Using PROs for assessing quality of providers

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3rd Scientific *BiblioPRO* Conference

Madrid

23 February 2017

Outline

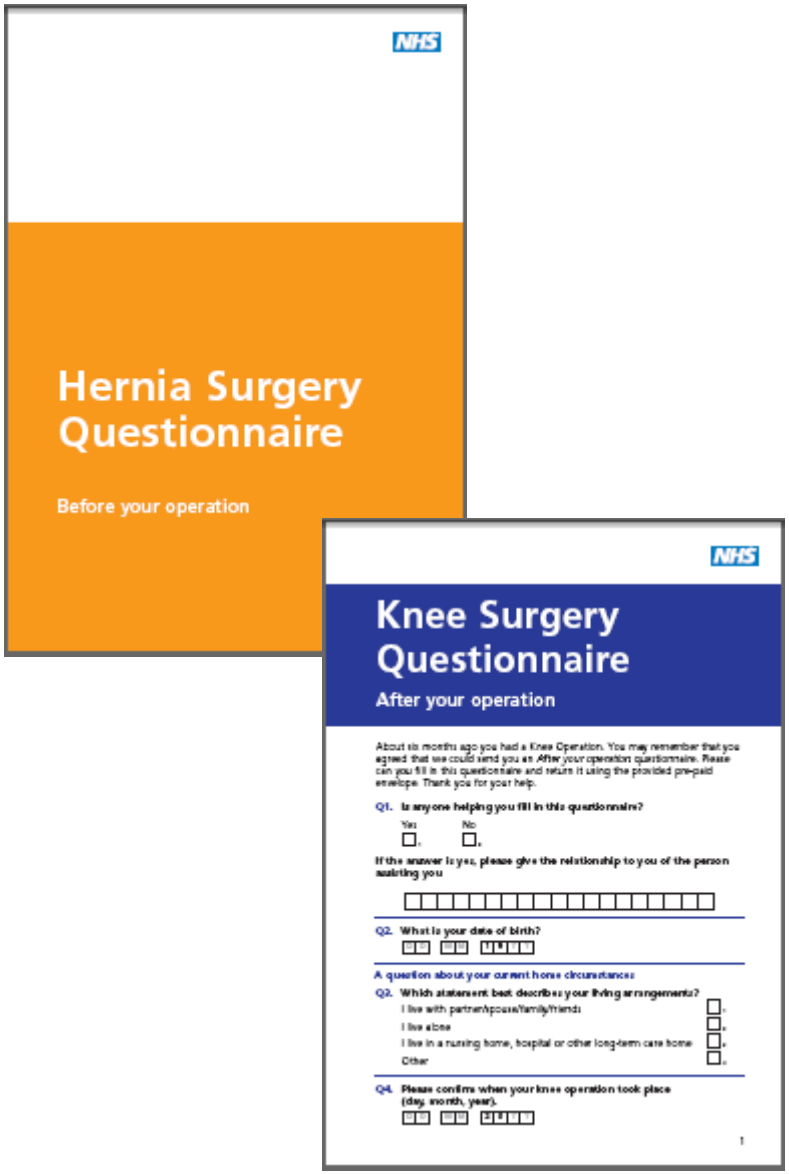
- What has been the approach to using PROs in routine practice in England?
- Example of elective surgery
- What have we learnt methodologically?
- What have PROs told us about health care?
- Six challenges

What has been the approach to using PROs in routine practice in England?

- Pre-2009
  - Local initiatives; single sites; enthusiastic clinicians
  - To aid clinical management
- 2009-2012
  - For managing demand & comparing providers
  - National programme; central funding
    - four elective operations
    - some cancers
    - short-term (heavy menstrual bleeding)
    - developmental testing (long-term conditions; coronary revascularisation; severe trauma)
- Since 2012
  - Local initiatives; central encouragement (eg psychological therapies)

Elective surgery

- Mandated for all providers of NHS-funded patients since April 2009
  - Primary hip replacement
  - Primary knee replacement
  - Inguinal hernia repair
  - Varicose vein surgery
- Pre-operative questionnaire
  - At pre-op assessment clinic or on admission
- Post-operative questionnaire
  - Mailed at 3 months (VVs and hernia) or 6 months (joint replacement)
- Approximately 250 000 eligible patients per annum
- No immediate feedback to or use by clinicians



Socio-demographic factors

Duration of problem

Revision surgery

Co-morbidity

Disease-specific PRO

(Oxford Hip Score; Oxford Knee Score; Aberdeen VV Questionnaire)

Generic PRO (EQ-5D and EQ-VAS)

