

# Curious incidence & evidence-based policy making

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PROFESSOR POLICY ANALYSIS**

**POURQUOI ET COMMENT RÉDUIRE LES  
VARIATIONS DE PRATIQUES MÉDICALES?  
DES PISTES POUR AMÉLIORER LA  
PERTINENCE DES SOINS**

**PARIS, SEPTEMBER 5TH, 2018**

# Curious incidence & evidence-based policy making

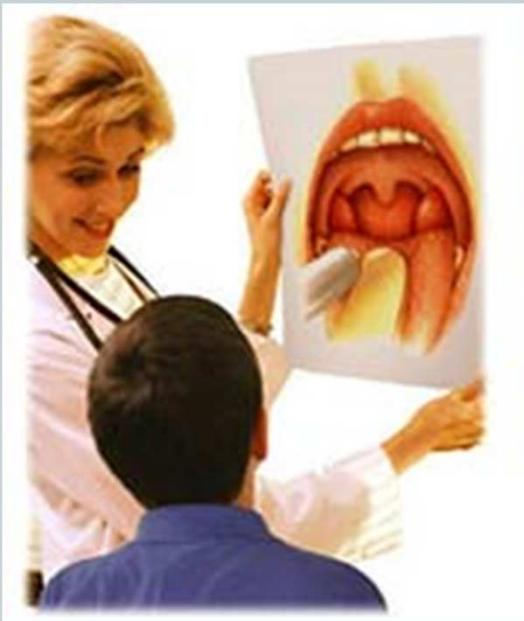
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- Curious incidence &
- The dog in the night time

# Child with tonsillitis benefit from tonsillectomy?

3

## Two ways of deciding



# 1000 US schoolchildren with tonsillitis (1930s)

4

60%  
tonsillectomy!

Remaining 400?

Yes

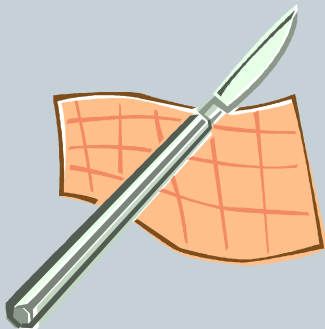
50%

Doctor 1: tonsillectomy?

50%

No

Remaining 200?



# 1000 US schoolchildren with tonsillitis (1930s)

5

200: doctor 1 not benefit from tonsillectomy



Ye

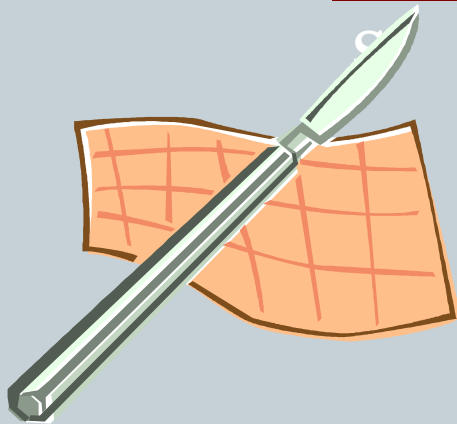
50%

Doctor 2: tonsillectomy?

50%

No

Remaining 100?



# 1000 US schoolchildren with tonsillitis (1930s)

6

100: doctors 1 & 2 not benefit from  
tonsillectomy



Doctor 3: tonsillectomy?

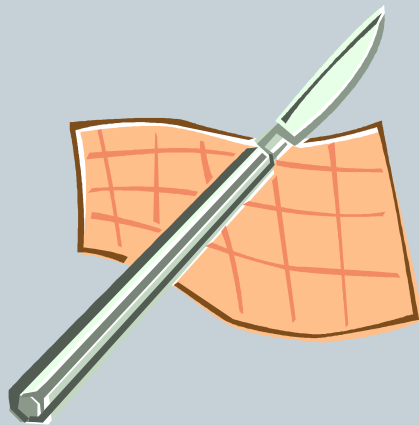
Yes

50%

50%

No

Remaining 50



# Risks of surgery & benefits from tonsillectomy?

7

## Medical Research Council (1938)

- *tendency to be performed as a routine prophylactic ritual for no particular reason & with no particular result*
- no evidence *wholesale* tonsillectomy results in diminished incidence

## Burton et al (2014) Cochrane review

- in general children affected by *recurrent acute* tonsillitis may have a small benefit

# The curious incidence of tonsillectomy in English school children (1930s)



Sectional  
page 95

*Proceedings of the Royal Society of Medicine*

Vol. XXXI  
1219

**every month in England 7 children  
died as a result of tonsillectomy**

Section of Epidemiology and State Medicine

President—Sir ARTHUR MACNALTY, K.C.B., M.D.

[May 27, 1938]

Curious

The Incidence of Tonsillectomy in School Children

^  
J. ALISON GLOVER, O.B.E., M.D., F.R.C.P., D.P.H.



