

# What works: Leveraging Quality Improvement to address health and care inequalities

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EVIDENCE BRIEF

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## Summary

Quality improvement (QI) is a data-driven approach to improve care. The NHS undertakes thousands of QI programmes each year, ranging from small clinical audits to national improvement programmes. Quality health care should be equitable, but equity is not consistently considered in QI projects. This can drive intervention-generated inequalities where improvements are inadvertently targeted to those experiencing more privilege within the system, widening the gap. QI has the potential to address inequalities through 1) ensuring an equity perspective in existing QI, 2) undertaking new QI projects focused on disadvantaged groups, or 3) using QI methodologies within existing health inequalities programmes to incrementally narrow inequalities.

Here we present a review of the literature on what works to ensure that QI addresses inequalities. Based on a review of 36 studies, we divide the literature into QI approaches that are likely to improve inequalities and those which are likely to worsen inequalities.

QI that is likely to improve inequalities should:

- Where possible, leverage health care staff's moral imperative to address inequalities complemented by implicit bias training and promoting a wider determinants of health approach
- Facilitate dedicated time for staff to develop equity focus within QI and provide easy access to multilingual and culturally competent resources
- Use diverse quantitative and qualitative data and routinely disaggregate data by disadvantaged groups
- Embed co-creation of QI initiatives with a diverse range of service users and staff groups.

QI that is likely to worsen inequalities would:

- Focus on equality (providing the same care to everyone), rather than equity (providing care based on need)
- Expect staff with unmanageable workloads or lack of an understanding of diverse patient circumstances to consider inequalities in QI
- Make it difficult to gain insights on disadvantaged groups from the electronic patient record
- Design QI initiatives that require considerable patient effort to benefit, such as understanding health information, digital literacy and access, or good access to transport.

## Current challenges

Almost 6,000 people die in the NHS every year in England because of patient safety incidents, reflecting issues in quality of care (see Figure 1) (1). Most of these deaths occur in hospitals (43%) or mental health services (41%). The actual number is likely to be higher because of under-reporting, with some previous research suggesting that it is closer to 11,000 deaths per year in English hospitals (2). Patient safety reporting in general practice is also known to be under-reported (3). We do not have disaggregated data by ethnicity or socioeconomic status; however, a recent review of 45 international studies, including two from the UK, found that, compared to the general population, people from ethnic minority communities had higher rates of hospital acquired infections, complications, adverse drug events, and dosing errors (4). Underlying reasons included language proficiency, beliefs about illness and treatment, formal and informal interpreter use, community engagement, and interactions with health professionals.

The NHS undertakes thousands of QI initiatives each year to improve health care and outcomes. QI initiatives, including clinical audit, are considerably heterogenous across the NHS - ranging from individual clinicians implementing small changes to improve care processes in a single ward or GP surgery to large hospital-wide programmes. QI is an umbrella term and encompasses many activities, however generally these initiatives usually involve multiple feedback loops to continuously and incrementally improve and maintain good health care. There are numerous QI frameworks that exist, such as Plan-Do-Study-Act and the Model for Improvement (5).

### Definitions

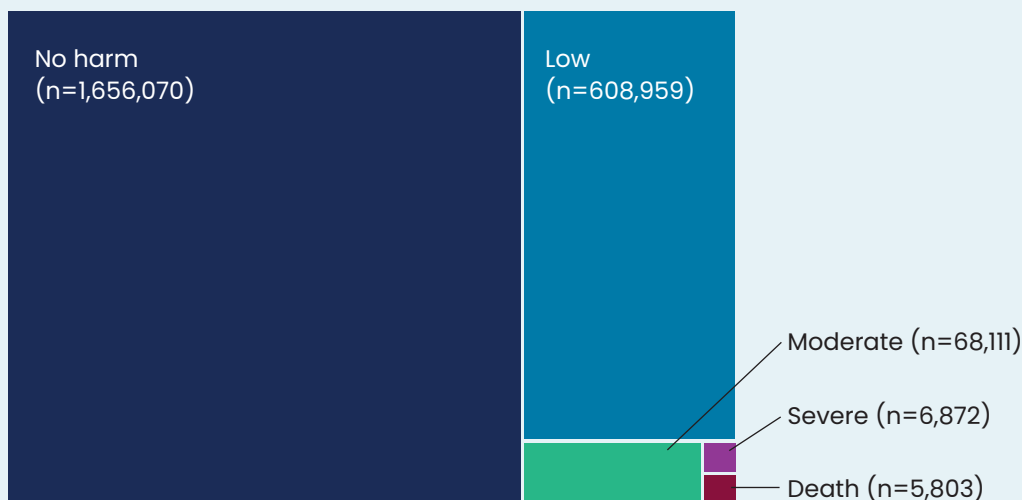
**Quality improvement (QI):** Systematic, data-guided activities designed to bring about an immediate improvement in health care delivery in particular settings (7)

