Equity, health inequality and quality improvement

Discussion Paper

December 2020

This paper was originally developed as an internal working document for Healthcare Improvement Scotland ihub staff to inform discussions around QI planning and measurement. We thought it could also be useful to share this document externally with others who are involved in improvement work.

Discussion context

The ongoing pandemic has brought the presence of inequality into sharp relief. We know that the impacts of COVID-19 are not equal across areas and groups in society and there is widespread acknowledgement of a worsening of health inequalities. A report[2] from the Housing and Social Justice directorate of Scottish Government suggests that a combination of pre-existing inequalities, layered with the impacts of COVID-19 and Brexit, could potentially result in challenging legacies of widening inequality.

Prior to the pandemic it was noted[3] that the inverse care law - that good medical care is least available to the groups most in need of it- proposed by GP Julian Tudor-Hart in 1971, persists, nearly half a century after it was first identified. It's been suggested[4] that two of the three key explanations identified by Hart apply to Scotland: lack of resources in deprived areas, and the ability of some groups in society to make better use of the NHS than other groups.

One of three key renewal objectives to support current reform in NHS Scotland is ensuring that the health and social care support system is focused on reducing health inequalities[5]. A key theme to emerge from Healthcare Improvement Scotland's COVID-19 health and social care learning system was the importance of thinking about how to address inequalities.

