

Introduction to health outcomes

October 2016



This briefing provides an introduction to some of the main ideas being developed in the expanding field of healthcare outcomes. It references some key academic papers, explains the main concepts and provides some examples of work being done in the NHS.

The review provides information on the following themes:

- Key players in health outcomes
- Definition of health outcomes
- What does a good set of outcomes look like
- Measuring and capturing outcomes
- Linking payment systems to health outcomes
- Outcomes-based commissioning
- Challenges of implementing outcomes-based commissioning

This paper builds on an initial HC4VI briefing summarising 'value'.¹ Health outcomes form the denominator of the value equation, generally understood to be the health outcomes achieved that matter to patients relative to the cost of achieving those outcomes. It is a complicated and vast area and requires the input of clinicians and patients, who will need to work together, possibly on a global scale, to agree and develop health outcomes measures.

This briefing summarises some of the key messages and provides links to websites for further information.

¹ [An introduction and background to value in healthcare June 2015](#)

The importance of the value equation in the drive to improve healthcare means health outcomes have taken on a new prominence. Measuring health outcomes is not new but the language and approach is currently receiving a high degree and rigour and scrutiny.

Office for National Statistics

The Office for National Statistics has long measured health productivity, defining this as the ratio of inputs to outputs. While the value equation measures outcomes rather than outputs, the ONS does not totally disregard outcomes. The ONS defines outputs in terms of quantity and quality by measuring the amount of activity in each part of the healthcare system, with an adjustment for quality. Quality adjustments reflect two dimensions of quality:

- the extent to which the service succeeds in delivering intended outcomes; and
- the extent to which the service is responsive to users' needs²

This system of measuring outputs has evolved such that outcomes are the primary measure.

International Consortium for Health Outcomes Measurement (ICHOM)

The International Consortium for Health Outcomes Measurement (ICHOM), has been set up as a non-profit organisation with the purpose to 'transform health care systems worldwide by measuring and reporting patient outcomes in a standardised way'.

Founded in 2012 by recognised experts from the Institute for Strategy and Competiveness, the Boston Consulting Group and the Karolinska Institutet, ICHOM 'organises global teams of physician leaders, outcomes researchers and patient advocates to define Standard Sets of outcomes per medical condition, and then drives adoption to enable health care providers globally to compare, learn, and improve'.

ICHOM aims to define global Standard Sets of outcome measures and then drive adoption and reporting of these measures worldwide. The prioritisation of developing each new Standard Set depends on the disease burden, the level of engagement among clinicians who can help develop and promote the Standard Set and available funding.

ICHOM says on its [website](http://www.ichom.org/frequently-asked-questions/)³, 'after a Standard Set is finalized, it is made available on ICHOM's website in the form of a Flyer and a Reference Guide. The Reference Guide is a detailed document that describes all of the Standard Set's domains, measures, and case-mix factors. A large part of the Reference Guide is the Data Dictionary, designed to help interested providers to measure the ICHOM Standard Sets as consistently as possible according to the Working Group recommendation'. ICHOM aims to have published 50 standard sets, covering more than 50% of the global disease burden by 2017.

³ <http://www.ichom.org/frequently-asked-questions/>

Department of Health: NHS Outcomes Framework

ICHOM is not the first to attempt defining and implementing measures of health outcomes but it is the most ambitious. The NHS has long-recognised the need for health outcomes, the inclusion of patients' opinions and some reporting of the quality of the care provided. The NHS Outcomes Framework⁴ forms an essential part of the way in which the Secretary of State for Health holds NHS England to account. It contains five domains and includes a limited number of indicators, however, its purpose is 'to be the primary assurance mechanism to assess the progress of NHS England at a national level', rather than to measure outcomes at organisational level.

NHS England: Clinical commissioning group outcomes indicator set

To support the NHS Outcomes Framework, NHS England has developed the Clinical Commissioning Group Outcomes Indicator Set (CCG OIS)⁵. The CCG OIS comprises NHS Outcomes Framework indicators that can be measured at CCG level and these are intended to support CCGs, and Health and Wellbeing Boards identify local priorities and demonstrate progress on improving outcomes.

NHS England: NHS Right Care

NHS Right Care, which is an NHS England programme, also provides a range of resources to support commissioners identify and benchmark health outcomes for their populations with the intention of improving the value of the services they pay for. The HFMA's 2013 publication *Achieving Value in Health Systems*⁶ describes the NHS Right Care process in detail. Allied to this approach is the NHS Atlas of Variation⁷, which list health outcomes across a number of conditions and allows commissioners to identify clinical areas where outcomes are not in line with similar commissioners in England.