+

Post-op complications

Overall result of operation

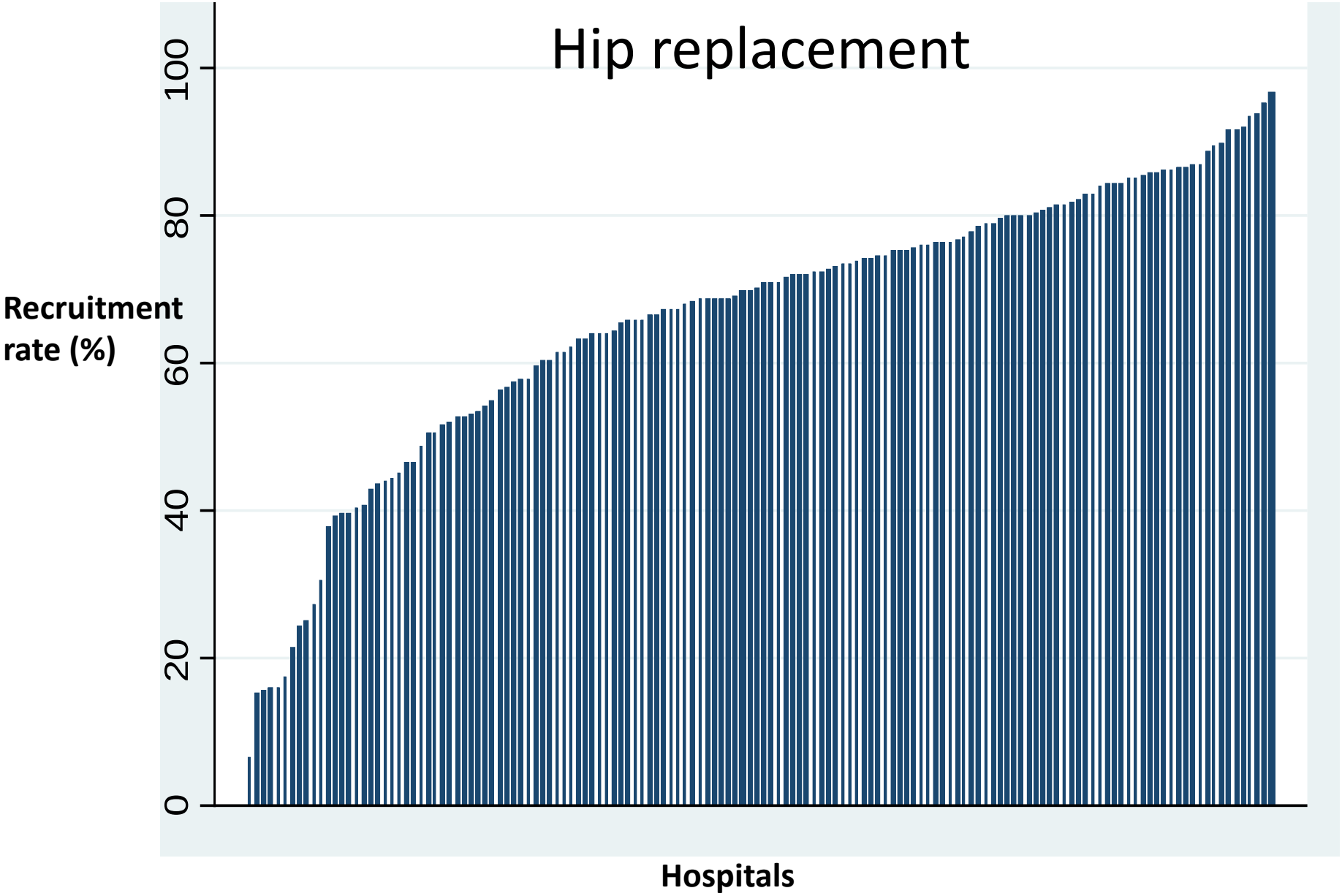
(single transitional items)

PROs

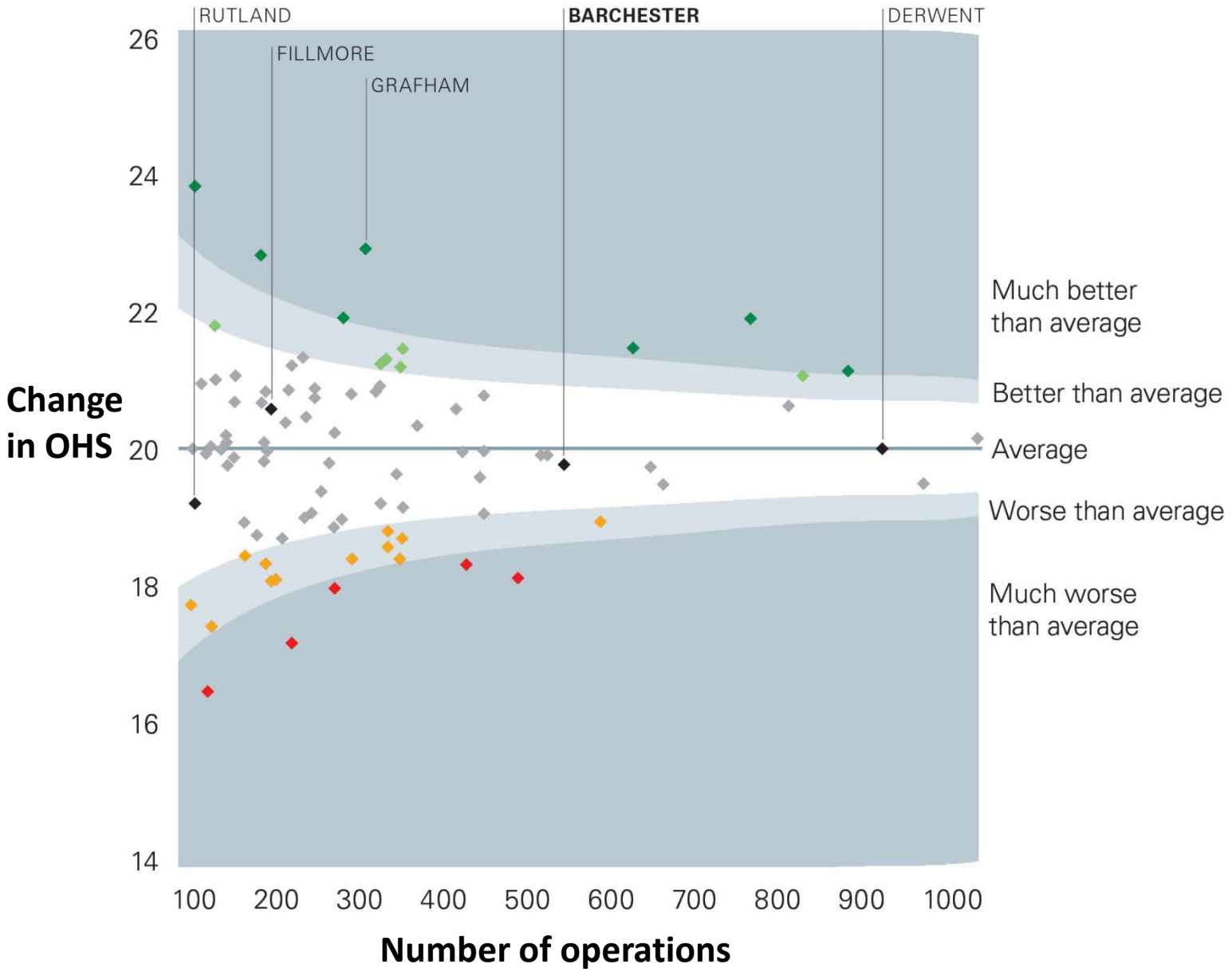
- Oxford Hip Score
  - 12 items
  - Symptoms (pain), function (mobility)
  - Each scored 0-4; total scale 0 (poor) - 48 (perfect)
- EQ-5D
  - 5 items
  - Mobility; self-care; usual activities; pain/discomfort; anxiety/depression