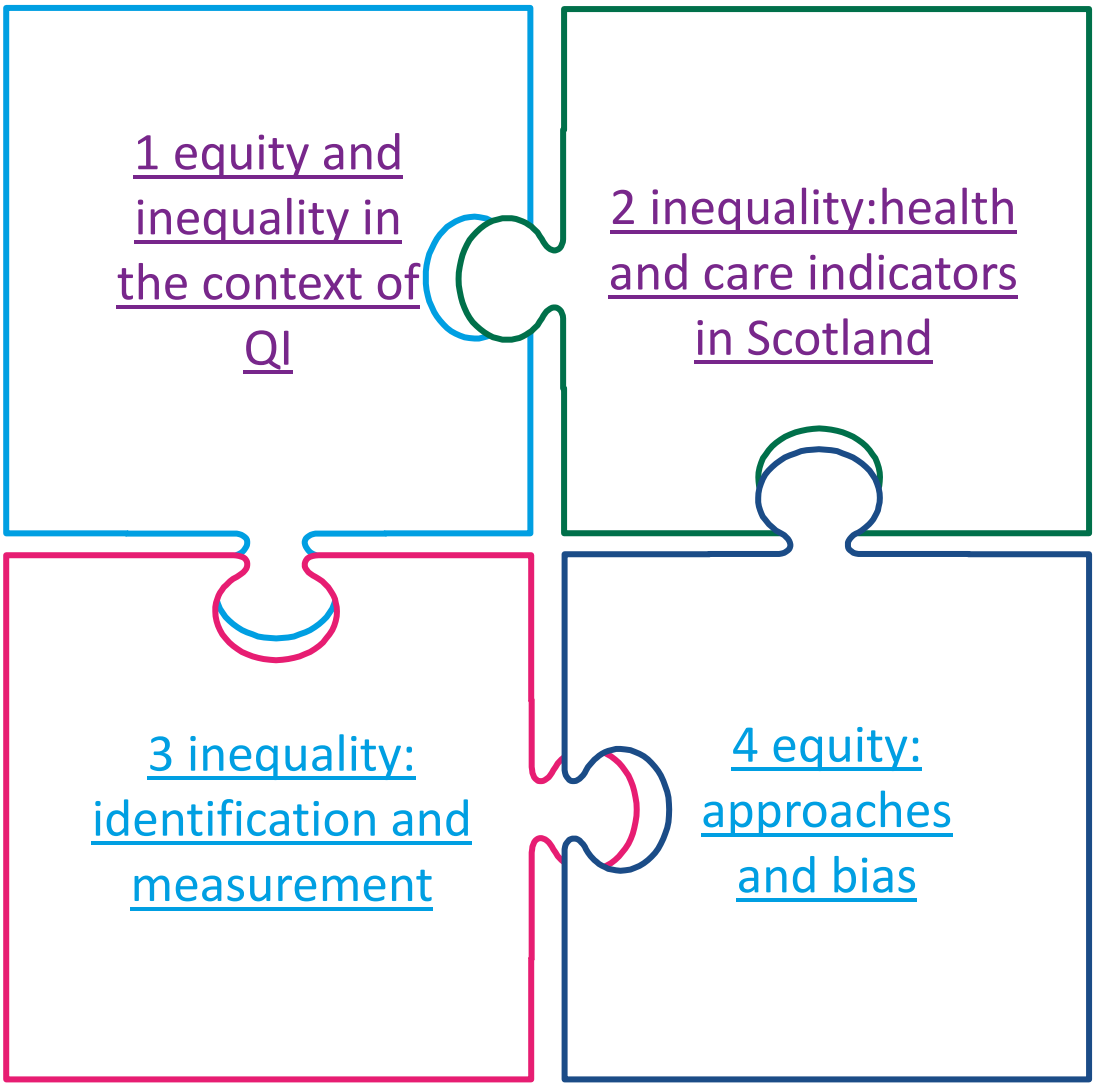
A note on language

We have taken a decision to use the terms equity and inequality in this paper because equity is a recognised and important concept in quality improvement, complementary to thinking about health inequality in public health. Regardless of terms our main aim is to promote discussion about the persistence of avoidable inequality for different groups, as relevant to quality improvement initiatives[1].

[1] **Please note**: For avoidance of doubt, this paper does not directly relate to Equality Impact Assessment (EQIA). EQIAs are an integral stage of quality improvement planning and can act to inform further considerations about equity. Healthcare Improvement Scotland has a legal duty to assess the impact of applying a proposed new or revised policy (including all quality improvement activity), against the equality duty (Equality Act 2010) to eliminate unlawful discrimination, harassment and victimisation and any other prohibited conduct.

Discussion points

We've set out some areas for consideration in four sections: QI context of equity and inequality, inequality indicators and sources of knowledge, identification and measurement of inequality in QI, and QI approaches to equity and (unconscious) bias.

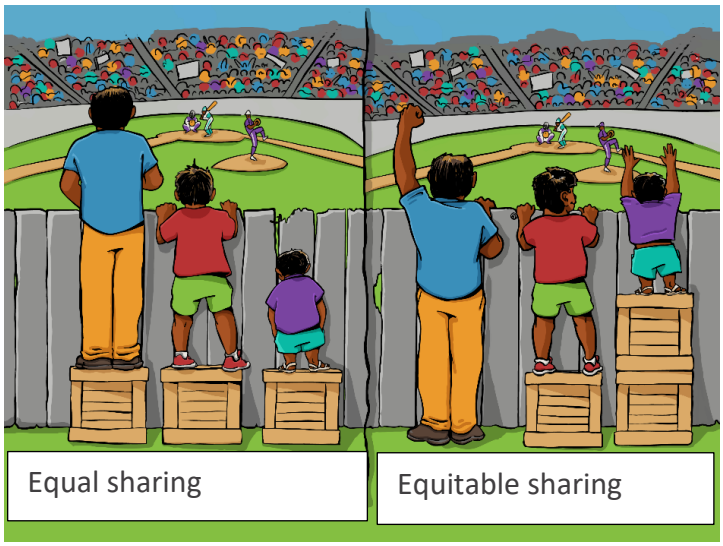


1 equity and inequality in the context of QI

Health and care services represent one aspect of multiple "social determinants of health", which the World Health Organisation[6] defines as "*… the conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels.*" The below diagram illustrates this and shows there is a complex relationship between quality improvement of health and care services and health inequalities.

Source: Dahlgren, G. and Whitehead, M. (1993) Tackling inequalities in health: what can we learn from what has been tried?

Some health inequalities may be unavoidable, but other inequalities, which may be related to subpopulation groupings (for example defined by geography, ethnic group, sex, age, socio-economic circumstances or disability) may be avoidable, may lead to poorer outcomes and are considered unfair[7]. Universal health-care systems define fairness in terms of needs[7]. The below picture illustrates these ideas[2]:



Source: (Adapted) Picture used with permission from the Interaction Institute for Social Change[8] | Artist: Angus Maguire

