Healthcare Costing for Value Institute

How costing teams are helping to reduce health inequalities

September 2024

Overview

It has long been known that there are avoidable, unfair and systematic differences in health between different groups of people and that health inequality leads to disparate health outcomes, varied access to services and poor experiences of care. The Health and Social Care Act 2012 was the first to establish the NHS's legal responsibility to tackle health inequalities, and the NHS Long Term Plan stated that the extra cost to the NHS of socioeconomic inequality was over £4.8bn[1] a year for hospitalisations alone. But the imperative to address the issue was brought into sharp focus during the Covid-19 pandemic and reducing health inequalities is now one of the four core purposes for all integrated care boards (ICBs).

In April 2022, the Healthcare Costing for Value Institute (the Institute) published *Using cost data to address health inequalities*[2]. This briefing set out some of the legal responsibilities, national guidance and resources available and highlighted early examples from costing teams who were working with their organisations to support this important agenda.

Over the past two years, work to address health inequalities has moved apace within NHS England and ICBs and increasingly finance teams are getting involved in supporting this. Nationally this work is led by Professor Bola Owolabi, director of the National Healthcare Inequalities Improvement Programme at NHS England who notes that 'tackling health inequalities is everyone's business'[3].

The Healthcare Financial Management Association (HFMA) is working on a range of outputs to help finance staff to support their organisations and systems to reduce health inequalities[4]. The HFMA has worked with NHS England to establish the health inequalities finance fellows (HIFF)[5] programme bringing together a network of mid-to-senior level management finance staff to share ideas and spread best practice in tackling healthcare inequalities.

The HIFFs come from widespread roles within finance and there are costing practitioners represented in the network. However, as highlighted in the original Institute briefing in April 2022, there are significant opportunities for all costing practitioners to get involved in supporting their organisations in this field.

The Institute has established a Health Inequalities Costing Sub-group (the Group) with participation ranging from those leading on costing health inequalities (including some HIFFs) and those just starting this work, giving a balance between experience and early starting points.

Based on discussions in the Group, this briefing builds on and provides an update to, the original April 2022 publication. It is primarily aimed at costing practitioners who are working with their organisations and systems to support health inequalities workstreams with cost information and costing team skills.

During their discussions, the Group developed the five top tips for costing practitioners who are looking to engage with, or drive health inequalities work in their area. These are highlighted in Box 1 overleaf.

If you have examples of using cost data to tackle health inequalities, contact policy@hfma.org.uk.

[1] NHS England, *NHS Long Term Plan Chapter 2: More NHS action on prevention and health inequalities, section 2.3*, January 2019
[2] HFMA, *Using cost data to address health inequalities*, April 2022
[3] NHS England, *Tackling health inequalities is everyone's business,* June 2021
[4] HFMA, *Health inequalities and prevention*
[5] HFMA, *Addressing health inequalities,* November 2023

Box 1: Five top tips for starting to get involved with health inequalities work

1. **Start where you are**. Do what you can. It is not necessary to do everything all at once, so keep your first steps simple. Pathway analysis is a next step – not the first step. Pathways should be a long term goal but doesn't need to be where you start.

2. **Engagement from clinicians can be easier with health inequality data** than with just cost data alone. Health equality is of vital importance for our citizens, and there is strong clinical buy-in for this work, giving access to teams not always engaged by costing.

3. **Use early successes to roll out across the organisation.** Even if results are still at early stages, it will be easier to make the case for a wider roll out of the information.

4. **Joined up working with business intelligence teams is helpful, but not essential** at the start. If your business intelligence department is not able to show health inequalities activity data, do it through the costing system or costing dashboards. Let costing get the ball rolling.

5. **Find your trust board lead for health inequalities.** All trusts are required to have one and linking in with them will help with senior encouragement and leadership for the work[6].

[6] NHS England, *Our approach to reducing healthcare inequalities,* accessed June 2024

Why costing professionals need to get involved in initiatives to address Health Inequalities

There is an increasing body of evidence to support the assertion that avoidable, unfair and systematic differences in health between different groups of people lead to disparate health outcomes, varied access to services and poor experiences of care. Addressing health inequalities is morally the right thing to do, but it also makes sense financially and operationally.

Professor Owolabi told the HFMA annual conference 2023 that addressing health inequalities can save the NHS in the region of £5 billion in treatment costs alone, and lead to productivity improvements of between £31 billion - £33 billion per year.

But the challenge is how to make this work in practice. Previous HFMA work has explored how NHS finance staff can communicate the case for change[7], consider health inequalities as part of the business case process[8], find potential sources of funding[9], set up financial incentives[10], support commissioning approaches[11] and build financial strategies that help tackle health inequalities[12].