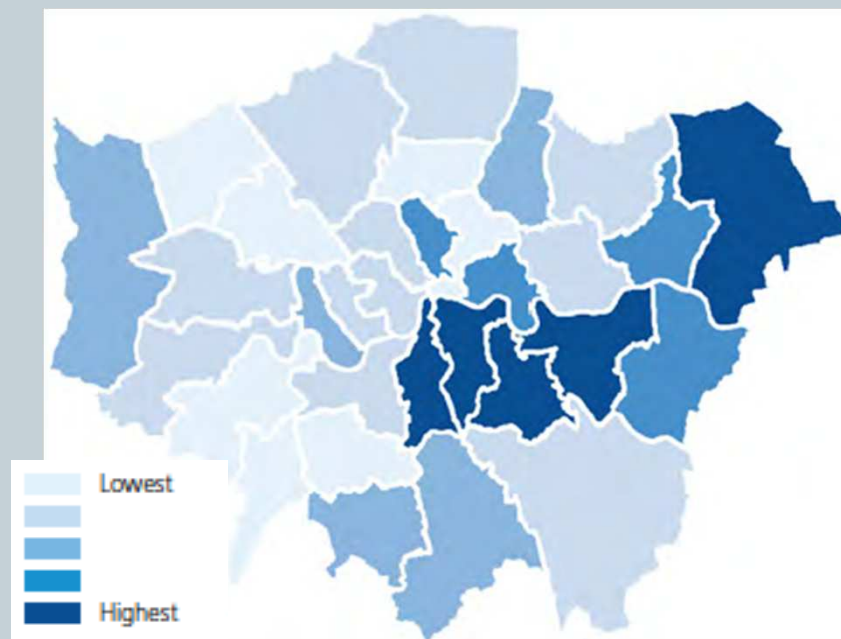
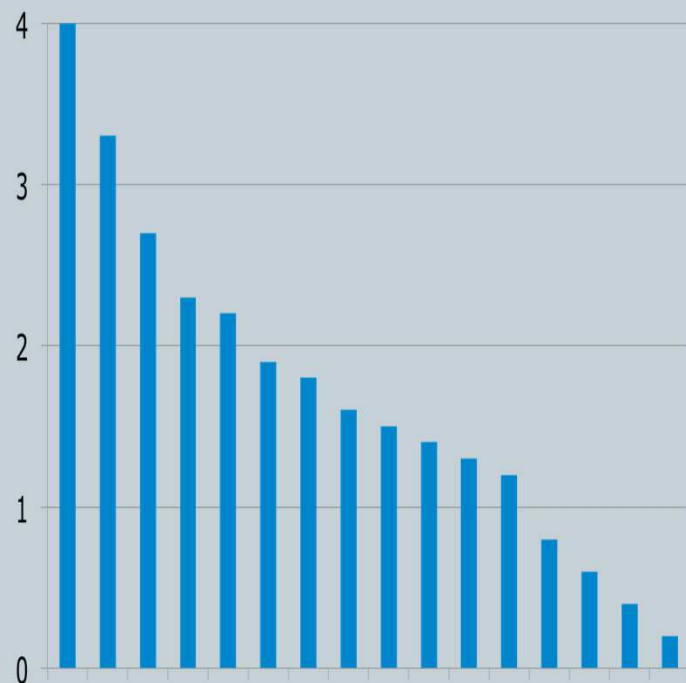
# The curious incidence of tonsillectomy in English school children (1930s & 2015)

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Glover (1938) 20 fold

*The NHS Atlas of Variation in Healthcare (2015): 6 fold for England*

% rates 5 to 14



# The curious incidence of common surgical procedures (1982)

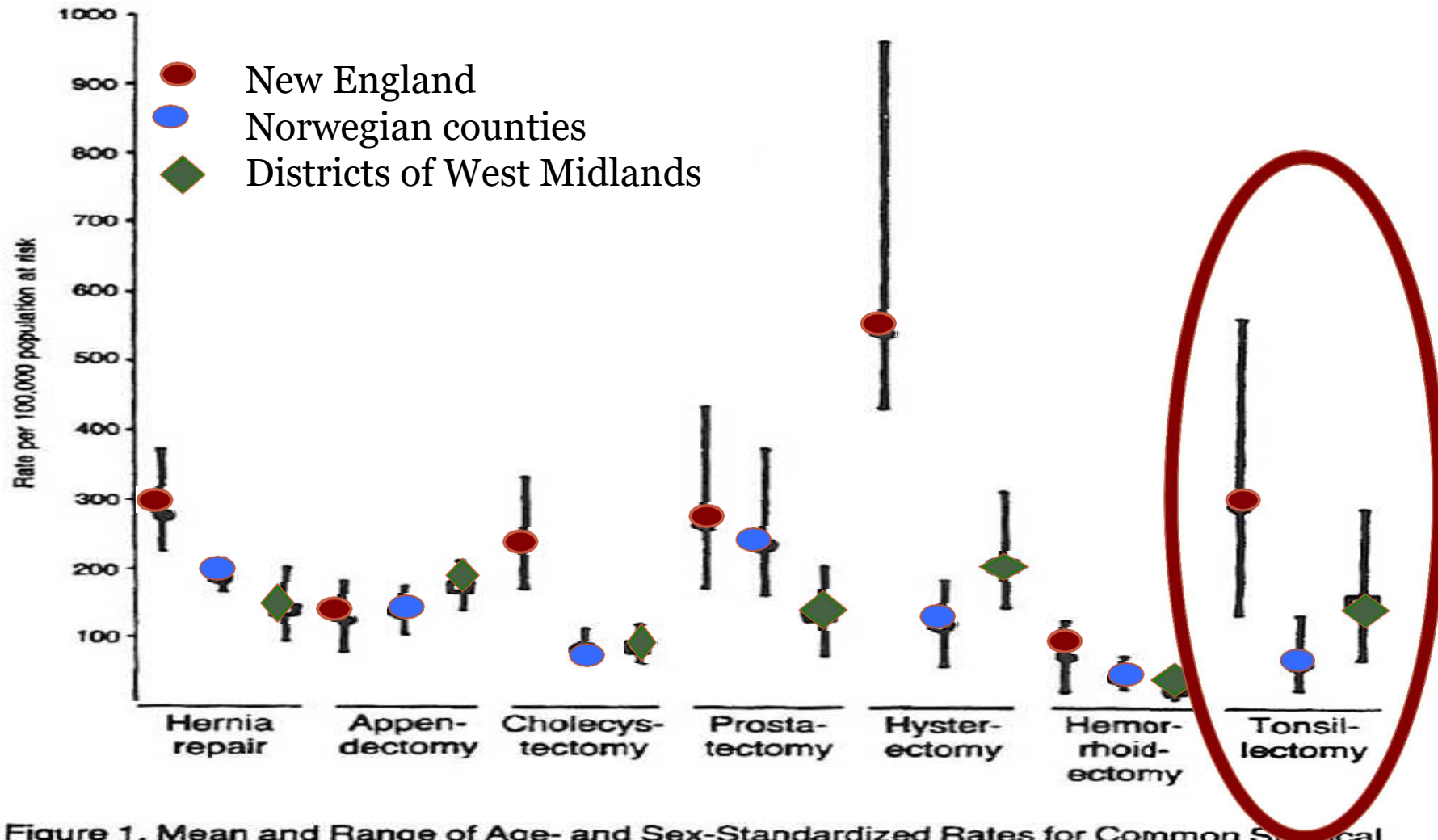


Figure 1. Mean and Range of Age- and Sex-Standardized Rates for Common Surgical Procedures in New England, Norway, and the West Midlands.