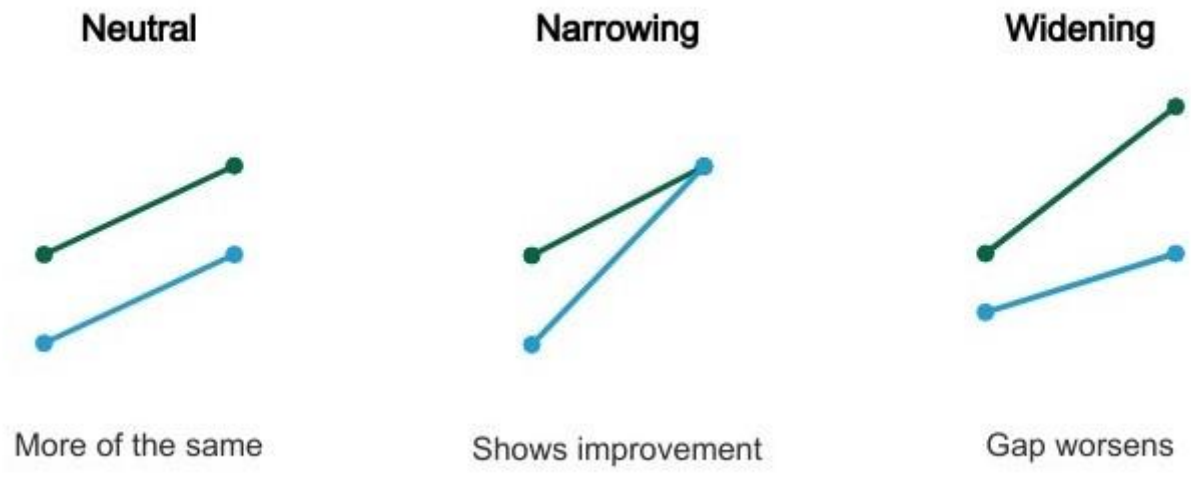
Equity

> **Equity is an ethical construct that recognises different groups may require different approaches to get the same outcomes**
> **[Poynter *et al.*, (2017) citing Braveman and Gruskin, 2003]**

Equity was identified as a key pillar of quality nearly 20 years ago[9] but QI initiatives tend not to focus on improving equity as a primary aim[1]. In a 2016 white paper from the Institute of Healthcare Improvement (IHI), equity was termed the 'forgotten aim' of health care improvement[10].

It is important to recognise that there are three possible effects of QI on equity as a result of a successful QI initiative. An outcome could improve at the same rate for both the subpopulation group and the whole population, or improve at a slower or faster rate for the subpopulation group[1].

An outcome could improve at the same rate for both the subpopulation group and the whole population, or improve at a slower or faster rate for the subpopulation group [1]. The below graphic (adapted from a New Zealand health and quality safety commission report) shows this via a subpopulation group represented by a blue line and the whole population represented by a green line).



Source: Solving Disparities (https://www.solvingdisparities.org/tools/roadmap/linking-quality-and-equity)

QI initiatives often fail to close equity gaps, due in part to an *'incomplete transition from the industrial origins of QI science'.*

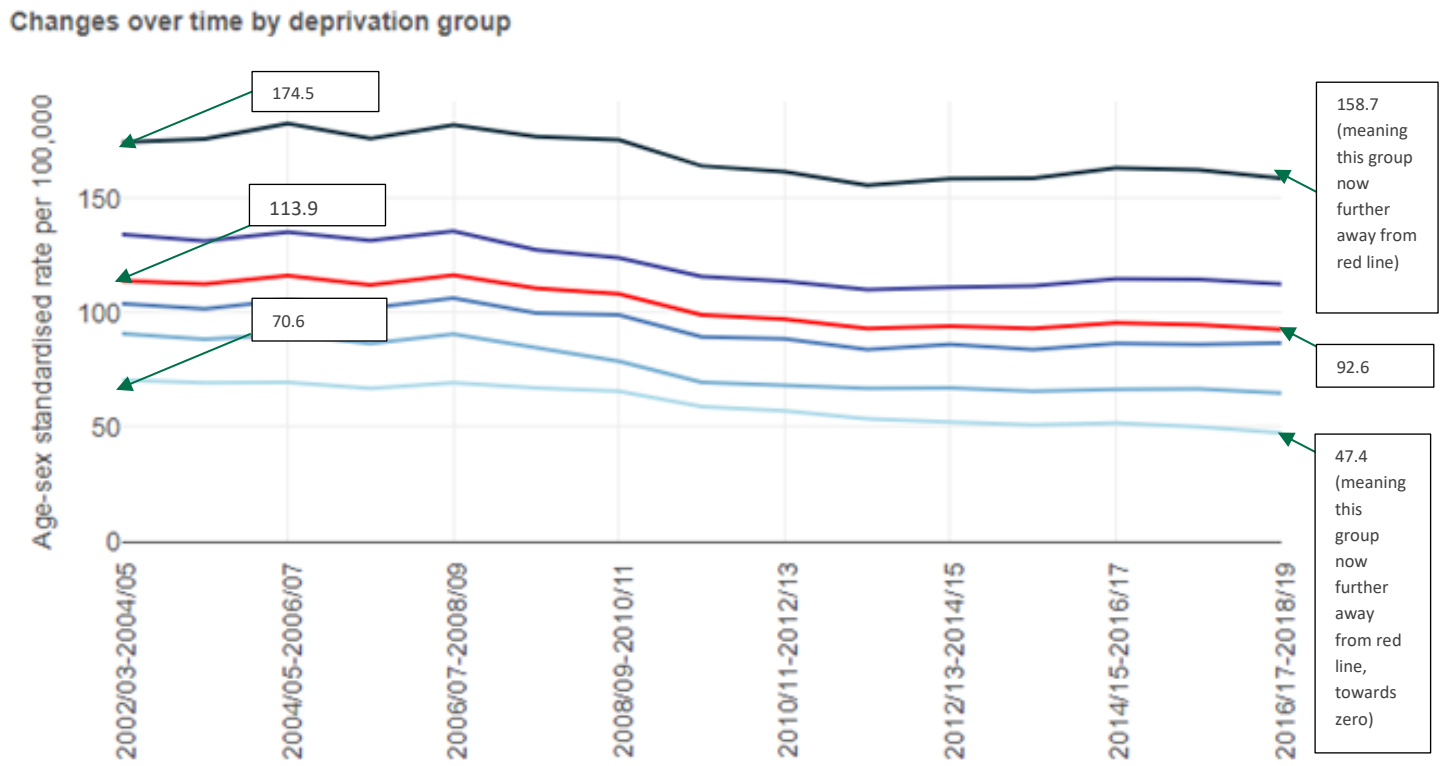
(Poynter *et al.*, 2017)