Underlying many of these is the need to use financial and non-financial data to understand health inequalities and population health. This is where costing teams can play a vital role. Reporting the cost of health inequalities will allow the benefits of possible interventions to be more accurately assessed.

In many cases, schemes to reduce health inequalities will need to be developed across traditional organisational boundaries and may involve working with system partners from outside the NHS. This whole system approach provides an opportunity for costing teams to be at the centre of facilitating changes which will improve the health of the local population.

Even if the required insights are based more on non-cost related data, costing teams are in a unique position to support this work. Through existing production and use of patient level costing to inform national data submissions and local decision making they have access to much of the data required. Costing practitioners have noted that adding data items to highlight the factors known to contribute to health inequalities is not difficult. They are adept in the skills needed to present data, and have already developed relationships with analytics teams, clinicians, and service leads.

Furthermore, coupling this with the patient level cost data brings together more facets to a patient event than basic activity data, and so has more granularity to bring to the analysis.

It is true that work on reducing health inequalities does not necessarily need to be led by, or even have, costing team involvement. However, by taking a proactive stance the costing team has an opportunity to work in an area where patient benefit can be significantly improved. It will also contribute to raising the profile of the patient level cost data and your team with clinicians, service managers and the senior management team.

[7] HFMA, *Health inequalities: establishing the case for change*, May 2023
[8] HFMA, *Considering health inequalities in business cases*, December 2023
[9] HFMA, *Resources and funding to reduce health inequalities*, July 2023
[10] HFMA, *Using financial incentives to tackle health inequalities*, January 2024
[11] HFMA, *Commissioning to reduce health inequalities*, March 2024
[12] HFMA, *Bringing it all together: financial strategies that address health inequalities,* August 2024

Terminology and data items that costing professionals need to know about

To present health inequality information, it is useful to have a working knowledge of the terminology and understand the data items used to demonstrate the differences in cost for different patient cohorts. Some of the most commonly used terminology is highlighted in box 2.

It should be noted that *equality* includes both protected characteristics under the Equality Act 2010, and some wider characteristics agreed as part of the NHS England Equality Objectives Programme.[13]

Box 2: Commonly used terms

- **Health inequality** - avoidable, unfair and systematic differences in health between different groups of people. Health inequality leads to disparate health outcomes, varied access to services and poor experiences of care.
- **Lower layer super output area (LLSOA)** - a small geographic area set by the Office for National Statistics (ONS). An LLSOA comprises between 400 and 1,200 households and usually has a resident population of between 1,000 and 3,000 persons. Each postcode in England and Wales is assigned an LLSOA, enabling detailed analysis at a small area level. The equivalent in Scotland is 'datazone' and in Northern Ireland, 'super output area'[14].
- **Indices of multiple deprivation (IMD)** - a measure that shows relative deprivation at a small local area level. This considers a broad range of factors such as income, employment, education, health, and crime. The measure is often expressed as a deprivation decile, where areas are grouped from decile 1 (most deprived) to decile 10 (least deprived). IMD is calculated separately for each of the four nations.[15]
- **Population health** - an approach aimed at improving the physical and mental health outcomes and wellbeing of people within a defined area, while reducing health inequalities. It involves working with communities and partner agencies to reduce ill health, deliver appropriate health and care services and address the wider determinants of health.
- **Core20PLUS5** - an approach recommended by NHS England that guides integrated care systems towards areas of work where they can have the biggest impact on health inequalities. Core20 are people living in the most deprived two IMD deciles. PLUS are groups of people identified at a local level as facing particular challenges with health inequality. And 5 represents five clinical areas of health inequality – maternity, severe mental illness, Chronic respiratory disease, Early cancer diagnosis and Hypertension case-finding and optimal management and lipid optimal management.[16]

National metrics

Health inequalities data for each provider and system is presented in the healthcare inequalities improvement dashboard[17] on the FutureNHS collaborative platform[18]. While this does not include cost data, it does give an overview of the data items that are familiar to senior leaders and clinicians. This can be a useful guide for presenting health inequalities cost information consistently within your organisation and system following the same categorisation.

