

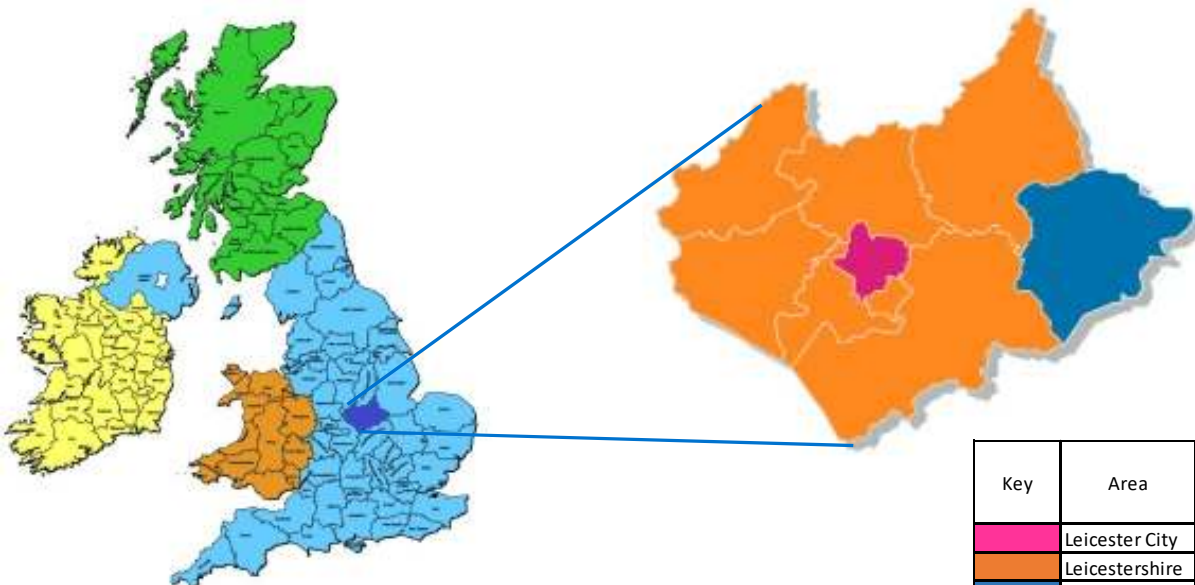
Using case mix adjustment to devise a fairer resource allocation formula in UK primary care

David Shepherd, Alan Thompson, James Barrett, Stephen Sutch, Mark Pierce



The Place

<https://leicesterleicestershireandrutland.icb.nhs.uk>





The Problem

- An outdated family doctor funding formula (the Carr-Hill formula) and no political drive to change it
 - Inconsistent match of funding to actual need due to the ecological fallacy
 - Money does not follow patients, resulting in cream-skimming
 - Systematic mis-funding is embedded by continued use of the old formula
- Impending NHS re-organisation into Integrated Care Systems
 - Charged with addressing health inequality but stuck with a funding formula that embeds them
 - Very diverse practices expected to work together despite this



The Solution

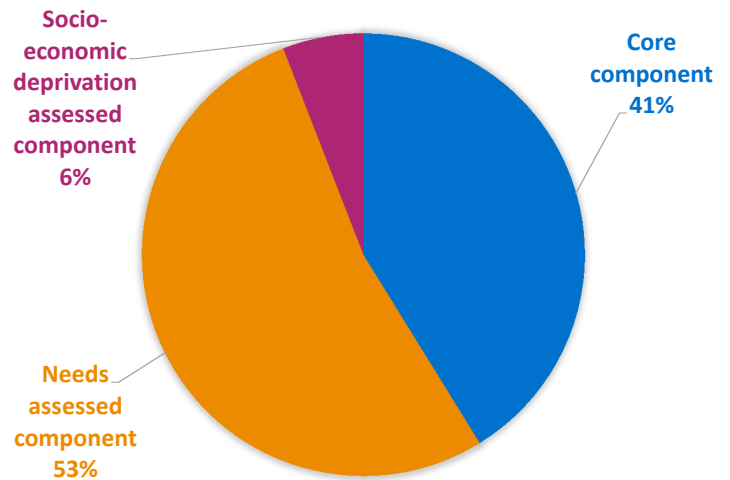
- A better funding formula using resource more efficiently by shrink-wrapping it more closely to the needs it is to address
- Made *practically* possible by making patient-level data...
 - Available – through the arrival of big data in the NHS
 - Useable – through adjustments to correct for missing data
 - Manageable – through sophisticated case mix analysis tools like The Johns Hopkins Adjusted Clinical Groups (ACG[®]) System
- Made *politically* possible by our ‘no-loser’ approach