**Equity-focused quality improvement:** QI initiatives that integrate equity throughout the fabric of the project and are inclusive, collaborative efforts that prioritise and address the needs of disadvantaged populations (8)

The NHS invests significantly in embedding QI training and programmes across services, including implementing the Quality, Service Improvement and Redesign (QSIR) programme to increase the quantity and quality of QI across the NHS (6).

Most definitions of health care quality include equity, such as the Institute of Medicine's six domains of quality (safe, effective, patient-centered, timely, efficient and equitable) (9). However, equity is not an explicit part of most QI programme methodologies, and QI can unintentionally widen health inequalities (10). For example, the introduction of continuous glucose monitoring for children with type 1 diabetes led to an increase in inequalities. The National Paediatric Diabetes Audit in England and Wales found that continuous glucose monitors improved the quality of care, improving HbA1c by 2.6mmol/mol. However, this benefit was not equally distributed - children in the most deprived areas had a 3 times smaller improvement compared to children in the least deprived areas (11).

Figure 1: Number of patient safety incidents in the NHS April 2021 to March 2022



Source: National patient safety incident reports up to June 2022 (1)

The potential for quality improvement to address health and care inequalities is substantial and covers three main areas.

1. Shifting the thousands of QI initiatives which are undertaken in the NHS to consider inequalities – the NHS undertakes a huge number of QI initiatives every year and supporting these projects to consider inequalities has the potential to ensure QI benefit those with the greatest need.
2. Undertaking new QI projects which specifically focus on closing the gap or targeting specific disadvantaged groups – well-known inequalities exist in certain NHS services, such as maternity care (12), and some groups persistently receive poor care, such as people in prison (13). Targeting QI initiatives to services with known inequalities or groups experiencing poor care has the potential to address inequalities.
3. Use of QI techniques within existing health inequalities programmes to optimise outcomes – NHS organisations across the country are implementing a range of health inequalities programmes, many based on the Core20PLUS5 framework (14). QI techniques may help to continually improve the impact of these health inequalities programmes through a data-driven and systematic approach with continual feedback.

Here we review the evidence examining how quality improvement techniques can be used to address health and care inequalities.

## Summary of evidence

We undertook a search of electronic databases (MEDLINE, Embase, CINAHL, PsychINFO, Web of Science, and SCOPUS) to identify quality improvement programmes that also reported on health and care inequalities. We included 36 studies, most of which were from North America, with five from the UK, focusing on ethnic minority groups, socioeconomic status, or gender inequalities.

Quality improvement initiatives are dependent on the settings (e.g. primary versus secondary care) and population groups (e.g. people on low incomes versus ethnic minority groups). Therefore, it is not possible, or desirable, to combine several studies to estimate the overall impact of QI on health inequalities. We have therefore identified common principles in the data explaining how QI initiatives could be used to address health and care inequalities.

Based on the evidence, we identified components of QI that are likely to worsen inequalities and those which are likely to improve inequalities (see Fig. 2).

QI that is likely to improve inequalities should:

- Where possible, leverage health care staff's moral imperative to address inequalities, complemented by implicit bias training and promoting a wider determinants of health approach
- Facilitate dedicated time for staff to develop equity focus within QI and provide easy access to multilingual and culturally competent resources
- Use diverse quantitative and qualitative data and routinely disaggregate data by disadvantaged groups
- Embed co-creation of QI initiatives with a diverse range of service users and staff groups