Pursuing standardisation using a uniform approach may often not deliver to those groups most in need and may unintentionally preferentially improve quality for more advantaged patients, and maintain or worsen existing disparities between population groups[1].

Asthma patient-hospitalisations, Scotland 2002-2018

A clear example can be shown in the graph below taken from the Scottish Public Health Observatory online profiles tool focused on asthma patient hospitalisations in Scotland between 2002 and 2018.

Looking at the red line, which represents the 'overall' measurement, the rate of asthma hospitalisations have improved (declined). However, if we look at the other lines, which represent data stratified by area of deprivation (the most deprived area being darkest blue and the least deprived lightest blue), we can see improvements have been concentrated among the least deprived areas, and inequality in outcomes for groups in the more deprived areas has widened. The detail boxes below show the dark blue and light blue lines have each moved further away from the red line in opposite directions, and the gap has widened:



Source: ScotPHO (Scottish Public Health Observatory v2.0 2018)

Poynter *et al.* (2017) suggest that since not all population groups have the same needs, it follows that improving quality equitably should allow for differences and adaptations in QI initiatives to meet the needs of different

population groups. They consider this 'ideal QI' along Deming principles: initiatives use standardisation as a base, but retain adaptive properties.

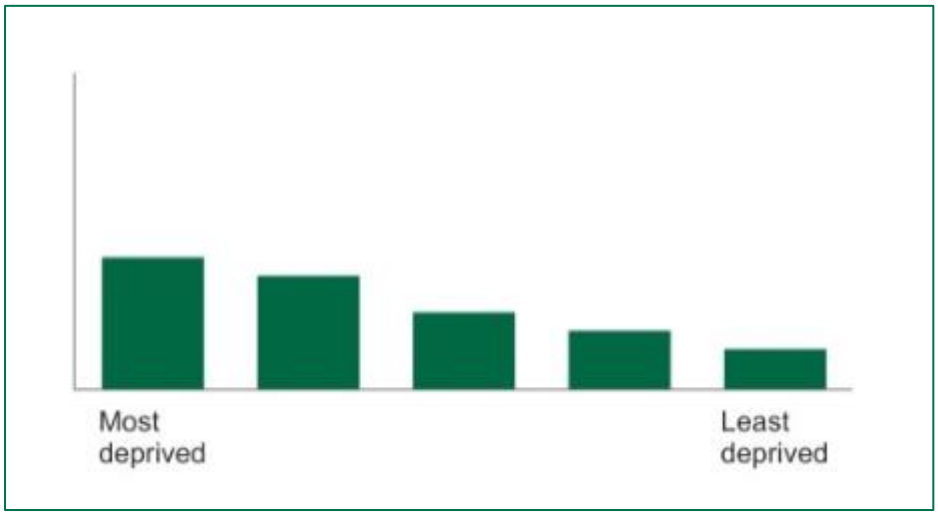
2 inequality: indicators in Scotland

In 2019 NHS Health Scotland developed a set of health and social care inequality indicators[11] for Scotland (set out in the below table) and analysed each indicator on area-based data based on the **Scottish Index of Multiple Deprivation (SIMD)**. The indicators measure:

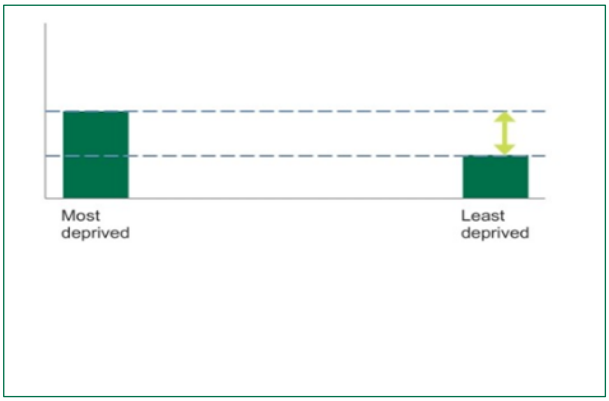
- **inequalities in access to health and social care services (NHS Boards and Health and Social Care Partnerships)**
- **the quality of care and treatment received, and**
- **health and social care service outcomes.**

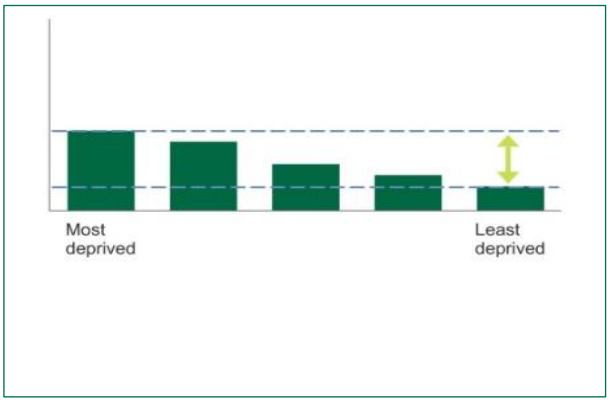
Indicator	Domain
Patients per GP	Access
Preventable emergency hospitalisation for a chronic condition	Access/ quality
Repeat emergency hospitalisation in the same year	Quality
Dying in hospital	Quality
Mortality amenable to healthcare	Outcome
All- cause premature mortality	Outcome

There are two ways for measuring inequalities across deprivation categories such as those shown in the following charts (adapted from NHS Health Scotland, 2019).

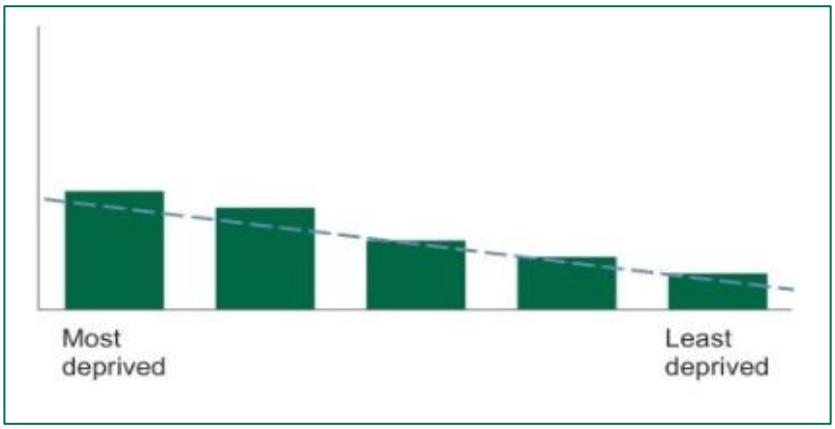


Comparing the gap in access between the most and least deprived groups is a simple way of measuring inequality. However, taking this approach ignores inequalities across the population.





Measuring the **gradient of inequality** across all deprivation categories takes in to account the picture across the population. The gradient can be *'thought of like a hill – the steeper the gradient (slope of hill) the greater the inequality'*[11].