[13] NHS England, *NHS England Equality Objectives Programme – the future objectives report – developing equality objectives and targets for 2023/24 and 2024/25*, June 2023
[14] NHS England Digital, *Lower Layer Super Output Area*, June 2024
[15] Consumer Data Research Centre, *Index of Multiple Deprivation*, accessed June 2024
[16] HFMA, *Using cost data to address health inequalities*, April 2022
[17] NHS England, *The Healthcare Inequalities Improvement Dashboard*, accessed June 2024
[18] NHS England, *Healthcare Inequalities Improvement Programme - FutureNHS Collaboration Platform*, accessed June 2024

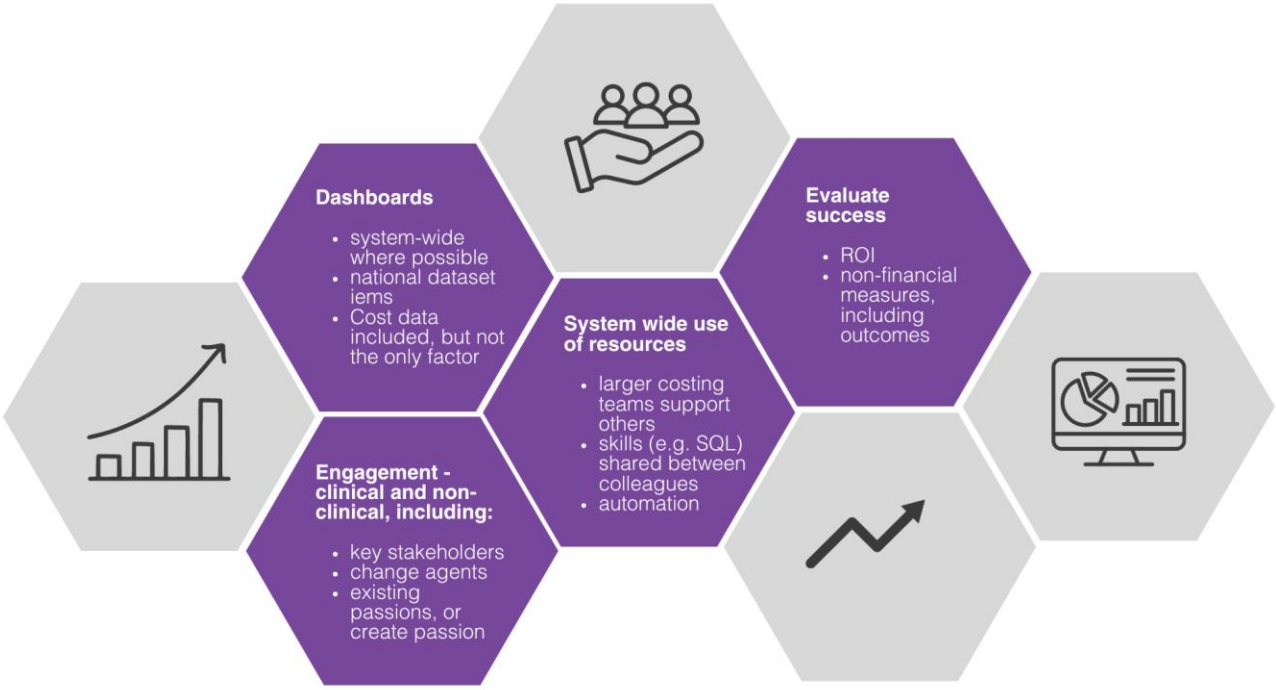
How costing professionals can get involved

To present the cost data alongside health inequality metrics, this briefing presents a list of useful questions for costing practitioners to consider.

- How can cost and other data be presented to the best effect?
- How can systems make optimal use of costing teams' skills and experience?
- How can costing teams engage with clinical and non-clinical colleagues?
- How should costing teams measure and evaluate success of this work?

This section elaborates on some of the key points linked to these questions which are summarised in figure 1.

Figure 1: Elements for costing professional to consider in supporting their organisations to achieve health equality



How can cost and other data be presented to the best effect?

Dashboards are recognised as the most effective way to present relevant data, using visual charts and graphs, showing relationships between data items, and often have some interactive functionality, including 'drill down' from high level aggregate data to detailed data in a chosen area. The NHS England Approved Costing Guidance Use of cost data: learning extension[19] gives examples of how to present patient level cost data.

Costing teams should already have dashboards for using patient level cost data, within the patient level information and costing system (PLICS) software, as a separate set of costing reports, or as part of an organisation suite of business intelligence. Where dashboards are already in place, the

[19] NHS England, *NHS England Costing Engagement - FutureNHS Collaboration Platform*, July 2024. To access this document will require a login to the workspace.

concept can be extended to show the health inequalities data. If an organisation does not yet have dashboards, examples of health inequality and cost data can be seen in the April 2022 briefing[20].

Which data items to use?