The Formula

- Creating a currency of need

- The structure

- Core component
- Needs assessed component
- Socio-economic deprivation assessed component



The Formula – needs assessment process

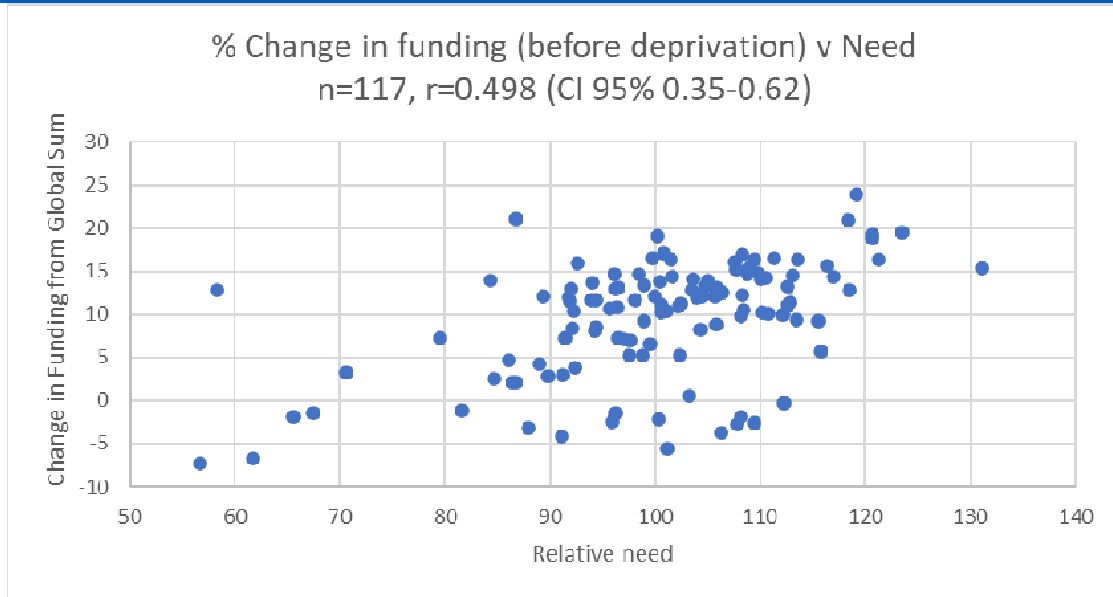
Coding adjustment

Case mix adjustment using ACGs

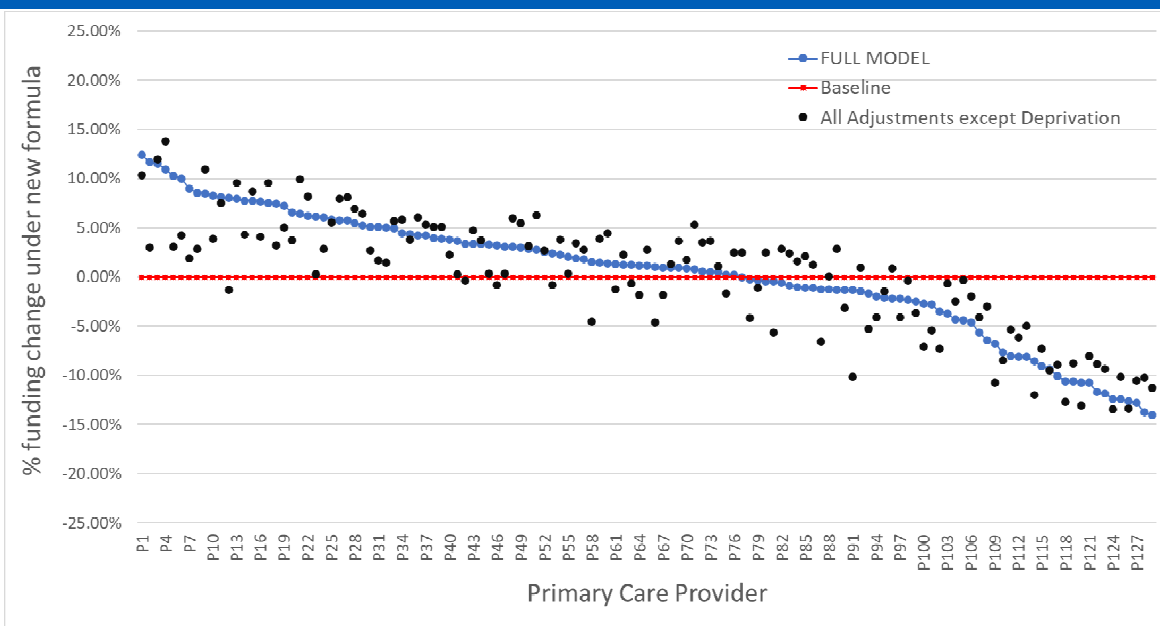
Patient turnover adjustment

Communications adjustment

The Findings – is it better?