3 inequality: identification and measurement

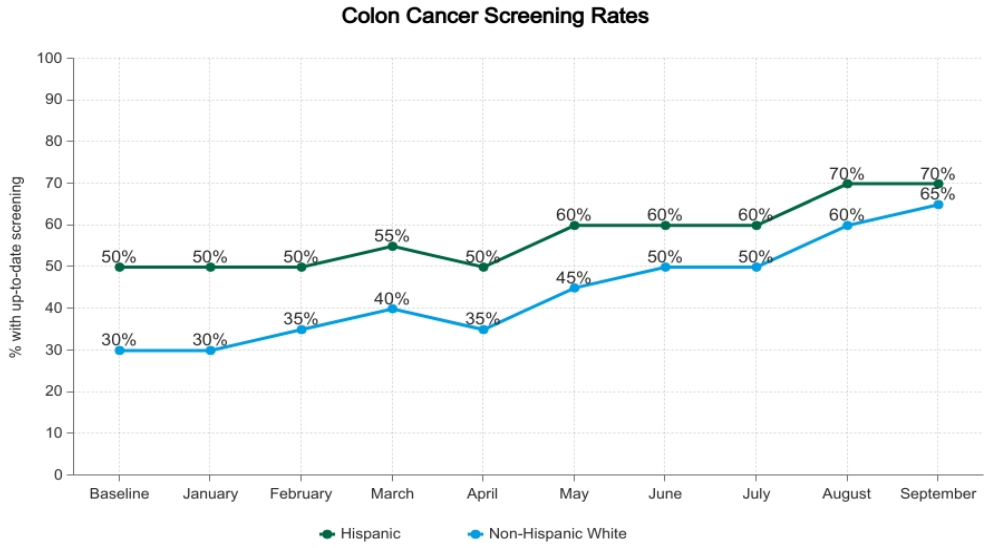
To recognise inequality in the context of a QI initiative it is important to be able to access and interpret relevant data and be confident in using appropriate analysis techniques, which will include but may be not limited to QI methodology. You may wish to seek support from colleagues with data analysis expertise, such as public health practitioners, to provide specific guidance in this area including examining the quality data and advising on systems to facilitate or automate data collection and analysis.[3]

[3] If detailed information about the features of good indicators and how health and social care services can contribute the reduction of health inequalities are required we also recommend consulting the existing resources available from Public Health Scotland such as http://www.healthscotland.scot/reducing-health-inequalities/use-the-right-indicators

The Institute for Healthcare Improvement (IHI)[12] have outlined some recommendations and examples of measuring reductions in avoidable inequalities, for example:

1. **Combine summary measures** (including multiple subpopulations in one measure) **and stratified measures** (detailed comparison between groups).

An example of how stratifying data can identify opportunities for improvement and examine improvement over time is shown in the below example[13] from the USA:



Source: Graph adapted from Center for Health Professionals, 2012[13]

2. **Measure disparities in both absolute** (looking at differences) **and relative terms** (looking at ratios) for more comprehensive understanding, particularly if making comparisons over time or geography.

	Absolute measure	**Relative measure**
For example	The number of women who receive mammograms increases for both black and white women	The proportion of black and white women who have mammograms remains unchanged or even decreases

3. **Express relative measures of disparities in terms of adverse events**, rather than a favourable event, to support comparisons between health indicators and over time.

	Adverse event	**Favourable event**
For example	Expressed as "Women who have **not** had a mammogram within the past year"	Expressed as "Women who have had a mammogram in the past year"

4. When comparing two specific groups, pairwise comparisons may be sufficient. **Describe disparities between one or more groups and a specific reference point.**

	Within the past year, compare:	
For example	Rates of women with high income who have not had a mammogram	Rates of women with middle and low income who have not had a mammogram

Further detail about these recommendations is available within the IHI report.

You may find that individual-level data such as age and sex and ethnicity is challenging to access and compare. Considering area of residency level data such as Scottish Index of Multiple Deprivation (SIMD) via postcode data may offer a pragmatic approach and uses established tools which are widely understood and available in the Scottish context.

SIMD is divided into ~7000 zones of small area "datazones". Each datazone is ranked according to a large set of indicators of socioeconomic conditions including income, education, employment, housing, access to services, crime and health. The ranking allows comparisons between datazones ranked from most to least deprived (comparing either within regions such as Local Authorities or Health Boards, or Scotland as a whole). SIMD only attempts to attribute a socioeconomic status to a place, and does not represent an individual.

Exploring place and context of the QI initiative

Inequalities in physical and social aspects of a 'place' are linked with health inequalities (and other inequalities) and each of the National Performance Framework outcomes is linked with 'place'[14]. Managing the physical environment, for example, is emerging as a key concern for healthcare provision during Covid-19 and this may have potential to exacerbate health inequalities.
The Place Standard Tool consists of 14 questions that can support you in planning (perhaps in conjunction with sites) to '*think about the physical elements of a place (for example its buildings, spaces, and transport links) as well as the social aspects (for example whether people feel they have a say in decision making)*'.