# The curious incidence of common surgical procedures (1982 & 2016)

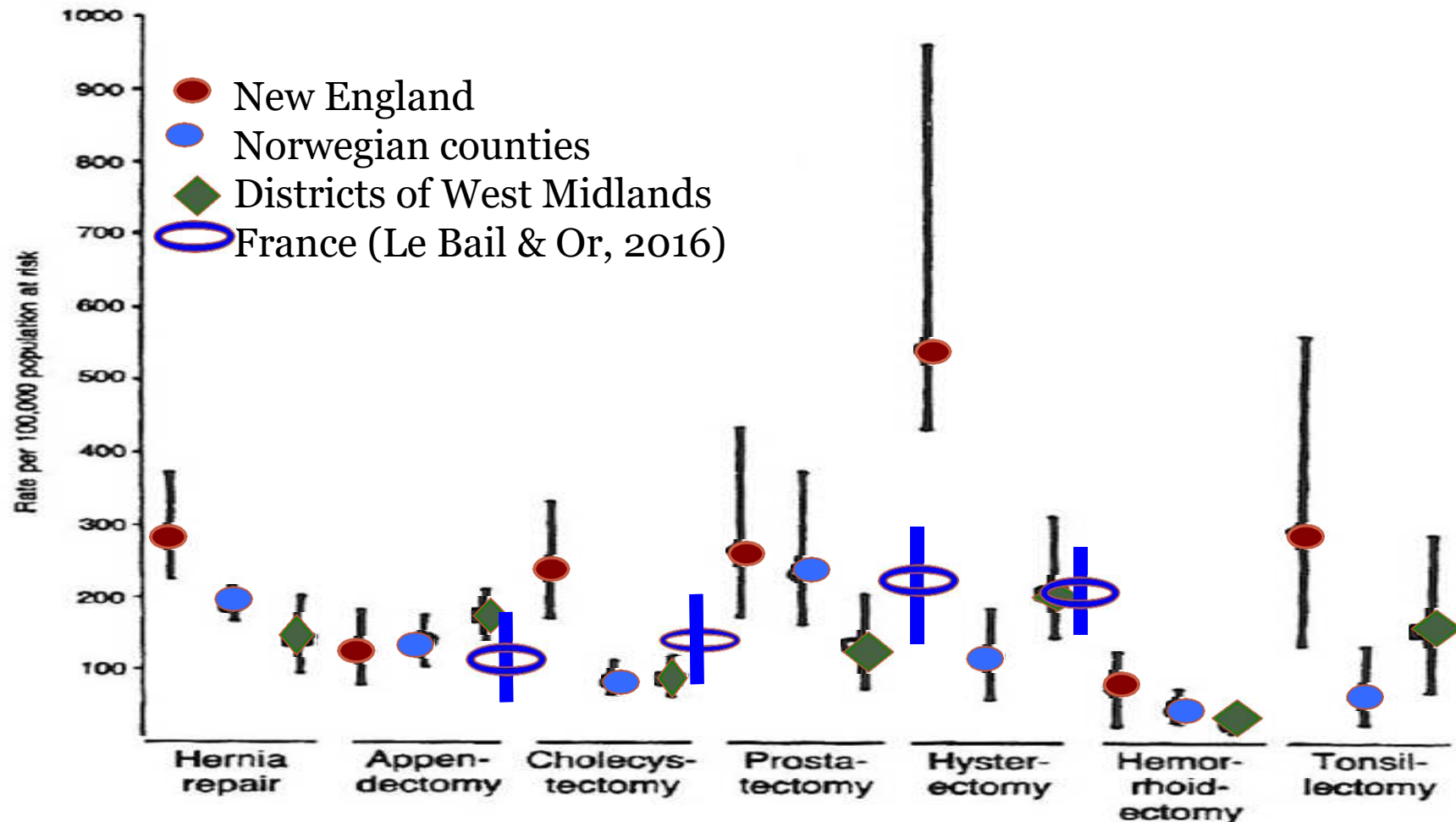


Figure 1. Mean and Range of Age- and Sex-Standardized Rates for Common Surgical Procedures in New England, Norway, and the West Midlands.

# Curious incidence & evidence-based policy making

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- Curious incidence &
- The dog in the night time

# *Flamme d'argent*: The curious incident of the dog in the night time

- Inspector
  - Any point to which you would wish to draw my attention?
- Holmes
  - curious incident of the dog in the night time
- Inspector
  - The dog did nothing in the night time
- Holmes
  - That was the curious incident

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Arthur Conan Doyle  
1859-1930

## **FLAMME D'ARGENT**

Titre original : Silver Blaze  
Les mémoires de Sherlock Holmes  
(décembre 1892)



# Evans (1990) The dog in the night time

most striking fact about large & extensively documented variations in medical practice is minimal impact had on health policy



Édition du groupe « Ebooks libres et gratuits »



Arthur Conan Doyle  
1859-1930

## FLAMME D'ARGENT

Titre original : Silver Blaze  
Les mémoires de Sherlock Holmes  
(décembre 1892)



# Health economics 101: agency relationship

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Preferences ?



Knowledge ?



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# Iron triangle for health care

## Policies

- Tarification à l'activité (T2A)