The Findings – how the elements stack up

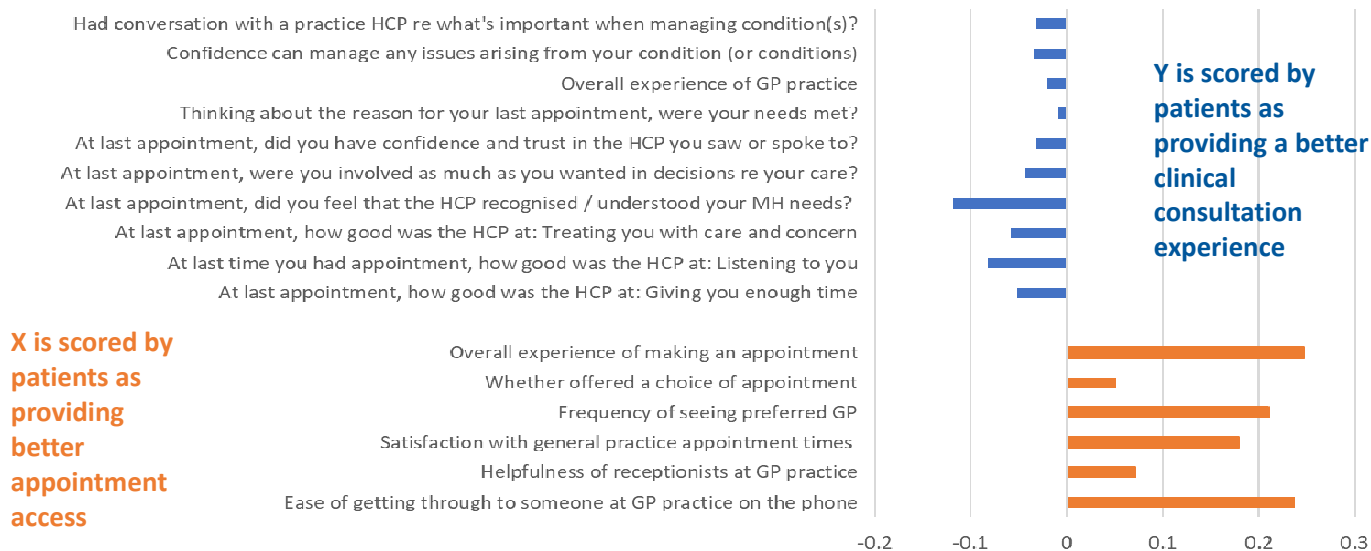


Average Dispersions

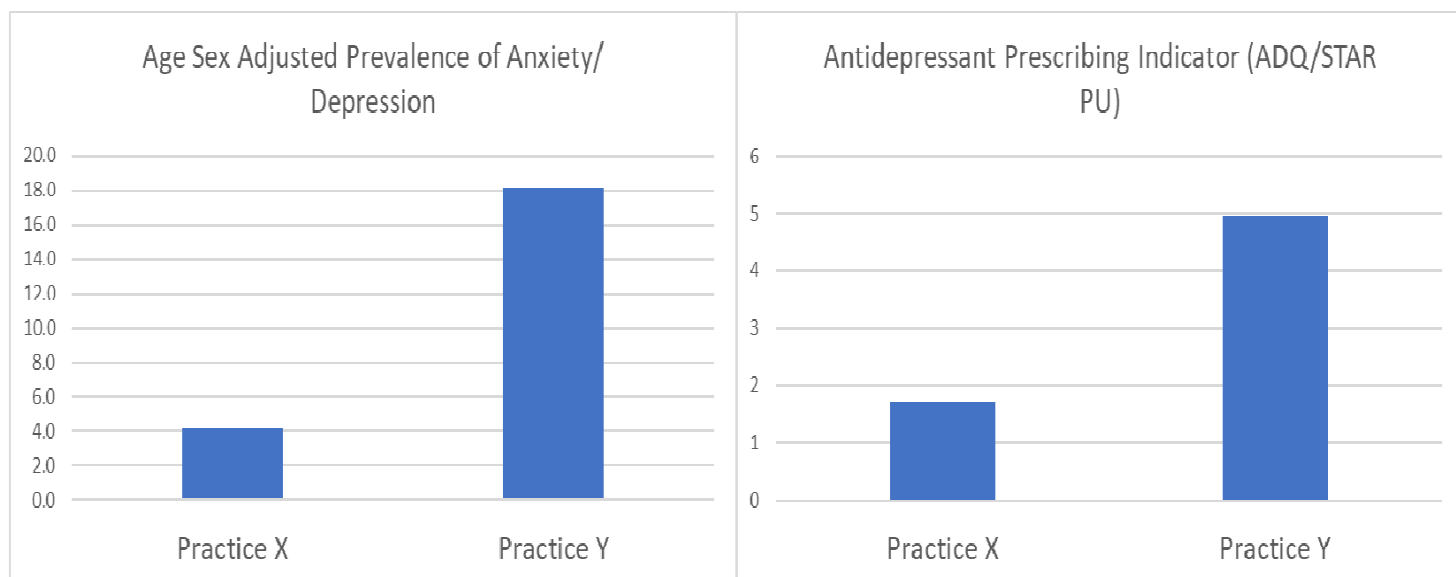
Coding	4.08%
Case Mix	12.52%
Turnover	1.62%
Comms	3.24%
Deprivation	5.53%

