput.

New surgeons will have less experience as a result of changes to training and will need to work alongside a mentor for a long period – again a stress on productivity.
Lesson 8. –Networks /Hub & Spoke Model

STANDARDS

“Getting it right first time” - Pilot orthopaedics in England
• Critical Mass of Specialists - One site Specialist Units
• Networks
• “Ring fenced elective beds”
• Dedicated theatres
• MDT working
• Range of models/networks

Clinical Reference Group for Specialised Orthopaedics
• Defines specialist units and centres
• Minimum numbers
• Gold standard
• Infection rate <1%
• Audit
• Robust Review of outcomes

Improving quality
Improving training
Elderly population not disadvantaged
Patients will feel safe
Significant savings

Examples
Leicester
Guys
Northern

Fewer Centres
Collect the data
Change the Tariff
Eg. MTCs

Getting it right first time
Pilot orthopaedics in England

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One site Specialist Units
Networks
“Ring fenced elective beds”
Dedicated theatres
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Improving the Quality of Orthopaedic Care within the National Health Service in England

Examples
Leicester
Guys
Northern

30-40 Units
London 5-6

Rehabilitation
Step down beds

STANDARDS

Lessons Learned

- Critical Mass of Specialists
- One site Specialist Units
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GETTING IT RIGHT FIRST TIME

Improving the Quality of Orthopaedic Care within the National Health Service in England

Examples
Leicester
Guys
Northern

30-40 Units
London 5-6

Rehabilitation
Step down beds
Clinically-led quality and efficiency programme

• A Department of Health 3 year programme under the NHS Procurement & Efficiency Programme, across ten clinical specialties utilising the methodologies of Getting It Right First Time:

• Elective Orthopaedics – implement solutions
• Cardiothoracic  
• General Surgery
• Oral and Maxillofacial
• Urology and Renal
• Neurosurgery
• Gynaecology & Obstetrics
• Paediatric Surgery
• Ear Nose and Throat (ENT)
• Vascular
• Ophthalmology

Spines

Funded with £2.6 Million
3 year programme

Comprehensive Spending Review
£63 million – all specialities in provider side
Orthopaedic Quality & Efficiency Goals

<table>
<thead>
<tr>
<th>Short Term</th>
<th>Medium Term</th>
<th>Long Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reductions in:</td>
<td>Reductions in:</td>
<td>Reductions in:</td>
</tr>
<tr>
<td>• Prostheses costs</td>
<td>• National variation for procedures</td>
<td>• Revision surgery</td>
</tr>
<tr>
<td>• Loan kit costs</td>
<td>• Outliers in national registries</td>
<td>• Readmissions</td>
</tr>
<tr>
<td>• Readmission rates</td>
<td>• Infection/complication rates</td>
<td>• Litigation numbers and rates</td>
</tr>
<tr>
<td>• Length of stay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Surgical site infection</td>
<td></td>
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</tr>
</tbody>
</table>

Implementation

Letter to ALL Trusts in England – CEO, Chairman, Medical Director, Clinical Lead in Orthopaedics, CQC
Questions: What have you done to improve orthopaedic services since our visit?
January- Updated GIRFT Report. What has changed? Visits to the Good and Bad

Mandated to implement solutions

Reduce THR/TKR prices, eliminate loan kit costs, reduce infection rate THR/TKR < 0.5%, reduce litigation by 50%
Savings £2 Billion over 5 years
Data will drive change - Example draft dashboard
Dashboard April 2016

GETTING IT RIGHT FIRST TIME
Improving the Quality of Orthopaedic Care within the National Health Service in England

Deep infection rates
Re-admission rates
Prostheses costs
Unit outcomes

Registries
Spinal

Mandatory entry
Pricing entry

3 monthly
Will We Be Empowered To Deliver?

Recommendations From Carter Report - 15

4. Quality and Efficiency across the Patient Pathway

The Whole Care Pathway

Unit within NHS – to be led by........
National Director of Clinical Quality and Efficiency
National Director of Productivity

Trust Boards will be held to account to implement GIRFT
Medical Directors will implement GIRFT Findings
Failure to do so will involve CQC and trusts will be held to account
Lesson 9 Clinicians must provide the solutions
Clinicians can drive the change
We need to “stand up to the plate”

Thank-you

Providers and CCGs need to work in collaboration