Cost  
control

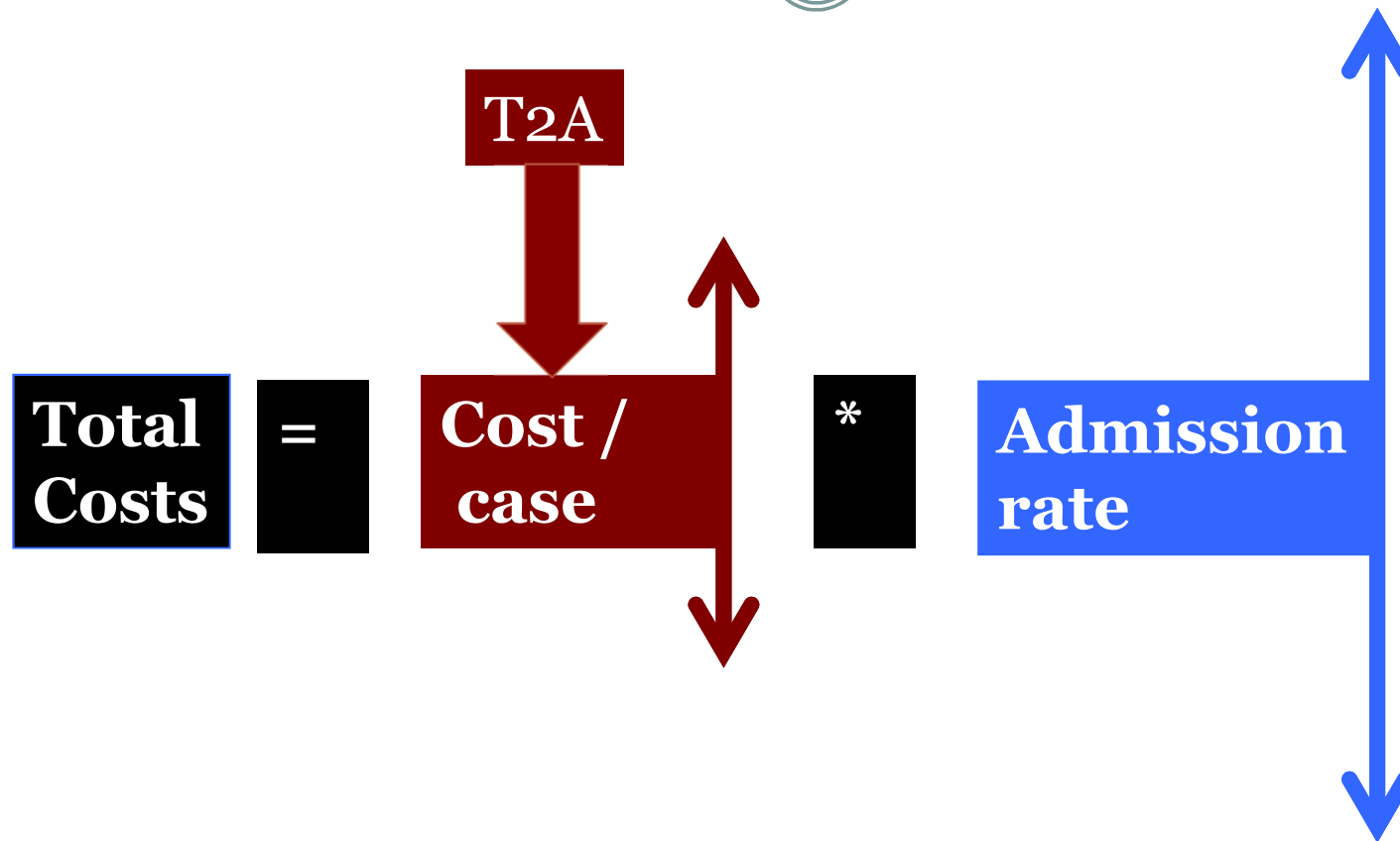
Equity

Performance



# Cost control: Cost control with one hand clapping

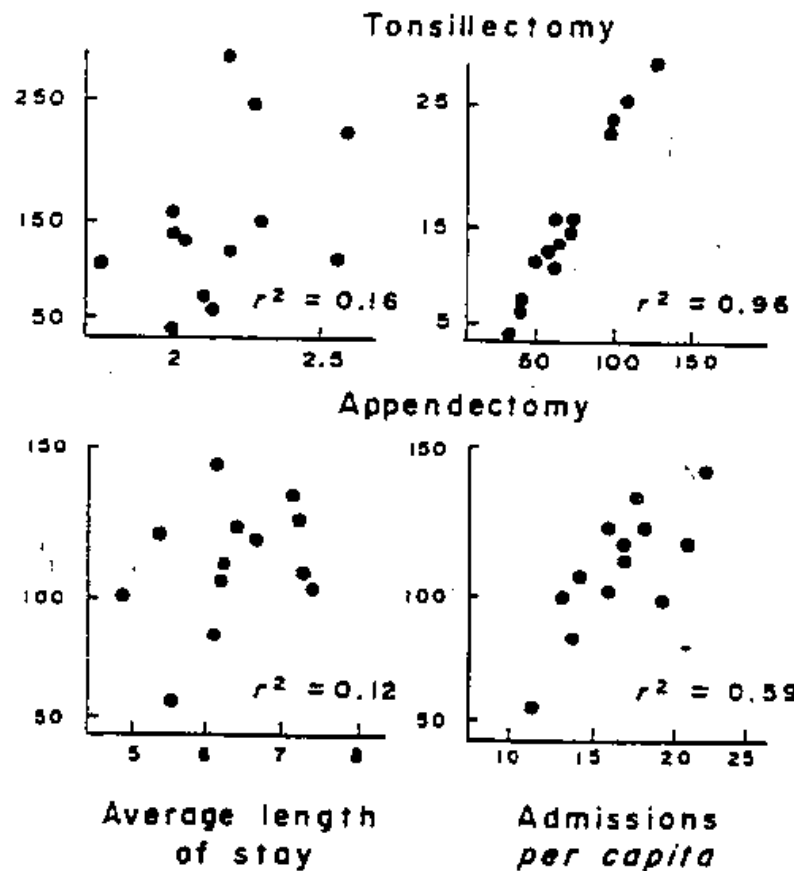
17



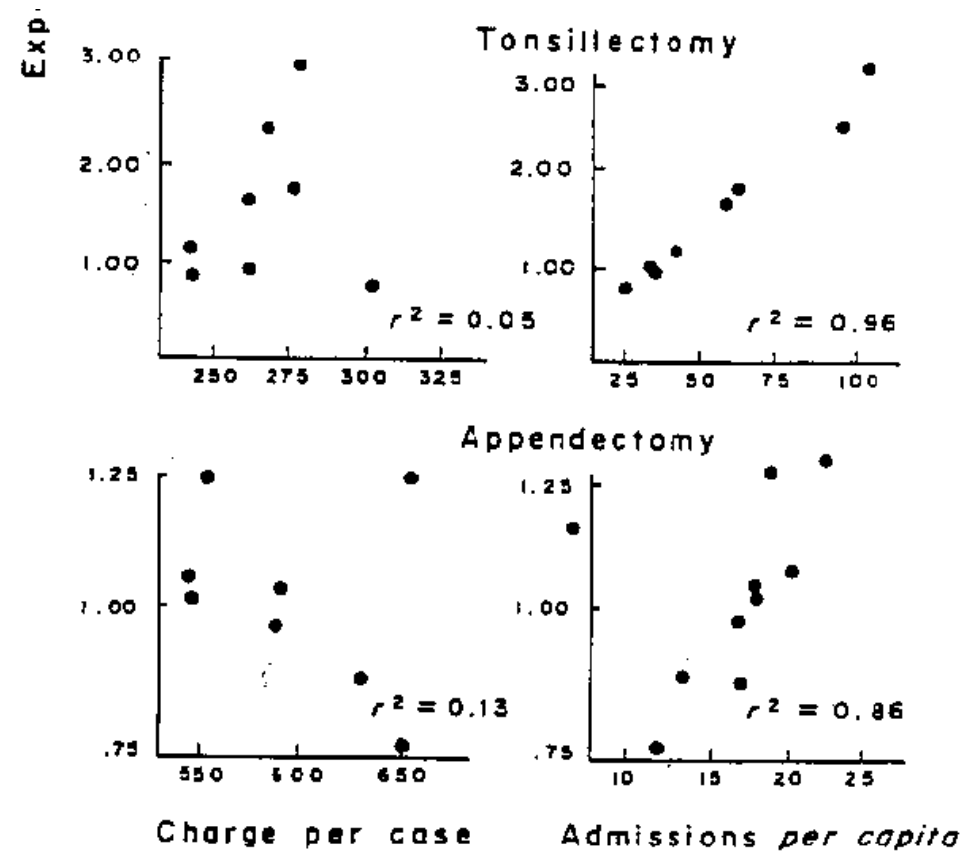
# Small area variations in Charges & Days: admission rates & los

18

## Total Days



## Total Charges



# Iron triangle for health care

Cost  
control

## Policies

- T2A
- Formula funding

Equity

Performance

# Changing the inverse care law in England

*availability of good medical care tends to vary inversely with need for it in population served Hart (1971)*