Patient recruitment and response

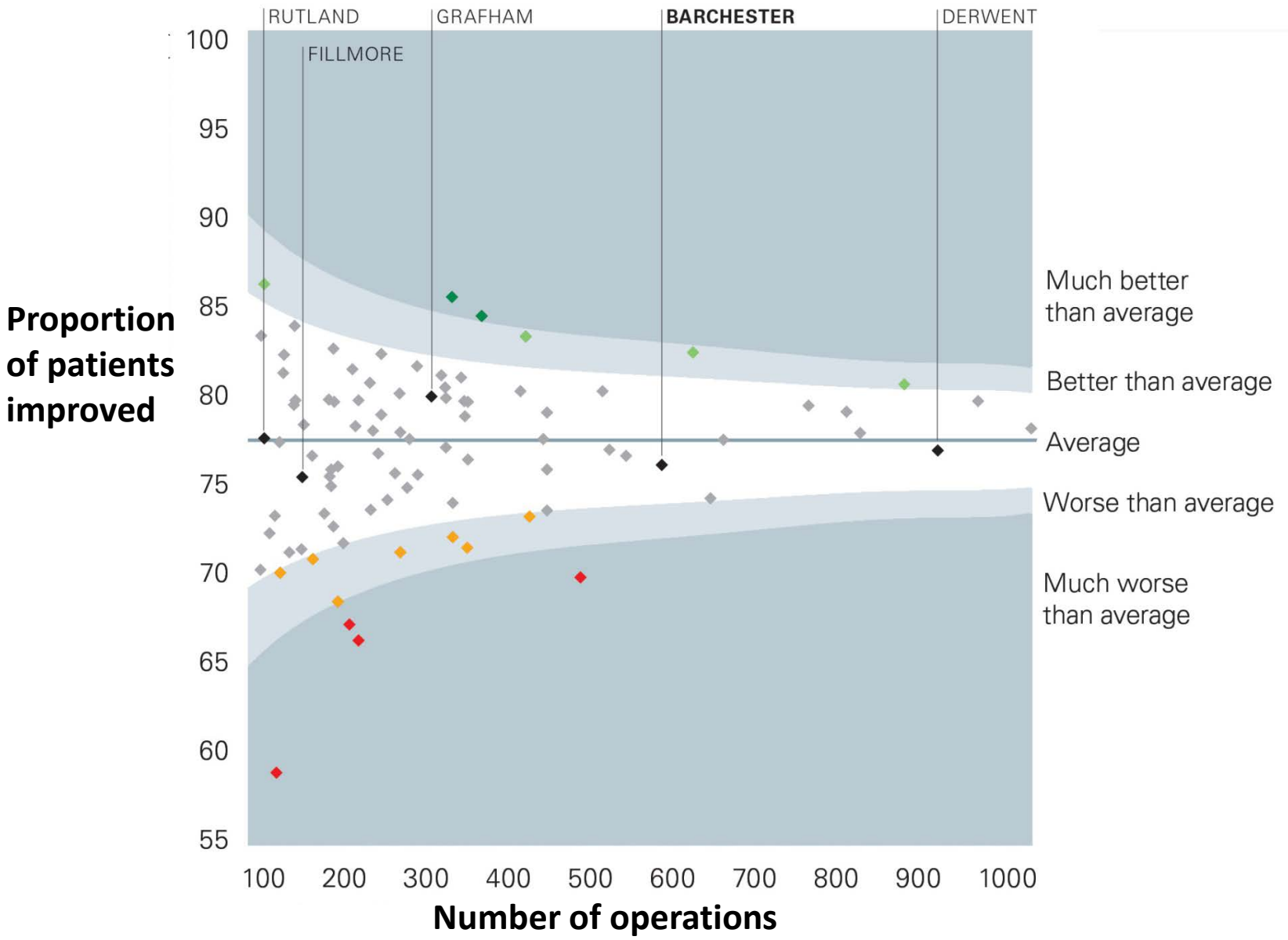
2009-12	Pre-operative recruitment rate	Post-operative response rate
Hip replacement	69%	85%
Knee replacement	67%	85%
Hernia repair	46%	75%
VV surgery	41%	65%


Hip replacement
Recruitment rate (%)
0
20
40
60
80
100
Hospitals

Mean change in Oxford Hip Score (risk-adjusted)



Proportion hip patients achieving a minimally important difference with EQ-5D (risk-adjusted)



What have we learnt methodologically?