Institute for Health Improvement

The USA-based Institute for Health Improvement⁸ (IHI), while primarily an organisation that helps to improve healthcare, aims to do this by focusing on health outcomes. Its website states, 'to accelerate the path to the health and care we need, IHI created the Triple Aim, a framework for optimizing health system performance by simultaneously focusing on the health of a population, the experience of care for individuals within that population, and the per capita cost of providing that care'. IHI has developed a number of tools that can help organisations make changes and measure the effects of the changes on the care provided.

NHS Scotland

NHS Scotland has implemented many of the IHI's ideas, with a demonstrable improvement in the quality of care provided in the Scottish NHS. As part of NHS Scotland's work, Health Scotland⁹ has developed seven outcomes sets around various topics.

⁴www.gov.uk/government/uploads/system/uploads/attachment_data/file/385749/NHS_Outcomes_Framework.pdf

⁵<https://www.england.nhs.uk/resources/resources-for-ccgs/ccg-out-tool/ccg-ois/>

⁶www.hfma.org.uk/download.ashx?type=infoservice&id=624

⁷<http://www.rightcare.nhs.uk/index.php/nhs-atlas/>

⁸<http://www.ihl.org/Pages/default.aspx>

⁹<http://www.healthscotland.com/OFHI/index.html>

Defining health outcomes can be a major hurdle in progressing to collecting and using outcomes data. There is, as yet, no standard definition of health outcomes in the UK or internationally. It is important to distinguish outcomes from outputs. Health outputs have been the traditional way to quantify healthcare delivery and are an important source of data but do not provide the information required to measure value and improve healthcare. Outcomes include patient-reported measures about patients' care and specific data about the efficacy of the treatment patients receive in addressing their condition.

Health outcomes, although not defined precisely by clinicians, are understood in a similar way. According to Australia's New South Wales Health Department¹⁰ a health outcome is the:

'change in the health of an individual, group of people or population which is attributable to an intervention or series of interventions'

This definition is helpful because it makes clear that determining health outcomes, first and foremost, involves measuring a change. Secondly, they can relate to individual patients or entire populations and finally, the outcomes are related to specific interventions.

ICHOM defines health outcomes simply as 'the results of treatment that patients care about most'. ICHOM says, 'when seeking treatment, patients want to know what their life will be like after treatment: will I return to work, will I be able to take care of myself, and will my symptoms improve? Helping patients answer these questions is why we formed ICHOM'.

The ICHOM focus on what matters to patients in determining outcomes comes from the work of one of its founders, Professor Michael Porter. Porter says¹¹, 'in any field, quality should be measured from the customer's perspective, not the supplier's. In health care, outcomes should be centred on the patient, not the individual units or specialties involved in care'. Porter points out that this means outcomes measures ought to consider the success of all the acute care, related complications, rehabilitation and reoccurrences a patient experiences for a particular condition or as part of preventive care, rather the outcome of a single intervention that is part of ongoing care. This is because a single intervention, such as a surgical procedure, may be successful in its aims but if the patient's subsequent rehabilitation fails, for example, the outcome is poor.

Porter sums this up as 'patient satisfaction with care is a process measure, not an outcome. Patient satisfaction with health is an outcome measure'.

Health outcomes, according to Porter and the work of ICHOM, can be defined according to health status, process of recovery and sustainability of health. These should be defined specifically for each medical condition.

¹⁰ http://www.publish.csiro.au/?act=view_file&file_id=NB92068.pdf

¹¹ This framework paper is supplementary Appendix 2 to Porter ME. What is value in health care? N Engl J Med 2010; 363:2477-81 (10.1056/NEJMp1011024). **MEASURING HEALTH OUTCOMES: THE OUTCOME HIERARCHY** Michael E. Porter, Ph.D

ICHOM aims to create a worldwide standard for health outcomes, just as there are worldwide standards for clinical coding. To do this ICHOM plans to develop 'standard sets' of patient-centred health outcomes and, crucially, a standard methodology for measuring outcomes. So far ICHOM has, to date, published 13 standard sets (Figure 1)

Figure 1: ICHOM standard sets of outcomes

| | |
|--|---|
| <ul style="list-style-type: none"> ▪ Dementia ▪ Localised prostate cancer ▪ Macular degeneration ▪ Lung cancer ▪ Advanced prostate cancer ▪ Parkinson's disease ▪ Low back pain | <ul style="list-style-type: none"> ▪ Coronary artery disease ▪ Cataracts ▪ Hip and knee osteoarthritis ▪ Depression and anxiety ▪ Cleft lip and palate ▪ Stroke |
|--|---|

As explained in HFMA's Healthcare Finance magazine¹², 'each set includes baseline conditions and risk factors to enable case-mix adjustment, so that comparisons of outcomes can take into account the differences in patient populations. It also includes high-level treatment variables to allow stratification of outcomes by major treatment types, a data dictionary and scoring guides for patient-reported outcomes'.