The Findings – a case study: X and Y

2018 Patient Experience Survey: Practice X's score minus Y's

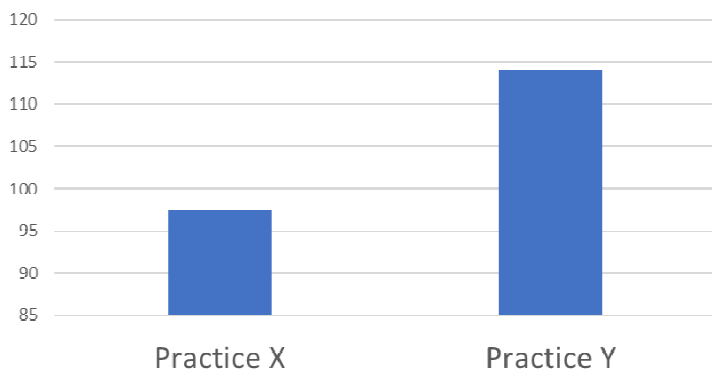


The Findings – a case study: X and Y

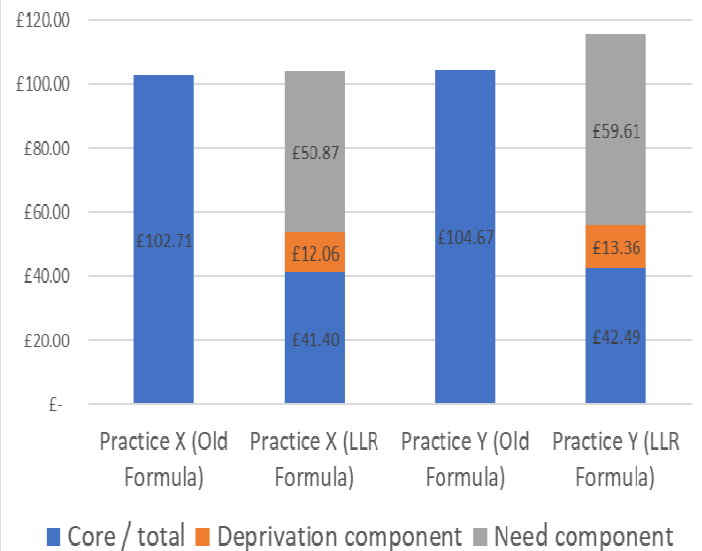


The Findings – a case study: X and Y

Final expected relative PC activity after case-mix, coding, turnover & comms adjustment



Funding per head old and new LLR formula



The Implementation

- Alongside the formula development LLR undertook service harmonisation and simplification of payment processes
- Extensive engagement with GP board and lay members from across the 3 CCGs, their staff and interested parties took place over 14 weeks
- An outcomes measures framework has been developed for monitoring
- The formula was formally adopted by the LLR governing body in May 2021
- For LLR population of 1.16 million patients, the formula was used to allocate £114.6m amongst 130 primary care providers.
- It led to increases in funding attributable to the new formula for 76 primary care providers totalling £2.8m, whom it had determined had been under-resourced under existing funding arrangements.



The Verdict

“It is great to see an excellent example of working collaboratively to look at the needs of local populations.

The way the system pulled resources together creatively to address these needs and narrow health inequalities is a great example of local initiative, collaboration and system working.”

Dr Bola Owolabi – Director – Health Inequalities NHS England