1. Low post-op response rate will over-estimate poor performers

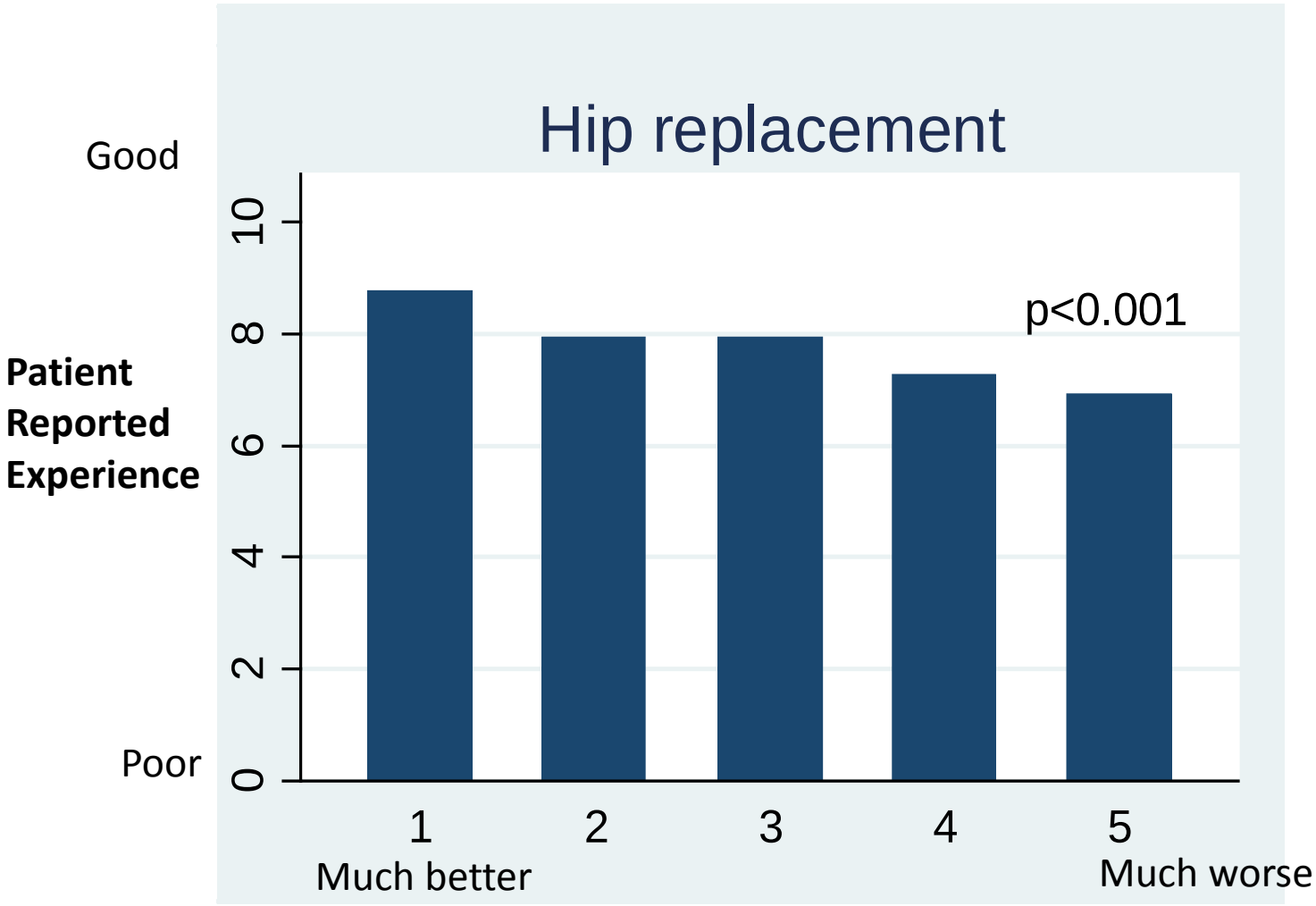
- Non-responders more likely to be
  - men
  - under 55 years
  - non-white
  - most deprived
  - live alone
  - 3 or more co-morbidities
- What impact?
  - danger of over-estimating performance of providers with lower response rates
  - may miss an under-performing provider

2. Choice of metric matters when comparing providers

- Proportion of providers rated as ‘outliers’ (>2SDs) differs between metrics (eg hip replacement)
  - Mean post-op OHS: 25.1%
  - Mean post-op EQ-5D: 16.0%
  - % achieving OHS MID: 11.9%
- Choice depends on policy priority
  - avoid missing ‘poor’ providers (use mean post-op OHS)
  - avoid mislabelling providers as poor (use % ‘improved’)