Spend/capita (1980s)



Hampstead



Oldham



Standardised Mortality Ratios

# What has been happening

21

Resources

Hampstead



Oldham

Widening of inequities in health

SMRs

# USA: Consequences of excess Boston & New Haven (1987)?



## Spend / capita inpatient care



New Haven  
\$450



Boston  
\$900

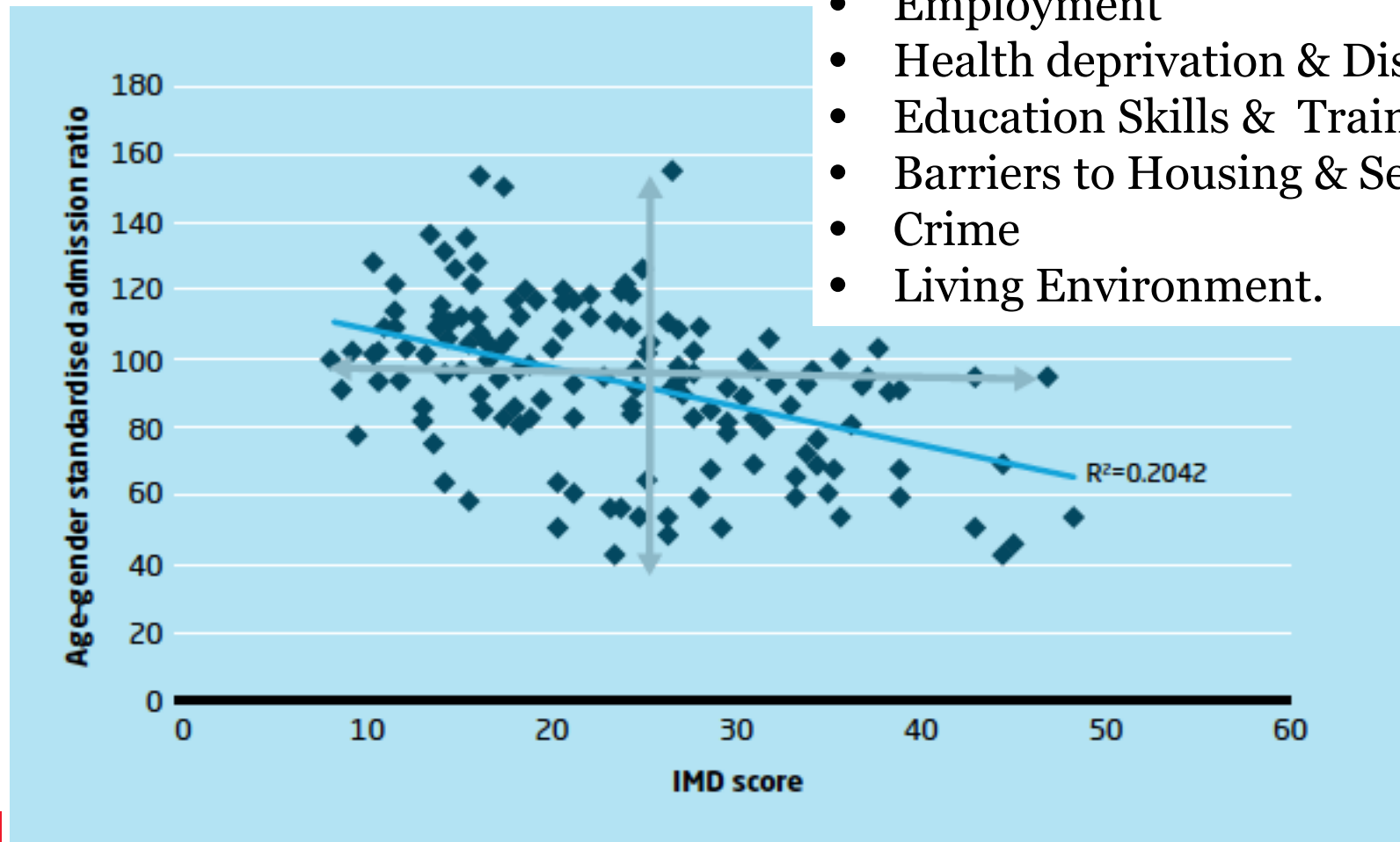
- Principal cause of difference admissions for high-variation *medical* conditions

# Age-standardised admission rates for primary hip replacement & IMD

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## Index of multiple deprivation