The advice from costing practitioners who have already made progress in this area is to start with the basics. Based on data that should be readily available in all providers, patient events can be linked to:

- Deprivation score: index of multiple deprivation (IMD)
- Lower layer super output area code (LLSOA)
- Gender
- Ethnicity
- Patient event cost (or link the HI data to the patient master table[21], so all the fields in the cost information can be used)

Other factors that can be considered for linkage to cost data include distance to health, fast food, patient need group score, primary condition and comorbidities. Graphic representation is usually preferred over data tables, and many formats of presentation can be effective.

Mapping of postcodes to LLSOA is based on the office of national statistics mapping 'best fit' model[22]. Whilst this is mostly one to one mapping, it is useful to be aware there are some overlaps which will need to be reviewed locally.

Which dashboard model to use?

Presenting the cost data may also depend on the dashboard platforms available. Some PLICS have detailed dashboards for costing but cannot be amended to include health inequalities data. Other PLICS may be more flexible, or output to other dashboard platforms such as Qlikview or PowerBI. These dashboards may have extensive drill down capabilities, but an offsetting factor may be the time taken to run a report.

Some costing teams have resorted to pulling the data and processing the health inequality reports manually, which - although not optimal for resource use or drill down - may enable a start to be made. Costing practitioners have reported a variety of methods and challenges in this arena.

Which cost to use?

Once the IMD and LLSOA data items have been mapped to the other data items, there are options for how the cost is presented. The choice will largely depend on the level of granularity needed for the analysis and onward use.

For example, using patient level cost data as the underlying dataset, cost can be presented at patient level if the supporting data is sufficient to show meaningful analysis, or it can be presented per head of population for a more aggregate view. Other options might be to use total cost or average cost for the patient cohort.

Who should prepare and manage the dashboards?

Cost and health inequalities data is ideally held and managed within a business intelligence dashboard, as part of the regular reporting structure for the organisation and system. This helps to ensure the technical strength of data flows, information governance, software and hardware. However, it is recognised that many organisations do not start from a fully integrated dashboard.

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[20] HFMA, *Using cost data to address health inequalities*, April 2022

[21] This name of this table may vary; it contains the basic patient information such as name, NHS number, date of birth, address etc.

[22] Office for National Statistics, *Open Geography Portal,* Accessed July 2024

This briefing demonstrates how costing teams can lead the way in demonstrating inequalities by patient cohort. Displayed alongside cost data this can also be useful in highlighting the links between reducing inequalities and providing services that save money and/or increase productivity.

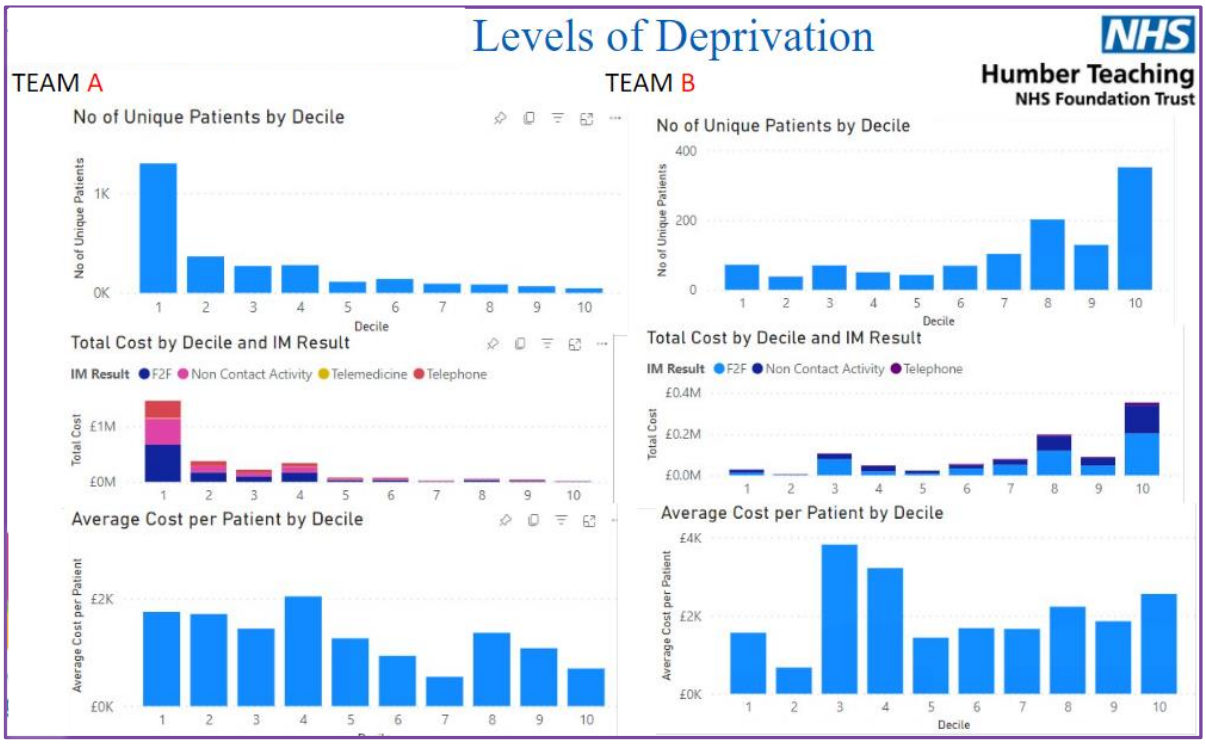
In lieu of a fully integrated dashboard and recognising that most costing teams already present cost data in some form, one option that some organisations have adopted is for costing teams to build the required dashboards. There are cost and resource implications of doing this, which become even more apparent when extending to cross-system analysis and pathway redesign.