By way of example, the article notes the standard set for hip and knee osteoarthritis¹³, 'broadly identifies 10 outcome measures broken into three broad categories: acute complications of treatment (such as mortality or readmissions); patient-reported measures (such as pain and work status); and disease control (including need for surgery or reoperation). It lists surgical and non-surgical treatment approaches ranging from physiotherapy and medication to joint replacement. It also sets out the case-mix variables that should be collected, so that data can be adjusted for like-for-like comparison. These include body mass index; surgical history; physical activity; smoking status; and comorbidities'.

The final part of the ICHOM definition lists the data sources and methodology for measuring the health outcomes. This ensures that health outcomes can be measured more easily and benchmarked, in the knowledge that other organisations' outcomes have been recorded in the same way.

¹² <http://www.hfma.org.uk/news/healthcare-finance/features/newsitem.htm?newsarticleid=1686>

¹³ <http://www.ichom.org/medical-conditions/hip-knee-osteoarthritis/>

This section considers the characteristics of a good set of healthcare outcomes measures.

The Agency for Healthcare Research and Quality (AHRQ), part of the US Department of Health and Human Services notes¹⁴:

‘Quality measures are used for three general purposes:

- Quality improvement
- Accountability
- Research

When measures are used for more than one purpose, the appropriate use for each purpose should be verified.’

The AHRQ poses some questions to consider when selecting a measure of outcome:

1. Are the outcome measures to be used for quality improvement or accountability?
2. At what point in an episode of care is the outcome measured?
3. What other organisational and non-health care factors may influence the relationship between process of care and the outcome?
4. Can one clearly define the organisations, professionals, and staff who influence the observed outcome?

As the AHRQ puts it¹⁵, ‘once the goal or intended use of the measure has been determined, the following areas should be considered in selecting an appropriate measure for the desired purpose(s):

- Does the measure possess the desirable attributes of a measure as outlined by the conceptual areas of importance, scientific soundness, and feasibility of a measure?
- What data sources are available? What is the feasibility and expense of collecting additional data?
- Does the measure apply to the desired setting of care and to the providers who give care that the user wishes to assess?
- Does the measure belong to a domain of measurement that will produce relevant data? For example, an organisation wishing to focus on the perceptions of patients should use Patient Experience measures since the information is collected directly from the patient.
- Have considerations been made for comparisons? When selecting a quality measure, it is important to determine an appropriate comparison in order to make reliable assessments of quality.
- Some comparisons, such as national benchmarks, may require the additional consideration of risk or case-mix adjustment of factors that contribute to differences in results but are not related to quality of care.’

The characteristics of good outcomes measures are, according to ICHOM, that they are feasible, valid and reliable and focus on outcomes that matter to patients.

¹⁴ <https://www.qualitymeasures.ahrq.gov/tutorial/HealthOutcomeMeasure.aspx>

¹⁵ <https://www.qualitymeasures.ahrq.gov/tutorial/selecting.aspx>

By way of example, the outcomes measures from the ICHOM Standard Set for Coronary Artery Disease, developed by a group of leading physicians, measurement experts and patients, is set out below. ICHOM consider these outcomes to be those that matter most to patients with coronary artery disease.

Figure 2: ICHOM standard set for coronary artery disease



Source: <http://www.ichom.org/medical-conditions/coronary-artery-disease/>

Notes to figure 2:

1 Includes occurrence of strokes, acute renal failure, prolonged ventilation, deep sternal wound infection, and other causes of reoperations.

2 Includes occurrence of strokes, acute renal failure, significant dissection, perforation, vascular complications requiring intervention, bleeding event within 72 hours, and emergent CABG for failed PCI.