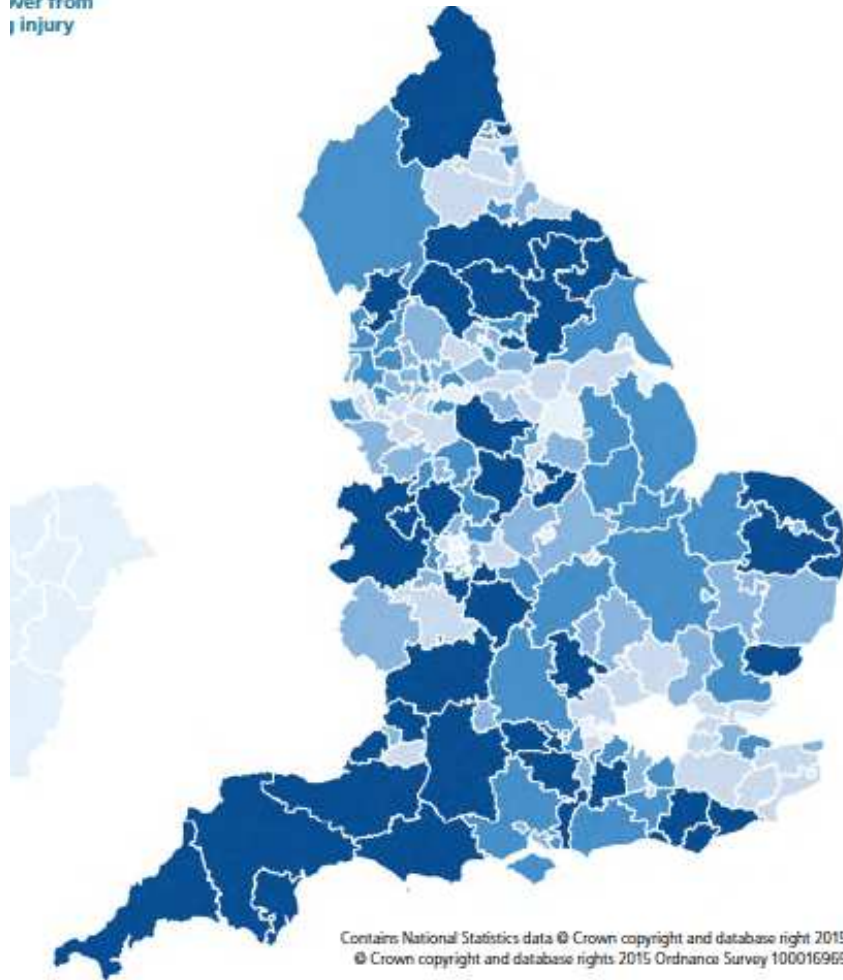
- Income
- Employment
- Health deprivation & Disability
- Education Skills & Training
- Barriers to Housing & Services
- Crime
- Living Environment.



# Inverse care law: primary hip replacements 2013/14

Variations in rates

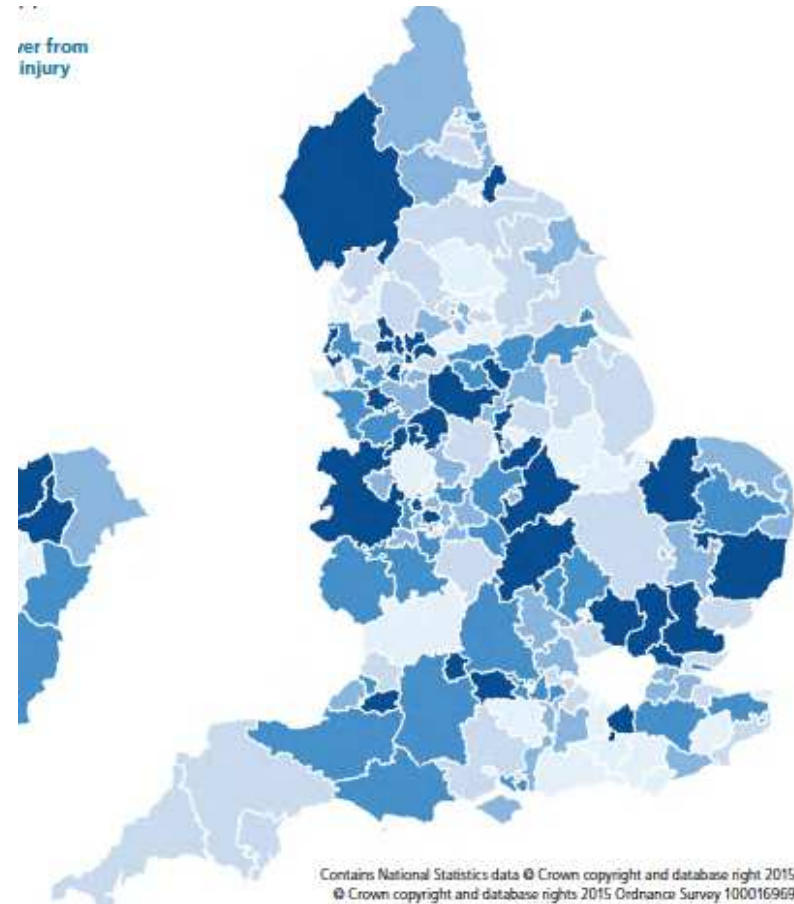
per from  
injury



24

Variations in health gains (EQ-5D)