In the short term, some organisations have found ways around this problem by writing custom reports, for example using structured query language (SQL) which is a skill many costing practitioners have in their armour.

Examples of data items in use

Humber Teaching NHS Foundation Trust costing team represent deprivation and cost in many ways, including **figure 2** which compares clinical teams within the same service area. Looking at the top row of graphs for team A and team B, team A, an inner city team, treats mainly patients with the most deprived areas (IMD decile 1) whilst team B, a rural team, treats mainly patients in the least deprived areas (decile 10).

Figure 2: Dashboard highlighting data from two teams within the same mental health service



This can then be compared to the total cost pattern - which shows a similar trend. However, when you compare the average cost per patient in each decile (the bottom row of charts) team B spends the most with patients in IMD decile 3 and 4 this is more than double what is spent on those in deciles 1 and 2 which are the 20% most deprived area patients where you would expect as a minimum the same level of spend if not slightly more costing the most. Exploring the question 'why this is happening' can uncover areas where changes to service could enable resources to be balanced more effectively.

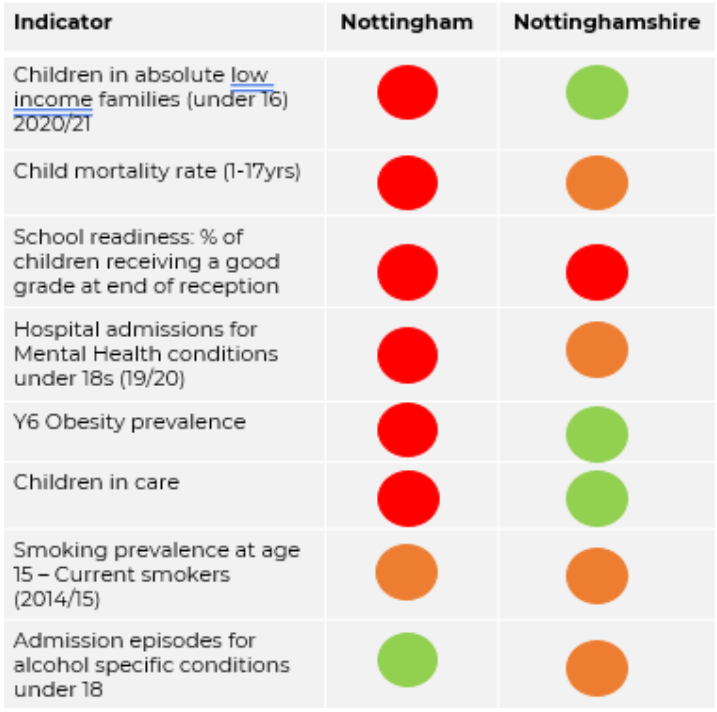
By analysing and presenting data in this way, it has opened conversations with and between clinical teams as to why patients in deciles 1 and 2 not receiving as much care as those in deciles 3 and 4.

They are able to investigate if patients are they not engaging or if there are barriers to them receiving services. The location for team B is rural, which leads to exploring if this affect the patient's ability to attend appointments or affect the limited time available of staff to reach delivering care to patients in their own home and if there a higher proportion of patients not attending (DNAs) in this population group?

Often clinicians will know, or have hunches about, what is happening in their services even before any data is presented back to them. But the role of the data and the costing professionals is to support the discovery phase, help clinical teams to analysis results and then to support them in developing and transforming clinical services that offer a fair and equitable service to all.

Another example of presenting deprivation data is highlighted in figure 3. Nottingham University Hospitals NHS Trust working with Nottinghamshire Integrated Care System (ICS) have developed a presentation of high level indicators to show the inequality of communities within the city, compared to the wider county. These indicators were constructed under the guidance of the ICS population health steering group to review the equity in children's outpatient services.