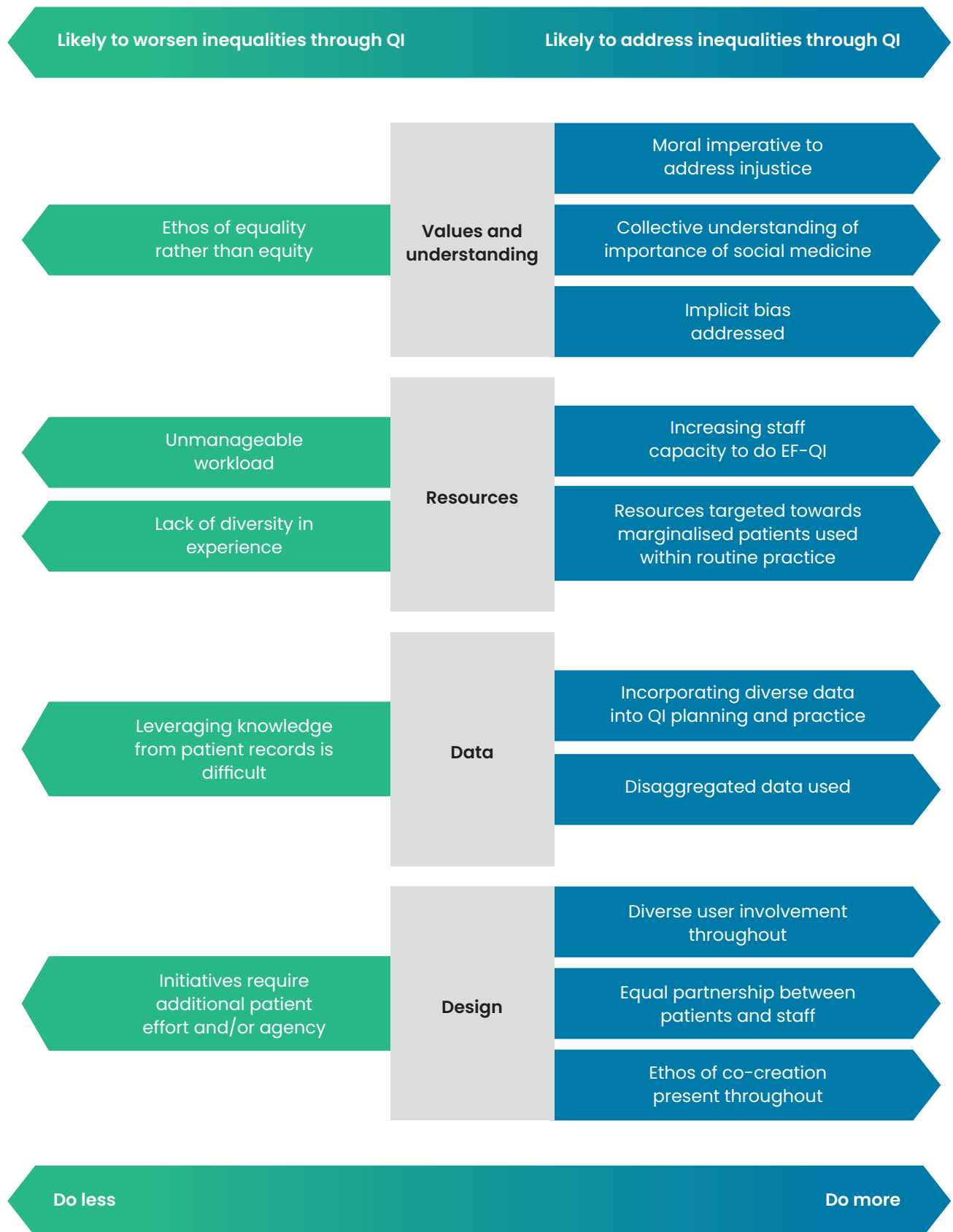
QI that is likely to worsen inequalities would:

- Focus on equality (providing the same care to everyone), rather than equity (providing care based on need)
- Expect staff with unmanageable workloads or lack of understanding of the diverse patient circumstances to consider inequalities in QI
- Make it difficult to gain insights on disadvantaged groups from the electronic patient record
- Design QI initiatives that require considerable patient effort to benefit, such as understanding health information, digital literacy and access, or good access to transport

## Harnessing the values of health care staff

Based mainly on US studies focused on racial inequalities in health care, projects that were based on a strong moral imperative to address injustices were more likely to address inequalities. These studies highlight the importance of pre-existing staff values, often arising from historical social injustices, that can be leveraged to help tackle existing inequalities (15–25). For example, Burkitt and colleagues examined a programme of QI activities, such as staff education and audit and feedback loops, to reduce inequalities in blood pressure control among black veterans (16). Inequalities in hypertension across ethnic groups narrowed, partly because there was an explicit value judgement among staff that ethnic inequalities were wrong, and they could take action to restore a degree of justice. However, the QI leaders faced challenges from some staff who questioned the ethics of targeting hypertension resources specifically at the black veteran population, rather than all veterans equally.