per from  
injury





# Iron triangle for health care

Cost  
control

Equity

Performance

## Policies

- T2A
- Formula funding
- Money follows provider choice

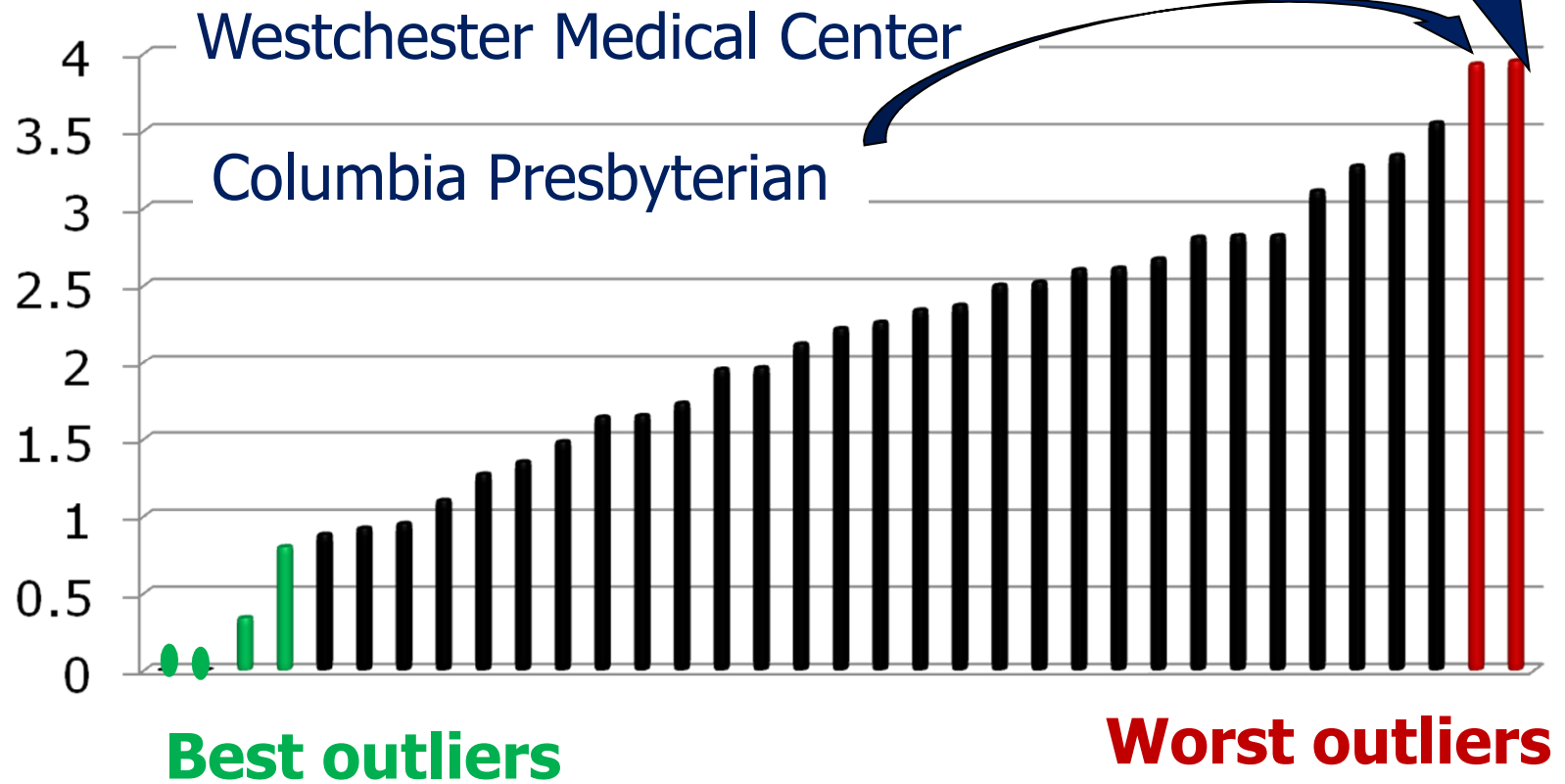
# Patient choice: New York Cardiac Surgery Reporting System

- September 2004
  - sudden onset of chest pains & shortness of breath
  - small hospital near home
  - cardiologists @ Westchester Medical Center
  - quadruple bypass @ Columbia-Presbyterian



# CSRS (2004): CABG 1999-2001 Risk-Adjusted Mortality Rate (RAMR)

RAMR (%)



# Iron triangle for health care

Cost  
control

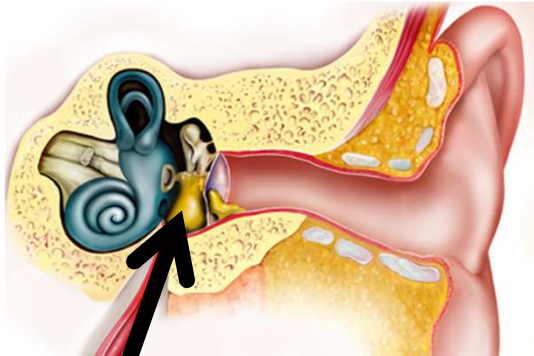
Equity

Performance

## Policies

- T2A
- Formula funding
- Money follows provider choice
- Guidance on appropriateness

# Otitis media with effusion (England)



Infected fluid

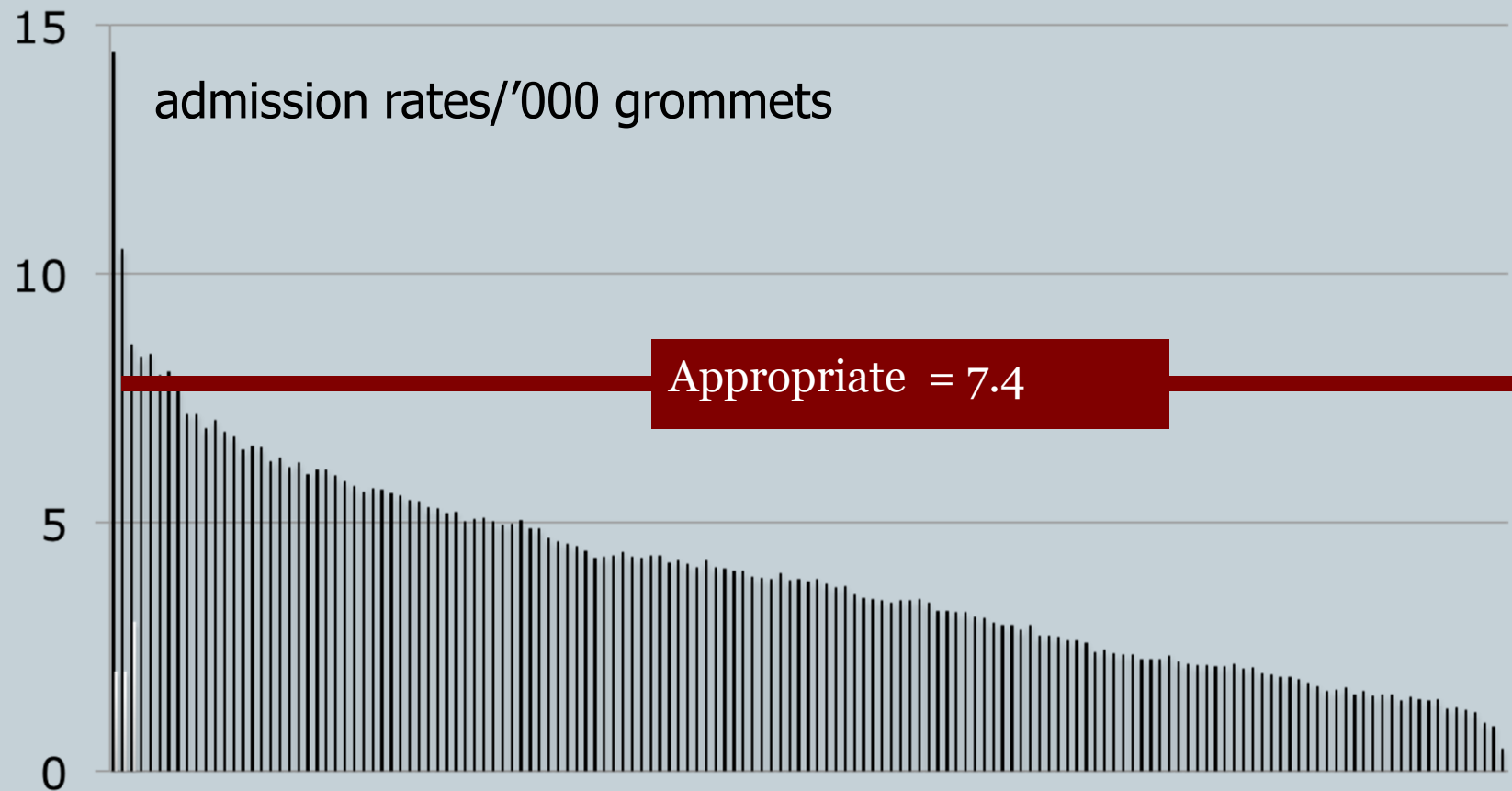
GP diagnosis?