Figure 3: Deprivation prevalence among children and young people services within the county of Nottinghamshire



In both of the examples highlighted above the work to use this data is at an early stage, but presenting the data in a suitable format is a first step in engaging clinicians in solutions to encourage equity of access to services.

There are many different examples of using data presentation and dashboards to support work to address health inequalities. Being able to share good practice in this emerging field is essential to expediting roll-out across wider organisations and systems. Box 3 describes further examples arising from discussion in the group.

Box 3: Examples of presenting health inequalities insights using dashboards

Manchester Foundation Trust – urinary tract infections (UTI) length of stay

A health inequalities and costing dashboard investigated UTI and length of stay. This identified areas where primary care teams and community teams could assist in the areas of greatest deprivation. As a result, the relationship between GP and MFT improved.

Nottingham University Hospitals Trust – DNA in paediatric outpatients

Many children were not being brought to appointments. A health inequalities and costing dashboard found they were often from the most deprived areas. The trust looked at different service changes, including assisting with costs of bringing the children to appointments, which proved very successful.

Leeds Teaching Hospitals NHS Trust – maternity analyzer

The costing team used their skills to help the maternity service improve use of data from multiple systems by stitching together different data systems and creating an analyzer tool. They have used the data to look at social profiles and reduce the number of health inequalities for women in the area. Focus on gestational diabetes has allowed them to amend staffing rotas to support care given, and the team have also used the analyzer to improve smoking cessation services and increase the number of babies being born in a smoke-free household. The Leeds maternity team share more about the analyzer tool on X (formerly Twitter).

How can systems make optimal use of costing teams' skills and experience?

Most costing teams are small and have competing demands on their time, including the statutory national cost collection and many ways in which their organisations already make use of the rich information that they produce.

Despite having the skills, knowledge and experience to provide relevant information and support reduction in health inequalities, they may not have time or capacity to do so.

In part the decision as to whether teams proceed will be driven by the priorities and senior leadership within finance and the wider organisation. But there are changes and ongoing support that finance teams can provide within existing resources.

Where the technology and skills of the team are appropriate, or with support from informatics colleagues, it may be possible to build reports in a way that enables the data to flow into the reports automatically alongside the other patient level cost data.

Furthermore, bringing the health inequalities information into existing dashboards used for patient level cost analysis will largely be a one-off task, especially within a single organisation. The initial reports may need some testing and adjustments, but once in place, the resources can be focused on the use of the data.

Extending patient level cost data to link in additional demographic datasets should have minimal information governance implications for internal reports.

Developing system-wide dashboards and participating in system-wide analysis is likely to have additional implications for data sharing and advanced information governance, but the benefits will extend beyond the scope of addressing health inequalities. This could, in the longer term, include primary care and local authority data to gain a wider understanding of the drivers of health inequalities and propose options for change.

Some costing teams already work at a system level, with the larger costing teams in the acute organisations supporting their colleague practitioners in smaller providers[23]. This approach helps share the knowledge, skills and economies of scale across the organisational boundaries, including protocols for information governance. For example, Nottingham University Hospitals NHS Trust are beginning to work with Nottingham Healthcare NHS Foundation Trust to help share the data management in a system-wide model.

When the information is available the next step is to consider how to engage clinicians and service managers effectively. This is discussed in more detail in the next section, but thinking about the role of costing teams in facilitating this trigger questions can be useful for generating discussion. For example:

- Does the data show equal costs for patients across all deprivation score areas? Or are there patterns of higher cost in high deprivation areas?
- If the cost is higher for patients with high deprivation, why is that?
- If there is less activity showing for patients with high deprivation, are there barriers to access?
- What are those barriers?
- Are there did not attend (DNA) patterns across the location of clinics, or time of day, that are worse in high deprivation areas? Is there transport available to get to 9.00 appointments? Are there alternative times for clinics so those working office hours can attend? Are mid-afternoon appointments conflicting with the school run?
- What is the cost / activity for high deprivation areas with ethnicity linked to conditions?

Even where it is not possible to get wider engagement in the information, time and resource allowing costing teams can still use the insights from the information to inform decision making. At the Northern Care Alliance (NCA) NHS Foundation Trust the costing team found an opportunity for reallocation of resources by looking at A&E attendances by identifying large differences in costs for different population groups. However, the challenge remained that the costing team had difficulty finding sufficient clinical engagement on this data to take the work to the next stage and make the recommended changes.

When identifying areas, or agreeing actions to be taken, it is advisable that only a small number are progressed at a time. This gives the greater likelihood of success. There may be many possible actions, and trying to do them all may prohibit achievement of any.