ScotPHO (the Scottish Public Health Observatory) provides a geographical area 'Profiles Tool' resource. This is a valuable resource to explore, and shows how inequality and deprivation affect different indicators of public health. It will particularly useful to you if there is a measure that is directly applicable to your initiative. NHS

Health Scotland advises that health and social care inequality indicators will be most useful when combined with other forms of evidence, emphasising the value of **local knowledge** of populations, services and data[4].

4 equity: approaches and bias

Seek knowledge from others

As mentioned, local level intelligence and information from a broad range of stakeholders, including hardly reached groups, is very important. The Community Engagement directorate offers specialist expertise and participatory tools for engaging with groups - available at https://www.hisengage.scot/toolkit.

> **There is no single approach that will help ensure that our work does not have unintended consequences. However, there are a number of steps that if taken at the commencement of our work, will help us better understand potential factors that can lead to health inequalities. In turn this will help inform evidence based actions we can take to reduce the risk of our work inadvertently creating health inequalities.**
>
> **The steps involve considering:**
> - **our legal duties,**
> - **an equality impact assessment,**
> - **a person-centred approach,**
> - **diverse public involvement, and**
> - **how people can provide us with feedback, particularly if we fail to meet their needs.**
>
> **From a practical guide produced by the Public Involvement Unit to tackling health inequalities[1]**

The Transformational Redesign Unit in the ihub has expertise in identifying population-level needs (including those of communities and individuals), and can provide guidance for developing approaches incorporating the principles of quality improvement and service design. Within this the Evidence and Evaluation for Improvement team can provide specialist support, for example to review and identify existing evidence relevant to inequalities in particular improvement areas.

After considering data and knowledge sources and identifying avoidable inequalities there are two general approaches which QI initiatives can choose to take. The choice depends upon whether equity is:

1) a primary focus of the work (equity-focused QI), or
2) a secondary consideration within a standard QI approach.

Approach 1: Equity-focused QI

In this approach the aim is to **identify and reduce** avoidable inequalities in health care relevant to the particular QI initiative. Such programmes may wish to consider relevant structure, process and **impact**[15] measures relevant to identified avoidable inequalities.

Equity-focused QI is designed to be flexible to the needs of different population groups, using methods such as co-design where possible [1].

The below examples (adapted from[13] from the USA are set out to clearly show the difference between an equity-focused QI aim and a standard QI aim. Note how equity-focused QI could set an aim for a specific group and simultaneously incorporate a general improvement aim for the wider population:

Standard improvement aim:
By December 31, 2021, increase the percentage of patients 50 -75 years of age with an up-to-date colorectal cancer screening test (FOBT) by 25% over baseline.

Equity-focused aim:
By December 31, 2021, decrease by 100% the gap between Hispanic and Non-Hispanic White patients ages 50 -75 years who have an up-to-date FOBT test, while improving colon cancer screening rates for all to 60%

QI initiatives may have a positive impact on equity when they routinely consider the differing needs of population groups (such as groups defined by ethnicity, age, disability, gender, SIMD) and the inequality gradient.

Equity-focused practitioners and organisations can ask themselves the following questions[1] from the outset:

- *Who are the individuals and groups in most need of this QI initiative?*
- *Is this service able to appropriately approach and be accepted by the individuals and groups most in need?*
- *Will this QI initiative be seen, sought, reached, and engaged with by those individuals and groups?*
- *What institutional and structural barriers prevent the benefits of the initiative reaching all who need them?*
- *What bias is brought via the design of the initiative and how can this bias be recognised, avoided or mitigated?*

The following questions[13] can help to set an equity-focused aim:

What	*What is the clinical or process improvement of interest?* *Is improvement aligned with the strategic interests of the organisation and other QI efforts?*

For whom	*Which group is affected by unequal or disparate care?* *Is there a best-performing group with which they can be compared either locally or using a regional or national benchmark?*
How much and when	*What is your disparity reduction goal and by when do you hope to achieve it?*

Equitable approaches to QI are seldom equal and employ different approaches for different groups in order to achieve the same outcomes[1]. In equitable approaches to QI, planning and delivery is sensitive to the different needs of different populations.