Purchasing Guidance:  
*low value* procedure?

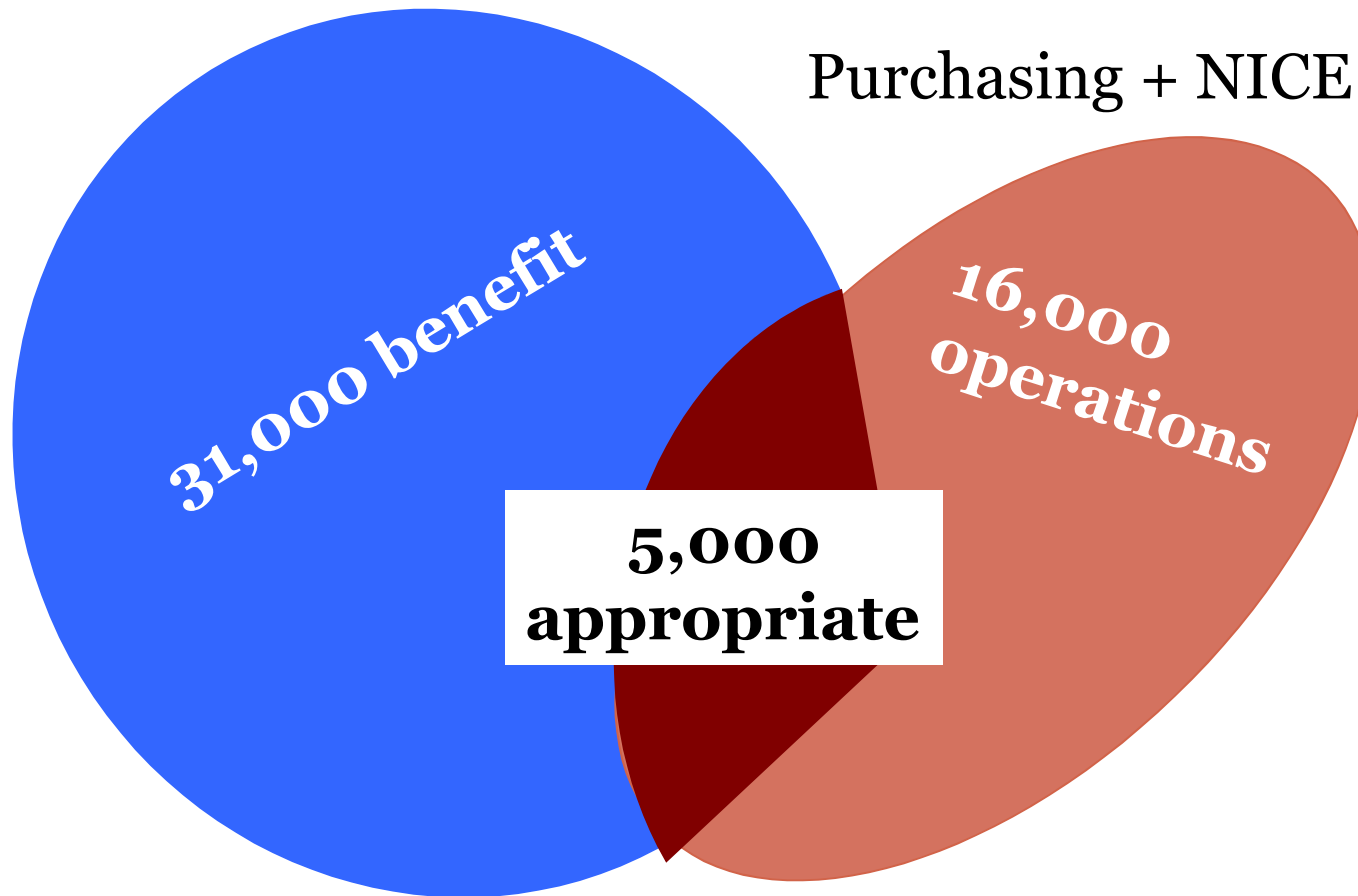
NICE guideline: appropriate

- bilateral OME > 3 months
- hearing level > 25 dBHL

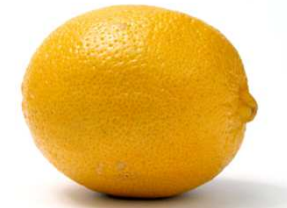
# 30 fold variation observed admission rates (England 2007-10)



# Numbers Grommet insertions (England 2007-10)



Purchasing + NICE =



# Iron triangle for health care

Cost  
control

Equity

Performance

## Policies

- T2A
- Formula funding
- Money follows provider choice
- Guidance on appropriateness



# References

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