How can costing teams engage with clinical and non-clinical colleagues?

Engagement with clinicians and service managers varies and the main models found by costing practitioners include:

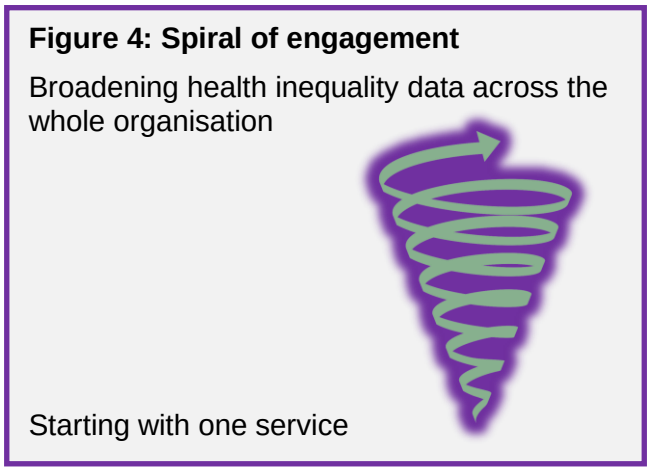
- The costing team use the cost/health inequalities information to generate interest around the organisation
- The costing team is included in multi-disciplinary team use of existing frameworks for service change, bringing cost and health inequalities information to the table for discussion – including the One NHS Finance Engagement Value Outcome (EVO) framework[24]. The Nottingham University Hospitals' Wave programme is an example of an embedded in-house approach[25].
- A consultant or service group reaches out to costing teams to bring the cost/health inequalities information into their work on specific areas
- A trust-wide/ICB-wide health inequalities programme is set up, aiming to share the culture and focus of addressing health inequalities across the whole organisation (although this is currently very uncommon).

[23] HFMA, *A vision for system costing*, January 2024
[24] One NHS Finance, *Engagement Value Outcome (EVO) framework*, July 2023
[25] HFMA, *Using PLICS to drive service improvement- Nottingham's Wave programme*, May 2022

All trusts should have a board level health inequalities lead; however, having a lead is not the same as having a team working towards better health equality, or embedding a health equality culture into the wider organisation. Some organisations have a local health inequalities strategy, but others do not, and work is based on the principles shared from the National Healthcare Inequalities Improvement Programme at NHS England[26] or on locally created plans. But for some providers, the work has begun from the bottom up, with service-based projects without a local strategic framework.

These organisations have found starting small a useful way to gain evidence of success, to share with other services as they enlarge the area covered by the health inequality dashboards – an upward spiral of engagement as illustrated in figure 4.

Figure 4: Spiral of engagement



Sharing such evidence-based case studies with senior management and the designated health inequalities lead helps to gain their support. Ideally, all areas of all organisations should have access to the health inequalities & cost data, to enable them to review their own area. This will take resource, so senior management buy-in is essential.

Engagement examples

The costing team at Barts NHS Foundation Trust worked with a single clinician to produce an academic paper looking at cardiac services, enabling them to use the example to successfully discuss similar information with other clinicians, whereas Manchester NHS Foundation Trust uses a trust-wide framework of service change to share health inequalities and cost information as part of existing engagement work and data review. They have so far looked at bowel cancer screening, hypertension and diabetes with a view to understand how to reach areas of the population that don't access these services early enough, or at all.

It does not appear to matter whether the trust board pushes the strategy out to the services, or small projects pull the organisation forward on health inequality work. The benefit can be for all.

Process

When considering how to approach rolling out health inequalities information to services, it is worth considering:

- Who are the stakeholders? Is there benefit from targeting individuals – perhaps those who are already familiar with cost data, or those with a known interest in health inequalities.
- Who are the agents for change? A subset of stakeholders, the agents of change are those who have the power to action any differences in practice. This may or may not be the clinicians of the service. The agents for change may also include operational managers, admin staff or the wider clinical teams such as therapies and diagnostics.
- When should public health and social care be included in discussions? These areas are essential to some discussions, and so early inclusion in working groups is beneficial. Other types of change may not include these elements and are primarily health-driven issues. Understanding the data available for these areas may also be of use in discussion.
- What about including housing, education, transport etc? Whilst all these areas may be a part of the reason for inequalities and the key to the solution, it is not always easy to access their time. This may be a task for the wider health inequalities strategic direction, rather than driven by the costing team.

[26] NHS England, *National Healthcare Inequalities Improvement Programme*, accessed July 2024

There is not a ‘right’ way to do this. Engagement is often found by using the existing passions of clinicians and service managers. If this is not available, using meaningful examples can create passion.