3. Outcome and experience related but only weakly

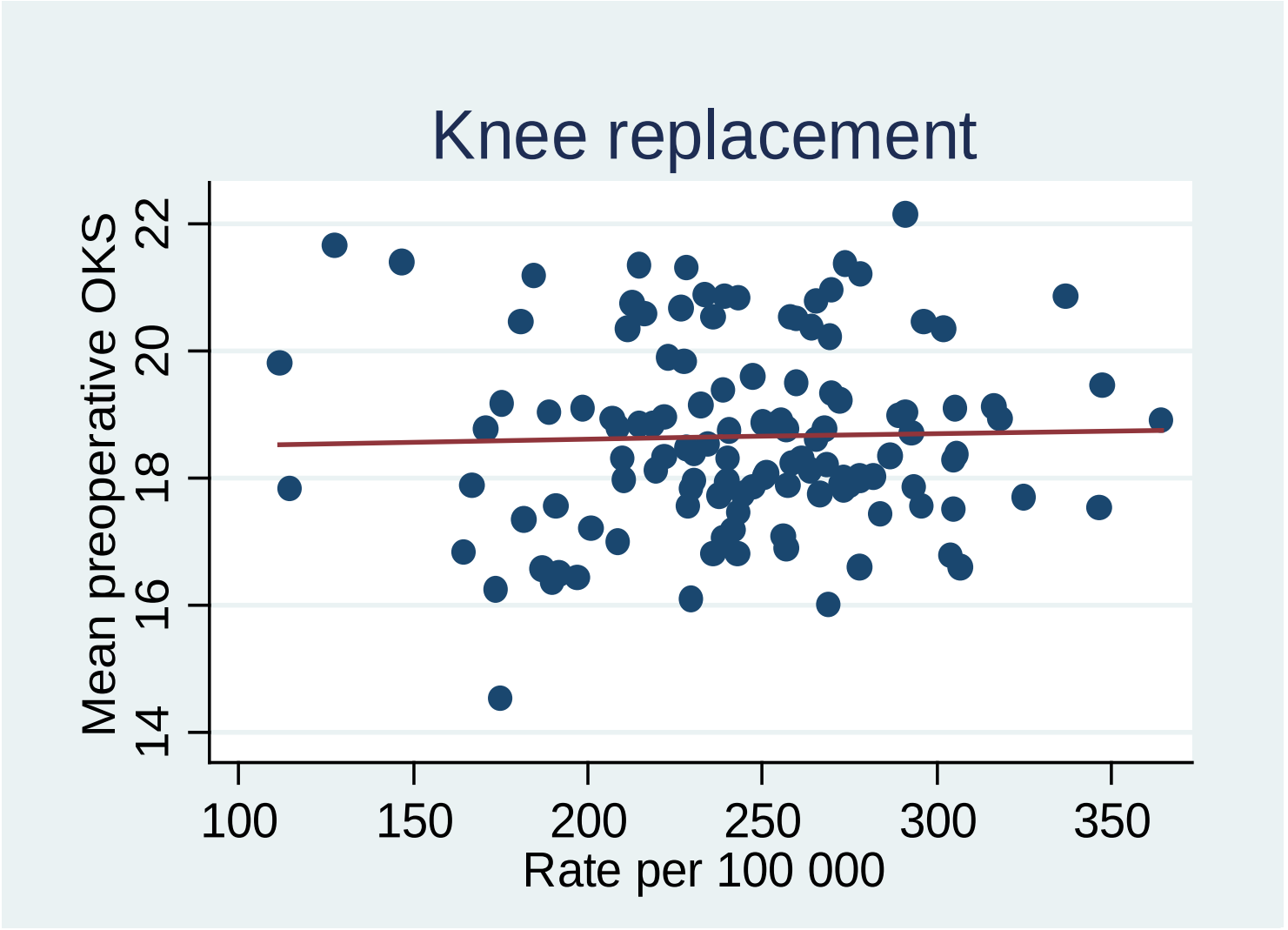
- The hospital and ward
  - Mixed-sex facilities
  - Cleanliness
- Doctors and nurses
  - Communication
  - Knowledgeable about you
  - Hand hygiene
  - Created confidence/trust
- Your care and treatment
  - Involved you in decisions; opportunity to discuss worries; staff explained test results
  - Family/friend had access to doctor
  - Pain controlled
- Operations and procedures
  - Staff explain beforehand: risks/benefits; what will happen; how feel after operation
  - Staff explain afterwards how it went
- Leaving hospital
  - Staff explain: purpose of medicines; possible side effects; who to contact if worried.
  - Given written: medication instructions; info on condition and treatment


Hip replacement
Good
Poor
Patient Reported Experience
0
2
4
6
8
10
p<0.001
1
2
3
4
5
Much better
Much worse
PRO - Problems now compared to before