Figure 2: Components of QI that are likely to worsen or improve inequalities



This highlights the tensions between equality in health care provision (equal provision of services irrespective of background) and equity in QI projects (everyone has a fair and just opportunity to be as healthy as possible). An ethos of equality of health care provision, rather than health equity, could be a barrier to allocating resources proportionate to need.

In some QI initiatives within the literature, there was an acknowledgement of how the social determinants of health created barriers for some people to benefit from the QI. For example, Meurer and colleagues examined a QI project in 25 paediatric clinics to improve developmental screening through clinic champions, staff training, standardising tools, electronic record prompts, and feedback loops (26). Screening rates improved from 60% to over 95%, but socioeconomic and ethnic inequalities widened. The authors reflected that more cross-sector collaboration, especially with education and partnerships with community agencies to support the social determinants of health, would have helped limit the impact on health inequalities.

QI initiatives and programmes that were effective in addressing inequalities often included staff training on implicit bias and institutional racism. For example, Cykert and colleagues found that a QI programme reduced ethnic inequalities in cancer treatment completion rates from 8% difference between black and white groups to 1% difference after the QI programme (18). The team used a registry of participants who had missed appointments or had unmet care milestones, a community navigator, and clinical feedback. High-quality staff and navigator training on racism and implicit bias was reported to be a key component through regular sessions, case-based approaches and drawing on validated training programmes.

### **Ensuring staff have sufficient time and access to culturally tailored resources**

Based on the included studies, we identified two key themes related to resources: first, the need to ensure staff have sufficient capacity, and second, improving access to multilingual resources. These themes complement the evidence gathered for our Empowering health care staff to address health inequalities evidence brief.

QI initiatives associated with success often included giving staff dedicated time to consider equity in QI and avoid it becoming a 'tick box exercise'. There are examples in the literature of the negative impact that competing responsibilities have on staff who would like to consider equity in QI. For example, Brown and colleagues found that using the Model for Improvement improved care for early language

delay in families on low incomes (increase from 40% to 60% in attendance at initial appointments within 60 days) (27). However, staff members reported competing job responsibilities as a key factor in preventing adequate follow up. Disadvantaged groups often require more proactive follow up due to social problems meaning that staff are more likely to follow up those who are easier to contact and also tend to be more affluent.

QI initiatives that provided staff with multilingual resources specifically for marginalised groups along with cultural competency training were effective in improving care for disadvantaged groups. For example, Barceló and colleagues undertook a QI project that aimed to decrease inequalities and improve mental health outcomes in Black and Latino adults (28). Throughout the project, materials were provided both in English and Spanish, and culturally competent care principles and resources built into interventions. Black and Latino adults experienced an improvement in mental health outcomes.

On the other hand, when staff lacked the training, experience, and exposure to diverse groups with different health needs, they were more likely to undertake QI projects designed with the idea of an 'average' patient in mind. For example, Cene and colleagues evaluated a QI project aimed at reducing racial disparities in blood pressure management between African American and white patients (17). While there were improvements in both groups, white patients had the greatest improvement (reduction of systolic BP of -7.8 mmHg versus -5.0 mmHg). The authors reflected that a lack of cultural tailoring and failure to appreciate the unique factors that influence hypertension in African American people likely contributed to the worsening of inequalities.

### **Leveraging data to understand and address inequalities**

The basis of several QI projects was incorporating disaggregated data by disadvantaged groups into feedback loops, such as PDSA cycles. Stratifying data by subpopulation allows QI practitioners to identify those with the worst outcomes, allowing insights into existing and emerging inequalities and more focused targeting of QI projects. For example, Davidson and colleagues evaluated a QI programme to reduce ethnic inequalities in maternal morbidity due to haemorrhage (19). The QI programme used stratified data throughout, complemented by a range of initiatives, such as in-depth case reviews and guideline development, and the authors found a reduction in baseline inequalities, including a reduction in the rate of haemorrhage in black women from 46% to 32%

However, the effective use of data can be hindered when accessing information from electronic patient records is difficult or does not allow disaggregation. For example, Gagnon and colleagues qualitatively evaluated a QI programme to improve healthcare for sexual and gender minority patients (29). The authors found that the electronic patient record was the most common barrier to QI implementation. Staff struggled to obtain data and had issues incorporating new fields into the electronic patient record, which meant identifying and monitoring target populations was challenging; all of which was compounded by a lack of IT support.