The below example adapted from Poytner *et al*. (2017) [1] regarding health care in New Zealand shows where QI can use data and knowledge on avoidable inequalities to recognise and prioritise opportunities for improvement, where preliminary findings indicate social complexity:

Maori people and gastric cancer outcomes

Primary finding: Māori people are disproportionately affected by stomach cancer in New Zealand. This is probably due to greater exposures to Helicobacter pylori infections associated with overcrowding in childhood and overcrowding disproportionately affects Māori and Pacific peoples.

Secondary finding: Such social contexts are complex but Māori people with gastric cancer in New Zealand are disproportionately less likely to receive specialist upper gastrointestinal surgical care or care in a main centre.

Activities to improve care quality could focus on pathways from presentation to surgery for Māori patients, in order to address the drivers that contribute to poorer care.

IHI plans an 18-month *Pursuing Equity Learning and Action Network* which began in October 2020. For more details you may wish to visit their webpage.

Approach 2: Standard QI

In this approach the aim is to identify and **monitor** potential unintended consequences in avoidable inequalities relevant to the particular QI initiative. Such programmes may wish to consider relevant **balancing** measures to avoidable inequalities and act on the data accordingly. Balancing measures in quality improvement would refer to recognising inequalities and attempting to measure them and/or reduce their impact if necessary[10].

An example of a balancing measure in this context could be monitoring emergency re-admission rates following initiatives to reduce length of stay[15], and considering stratified data to ensure that any existing disparity did not get worse.

QI expertise will be required to consider balancing measures in the context of the programme and identify which measure(s) would be of direct relevance. Meaningful balancing measures can often be identified by listening to skeptical viewpoints and concerns[15]

East London NHS Foundation Trust have produced a set of questions designed to be used after quality impact assessment to guide discussion, taking an equity lens. This involves a representative group of users including staff and senior management and ideally service users, bringing in expertise from population health, transformation, and finance as required[5].

Even if it is not feasible to comprehensively consider inequalities in planning there may be opportunities to focus on specific aspects of programmes such as potential risks relating to health literacy and digital exclusion, if these have not already been considered in programme planning, and increasing emphases on person-centred care, working with or communicating with hardly reached groups where possible.

Whichever approach is taken, rigorous QI methodology should be applied as usual, including establishing baseline measurements and regularly considering comparison data, as appropriate to evaluation design.

Inequalities are complex, and measuring impact will be too. Focusing on progress on process outcomes in the short term and impact in the longer-term is likely to be necessary. Detailed guidance on programme evaluation in QI is available on the EEvIT webpage.

Summary

- Unfair health inequalities persist and are expected to be exacerbated by the current context: this is reflected in our national strategic priorities and existing national indicators and resources.
- Equity has long been recognised as a pillar of health care quality, but may have been 'forgotten' as an aim in quality improvement.
- It is acknowledged that QI offers an opportunity to improve equity and aspects of health inequality but standard approaches to QI and pursuit of uniformity may be problematic.
- QI initiatives can identify avoidable inequalities relevant to a programme by stratifying available data. QI practitioners can use their expertise and consider seeking support with data analysis and measurement, and using published evidence.
- Equity-focused QI offers an opportunity to consider equity as a primary concern and aims to reduce avoidable inequality.
- A standard QI approach (focused on mitigation of unintended consequences) can develop balancing measures which are meaningful and regularly revisited in line with established QI measurement methodology.
- Taking a standard QI approach does not prevent reflection on unconscious biases and optimisation of the design of the QI initiative through consideration of health literacy, digital exclusion and engaging with hardly-reached stakeholders.

We welcome any feedback on this document, please contact the team

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Other sources/ reading

- Scottish Government Long-term monitoring of health inequalities report (2020) https://www.gov.scot/publications/long-term-monitoring-health-inequalities-january-2020-report/
- QualityWatch online document: How have inequalities in the quality of care changed over the last 10 years? 2020
- Nuffield Trust blog about above resource: Quality and inequality: digging deeper 2020

- Public Health Scotland webpage: http://www.healthscotland.scot/; Use the right indicators 2020
- Health Service Delivery Research report: Health Equity Indicators for the English NHS: a longitudinal whole-population study at the small-area level 2016
- King's Fund report: Getting the measure of quality: Opportunities and challenges 2010
- Scottish Atlas of Healthcare Variation https://www.isdscotland.org/products-and-services/scottish-atlas-of-variation/view-the-atlas/
- Scottish Burden of Disease https://www.scotpho.org.uk/comparative-health/burden-of-disease/overview/

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