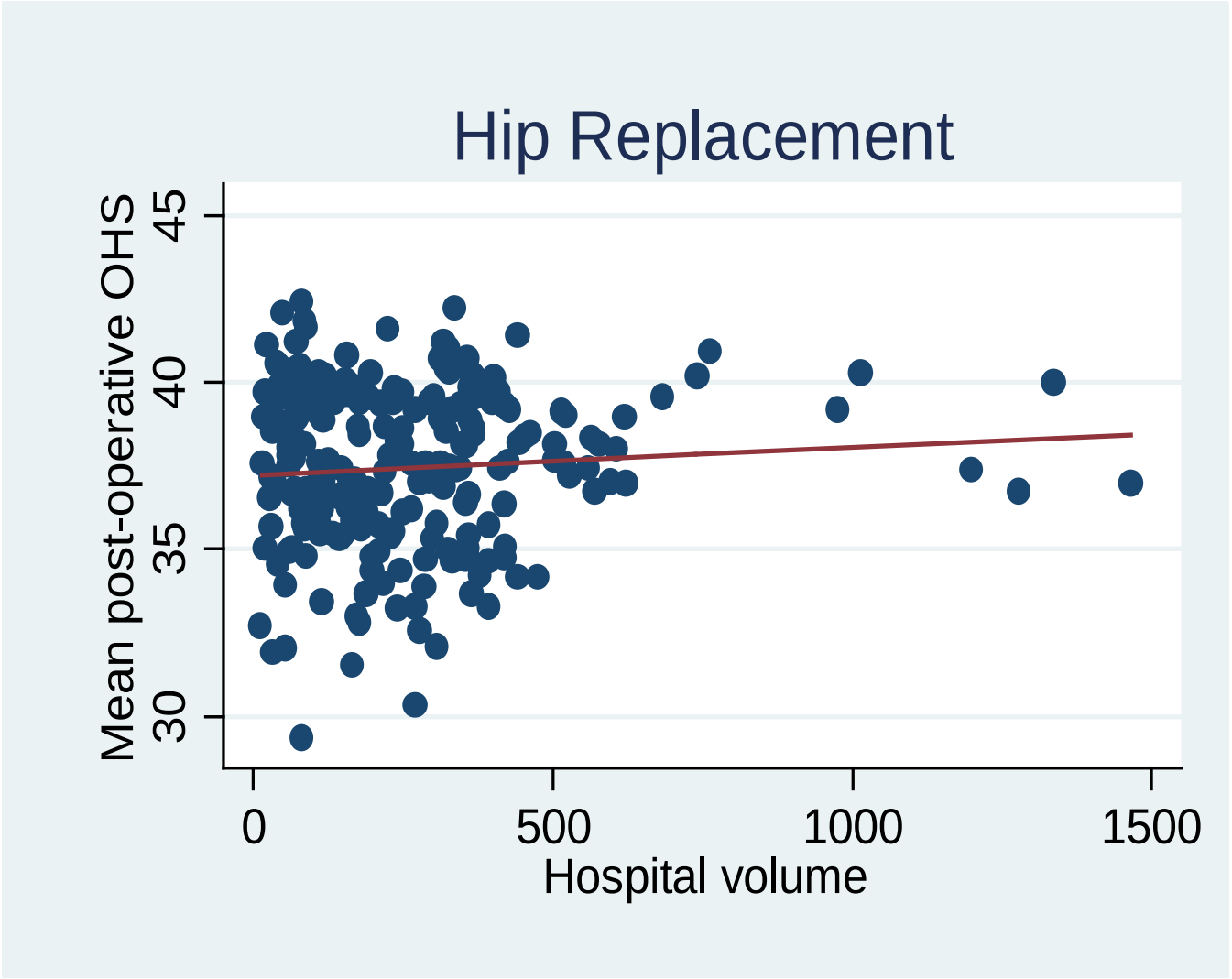
- PRO and PRE are associated
  - but they are measuring different aspects of quality
- If a patient's experience influences their outcome (ie causal)
  - Improving their experience (by 10%) will produce
    - modest improvement (3%) in outcome

What have PROs told us about health care?