It has also been noted that some service teams don’t want to see the cost, feeling the other data is more important. This is not a problem. Once the engagement has been created using other data, there will be opportunities to bring in the cost to illustrate how useful the money can be.

How should costing teams measure and evaluate the success of this work?

The metrics used to show progress can vary but have some common themes. They should be relevant and meaningful for the service team, and some metrics that are meaningful for senior managers should be included too. Examples include:

- Improvements to the data - how have the metrics (and health inequality situation) change by percentage and numeric value over time?
- Outcome measures – have they been improved? Have patient experience scores changed?
- Length of stay, admission for target conditions, readmission rates, delayed discharge rates for the target cohorts – have they fallen?
- Are the target patients now attending appointments? Have DNA reduced?
- What is the return on investment? This can either be based on core budgets or where funds have been provided for change (note, not all change will reduce cost, but are the health inequalities being addressed?).

The metrics chosen should allow the user to consider whether the new picture is what was expected or hoped for.

Next steps for costing teams to consider

This briefing has highlighted that costing practitioners have a role to play in tackling health inequalities, linking the rich data held within PLICS to other data sets. It is early days, but the power of data and the expertise costing practitioners have to support this agenda should not be understated.

It is important to retain the long term view, whilst working on what is achievable in the short term. This includes system and non-health influencing factors, better data flows, and time.

Exploring system-wide benefit

It may be possible to link provider data to the wider health, social care and education records, including primary care, and therefore undertake pathway analysis. These sectors don't prepare data/costs in the same way as NHS providers, so creation of health inequality data will need:

- Ideas on what links the patient/citizen data – can the link be their postcode and birth date? Are there other unique identifiers locally? (are names needed for multiple siblings with the same birth date?) For health, the recent improvements in recording NHS numbers can link health organisations: can this be used in conjunction with non-health data?
- Adjustments to make the data 'fit' with local data – for example if social care or primary care data is not available, what can be used?
- Data sharing agreements – how can the joined-up system maintain IG compliance whilst developing the health inequalities analysis?
- A proxy measure where cost information is not available - is it possible to use standard costs?

For example, Humber NHS Foundation Trust did an exercise looking at access rates across the full pathway of care, which included primary care. Getting the GP data was felt to be crucial; although it was easier as they already have primary care within their organisation. Another organisation worked with primary care networks to understand the links between deprivation and resource consumption. Specific issues and services may need bespoke data linkages.

Another area for later investigation is proactive care – are there areas where prevention measures, system wide, can help prevent secondary care or adverse outcomes? These actions may be within a single organisation or across different providers.

Adoption an extended time period for analysis

Most of the examples discussed in this briefing are based on patient cohorts that only consider patient events occurring in a single year. Extending the analysis would increase the benefit of insights. Patients with acute events have often had a history of previous events, or a pattern of underlying health conditions and deprivation.

The health inequalities and cost information over several years could be used to predict the patients at risk and target care earlier in the pathway. It is likely that artificial intelligence will increasingly help with this process, by mining the data to find patterns. Box 4 gives an example where advanced data analysis has been used.

Box 4: Stroke data analysis at Nottingham University Hospitals Trust

An investigation into several years of costed data from the stroke unit found that patients having a stroke in their 40s were often from the areas of highest deprivation, where patients from areas with the lowest deprivation scores were having a stroke in their 60s. Work is under way to look at the service model.

About the Healthcare Costing for Value Institute

HFMA's Institute champions the importance of value-based healthcare for supporting the delivery of high-quality financially sustainable healthcare. Through its member network, it supports the NHS to improve costing and make the most of patient-level cost data to drive improvements in patient care and deliver efficiencies. By bringing together senior finance and clinicians to explore what value means, the Institute helps the NHS to turn the theory of value into practice and make value-based healthcare a reality.

About the HFMA

The Healthcare Financial Management Association (HFMA) is the professional body for finance staff in healthcare. For over 70 years, it has provided independent and objective advice to its members and the wider healthcare community. It is a charitable organisation that promotes best practice and innovation in financial management and governance across the UK health economy through its local and national networks.

The association also analyses and responds to national policy and aims to exert influence in shaping the wider healthcare agenda. It has particular interest in promoting the highest professional standards in financial management and governance and is keen to work with other organisations to promote approaches that really are 'fit for purpose' and effective.

The HFMA offers a range of qualifications in healthcare business and finance at undergraduate and postgraduate level and can provide a route to an MBA in healthcare finance. The qualifications are delivered through HFMA's Academy which was launched in 2017 and has already established strong learner and alumni networks.

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