### **Designing QI programmes to address inequalities and not worsen them**










The QI design process can substantially impact inequalities. This ethos of co-creation with both diverse communities and multidisciplinary staff groups was a strong theme in several studies focused on using QI to address inequalities (23,28,30–35). For example, Green and colleagues undertook a QI programme to improve physical health checks for patients admitted to an acute mental health unit (34). The authors found a 16% increase in physical health checks and attributed the success to 1) assembling a multidisciplinary team of a senior psychologist and psychiatrist, nurses, pharmacists, therapists, including a fitness trainer and senior management, and 2) service user involvement using the 4PI Framework developed by the National Survivor User Network. Active involvement of service users and front-line clinical staff in co-producing the QI interventions was reported as fundamental to success. Furthermore, Greenwood and colleagues found an improvement from 10% to 80% in cardiovascular assessments in people with severe mental illness using a QI programme. The authors found that service user involvement was ‘crucial’ to its success, helping to establish ‘an ethos for improvement; one of candour and collaboration’ (32).

QI initiatives may also inadvertently increase inequalities in the way they are designed. For example, QI projects that require a substantial amount of effort and resources from patients to benefit risk worsening inequalities because patients with complex social and health needs are less likely to take part. For example, Brown and colleagues, in their QI programme to improve care for language delay in children, found that offering patients same-day appointments increased inequalities in the post-intervention period because of difficulties for some in arranging transport at short notice (27).

### **Limitations**

We found numerous examples of QI programmes that have successfully reduced health inequalities. It is unlikely that there is one common intervention or initiative that can be implemented to guarantee success. The impact of factors, such as culture and leadership, are rarely described in the QI inequalities literature but are likely to have a significant impact. Furthermore, organisational transformation in complex health care systems requires multicomponent action across multiple levels. Therefore quantifying evidence on single QI initiatives is likely to be misleading without considering their interaction with the health care setting and other programme components.

## What works: key recommendations

Recommendation	Target audience	GRADE certainty*
Leaders should harness the health and care workforce's desire for addressing inequalities in society through equity-focused quality improvement	NHS England, ICBs, PCNs, Trusts, and general practices	 Low
Leaders should promote a culture of equity (providing care according to need) rather than equality (providing equal care to everyone)	NHS England, ICBs, PCNs, Trusts, and general practices	 Low
Health and care staff should acknowledge and take action where possible on the social determinants of health in QI initiatives	NHS England, ICBs, PCNs, Trusts, and general practices	 Low
Staff should be given adequate time, training and resources, especially culturally competent multilingual resources, to undertake equity-focused quality improvement	NHS England, ICBs, PCNs, Trusts, and general practices	 Moderate
Data should be routinely disaggregated by disadvantaged groups in all QI projects, for example by socioeconomic status and ethnicity	NHS England, ICBs, PCNs, Trusts, general practices with academic support	 Moderate
Staff should be supported to access data insights from the electronic patient record to support QI initiatives	NHS England, ICBs, PCNs, Trusts, and general practices	 Moderate
QI initiatives should draw on qualitative and quantitative evidence to understand the experiences and barriers of disadvantaged groups	NHS England, ICBs, PCNs, Trusts, and general practices	 Moderate
QI initiatives should be co-created and delivered in equal partnership with diverse patients and multidisciplinary staff groups	NHS England, ICBs, PCNs, Trusts, and general practices	 Moderate
QI initiatives should minimise the amount of effort required by patients to benefit as this is likely to increase inequalities	NHS England, ICBs, PCNs, Trusts, and general practices	 Moderate

\*GRADE certainty communicates the strength of evidence for each recommendation.

Recommendations which are supported by large trials will be graded highest whereas those arising from small studies or transferable evidence will be graded lower. The grading should not be interpreted as priority for policy implementation – i.e. some recommendations may have a low GRADE rating but likely to make a substantial population impact.

## About the Health Equity Evidence Centre

The Health Equity Evidence Centre is an academic collaboration hosted by Queen Mary University of London which seeks to build the evidence base of what works to address health and care inequalities. Decades of evidence has shown that the structures and systems within society lead to health inequalities. We believe that it is only by tackling the unequal distribution of the social determinants of health will we achieve health equity and that the benefits of health care should reach the most marginalised in society.

Find out more here: [www.heec.co.uk](http://www.heec.co.uk)

## About this evidence brief

This Evidence Brief has been commissioned by NHS England to support their statutory responsibilities to deliver equitable health care and the evidence review draws upon the EQUAL-QI study which is funded by the NIHR Advanced Fellowship Programme. Policy interventions beyond health care services were not in scope. The content of this brief was produced independently by the authors and do not necessarily reflect the views of NHS England.



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