1. Surgical rate has little impact on pre-op severity

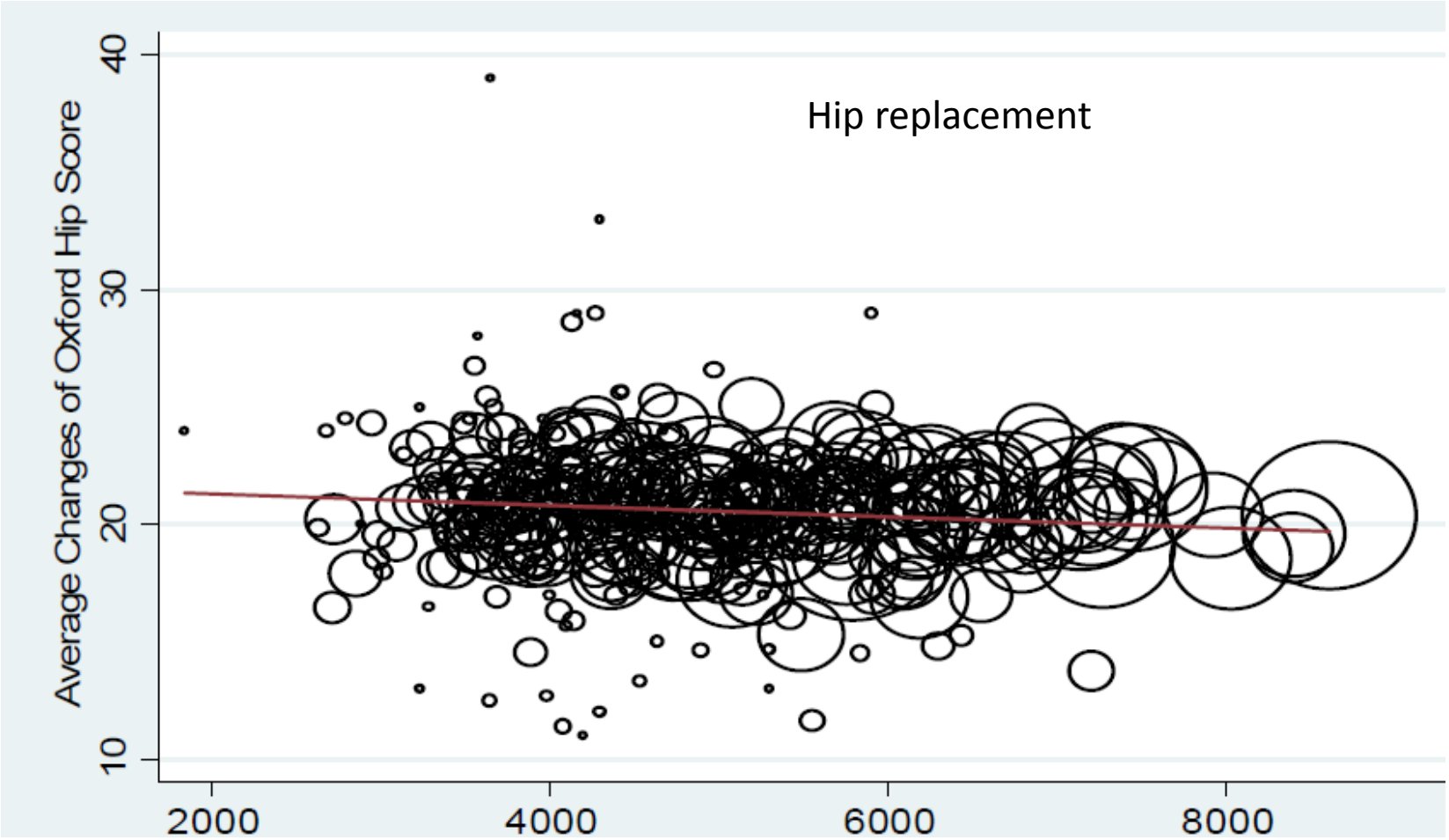


2. Hospital volume has no impact on outcome



3. Little difference in outcome between surgeons

4. Provider competition has no impact on outcome



Six challenges

- Clarify why PROs might improve quality
- Extend use from elective surgery
- Increase clinician engagement
- Reduce cost
- Improve output
- Guard against misuse

Clarify why aggregated PROs might improve quality

Theories and mechanisms

- Supporting patient choice
  - Patients will choose higher performing providers
  - Poor providers will exit the market
  - Threat of loss of market share
- Accountability of providers
  - Purchasers & regulators impose sanctions
  - Threat of sanctions
- Provider comparisons (benchmarking)
  - Professional ethos
  - Protection of reputation
  - Competitive desire to be better than peers
  - Learn from best performers

(Realist review. Greenhalgh et al 2017)

Extend use from elective surgery

- Need to address methodological challenges
  - long term conditions (maintenance rather than ‘cure’)
  - dementia (limited ability to respond; validity of lay carer’s view)
  - emergency conditions (no information on health status before event)

Increase clinician engagement

- Potentially greater interest in use of PROMs for managing individual patients
- Build aggregate use on individual use
- Approach to implementation needs to combine
  - local, clinician (bottom-up) engagement
  - national, policy driven (top-down)

Reduce cost

Adopt new data collection technologies

Minimising the time and cost of collection, analysis, and presentation of data

- Use of websites, tablets etc
- Instant longitudinal analyses for patients
- eHealth: avoid unnecessary consultations

Improve output

- Was poor (spreadsheets)
- Getting better as user-friendly software applications starting to be used

NHS Digital

Find data | Collecting data | Systems | Services | Support and guidance | News and events

PROMs casemix-adjusted scores and outliers — 2015-16 Provisional

Publication date: November 10, 2016

How to use

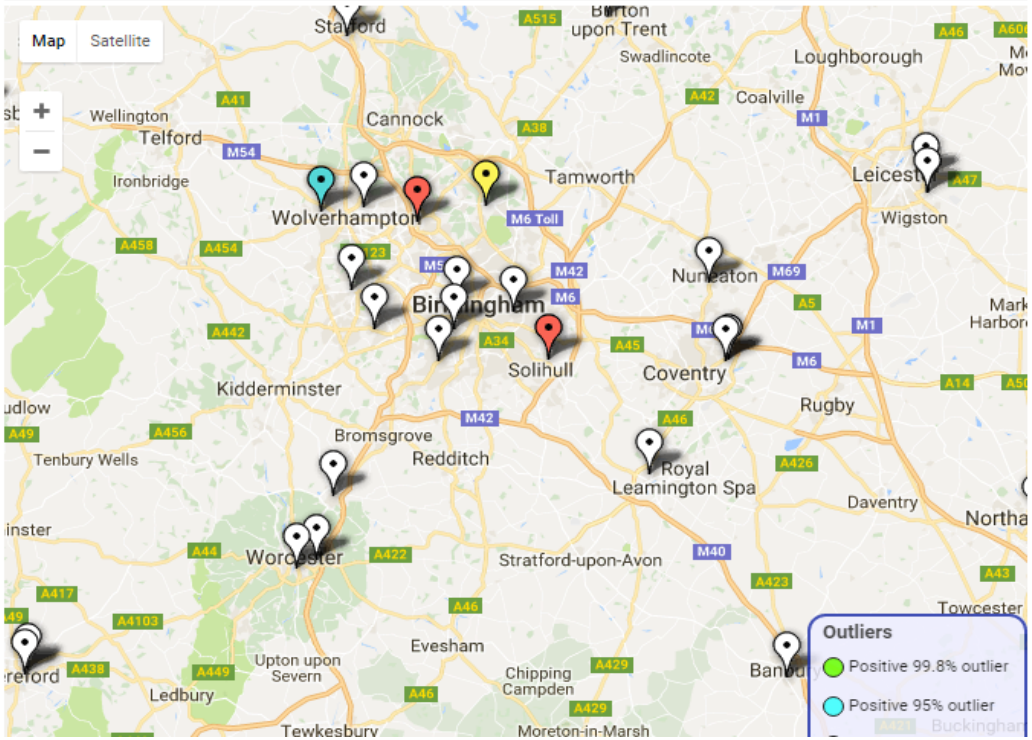
Choose a PROMs procedure and measure using the drop-down boxes below. A marker will be shown on the map for each NHS hospital trust or independent sector provider in England for which statistically-modelled data is available. Click on any of the markers shown on the map for more detailed information. If you experience issues displaying information, please try a different browser.

Further guidance...

Procedure: Hip Replacement (Primary) ▼ Measure: Oxford Hip Score ▼

☐ Include providers with too few records to calculate adjusted scores and outlier status

Search: e.g., Leeds Locate Reset (all England)



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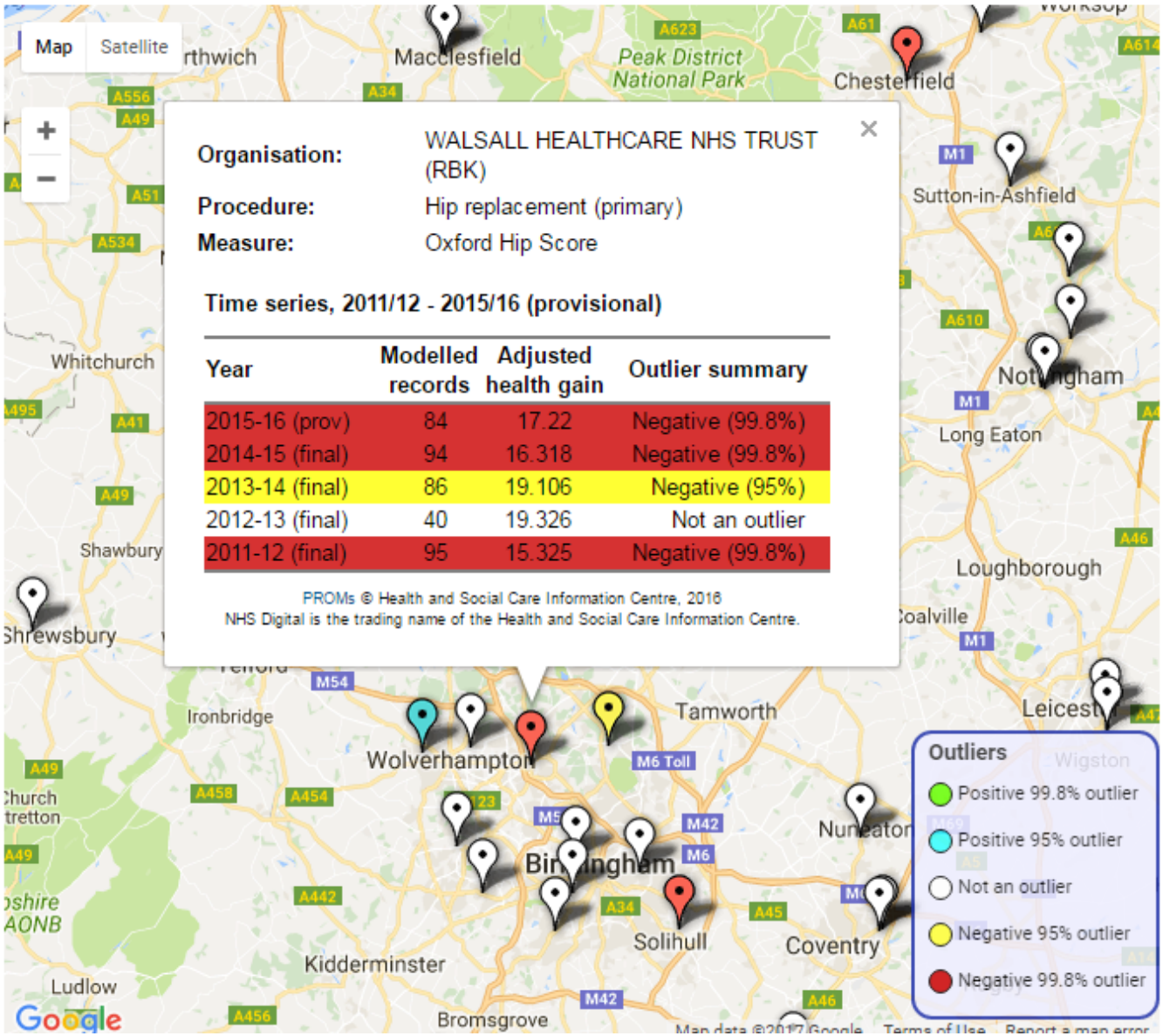

Organisation: WALSALL HEALTHCARE NHS TRUST (RBK)

Procedure: Hip replacement (primary)

Measure: Oxford Hip Score

Time series, 2011/12 - 2015/16 (provisional)

Year	Modelled records	Adjusted health gain	Outlier summary
2015-16 (prov)	84	17.22	Negative (99.8%)
2014-15 (final)	94	16.318	Negative (99.8%)
2013-14 (final)	86	19.106	Negative (95%)
2012-13 (final)	40	19.326	Not an outlier
2011-12 (final)	95	15.325	Negative (99.8%)

Guard against misuse

Conclusions

- Routine use of PROs can be useful contribution to
  - clinical management of individual patients
  - assessing and improving quality of providers
- Clarity required as to purpose to ensure realistic expectations
- Several challenges need to be addressed by researchers and developers
- Benefits from international collaboration to facilitate comparisons