3 Tracked via the Seattle Angina Questionnaire (SAQ-7)

4 Tracked via the Rose Dyspnea Scale

5 Tracked via the Patient Health Questionnaire (PHQ-2)

Outcomes measures for commissioning

When using outcomes measures as part of the value equation to drive value-based commissioning, accountability is the main purpose of outcomes measures. AHRQ says:

'Uses of quality measures for the purpose of accountability include purchaser and/or consumer decision making, variation in payment in relation to the level of performance and/or certification of professionals or organisations. Although employing quality measures for accountability may be quite similar to their use for external quality improvement, and the same set of organisations may conduct measurement for both purposes, the requirements for validity and reliability are higher when using measures for accountability. Greater validity and reliability demand that each provider collects data in the exact same way through standardised and detailed specifications. This ensures that comparisons are fair and/or that predefined measure performance has been achieved.'

The usual audiences for accountability data are entities other than those that provide care, such as purchasers of health care, payers, regulators, boards and accrediting organisations, or patients. Their primary interest is in using accountability data to guide the selection of providers, set financial rewards to providers for performance, or certify that providers maintain required standards. They use results to compare provider groups, select providers based on performance levels in priority areas of clinical practice and/or consumer service, or establish and provide financial rewards. Some providers supply report cards or Web sites displaying clinical performance measurements so that consumers can make choices based on quality.'

There are many different types of healthcare outcomes including:

- Outcomes by medical condition
- Intervention based outcomes
- Long-term patient outcomes
- Population-based outcomes

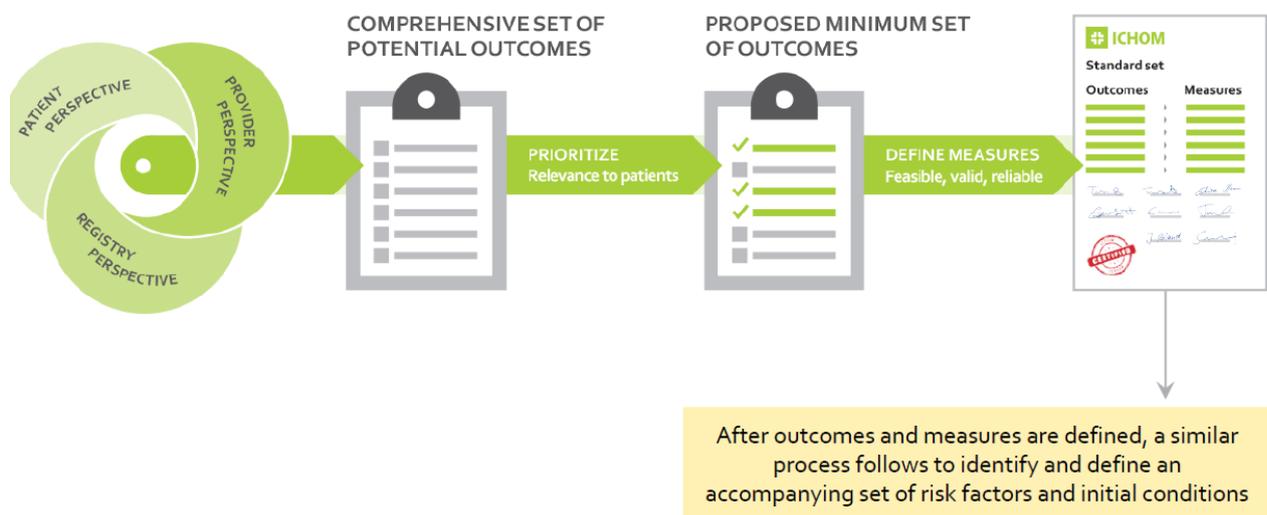
The **Agency for Healthcare Research and Quality**, based in the USA, has produced a matrix¹⁶ of clinical quality measures covering outcomes, patient experience and more. The measures are organised according to care setting and measurement type.

There are other sources of outcomes measures available, for instance, in the English NHS provider trusts have produced **annual quality accounts** for a range of patient outcomes and there are national bodies that collect data on specific conditions. These can be used for clinical outcomes measures and the data is often routinely collected already and the results reported in the public domain.

Outcomes measures must also include patient-reported and patient-defined measures. These measures will often need to be collected locally.

Figure 3 shows how **ICHOM** approach the problem and the different perspectives that are considered in defining outcomes, measures and then risk factors.

Figure 3: ICHOM working group process



Source: Kent and Kelley, ICHOM

¹⁶ <https://www.qualitymeasures.ahrq.gov/matrix.aspx>

The ICHOM website¹⁷ provides a brief approach on how to measure outcomes.

ICHOM says ‘most health care organisations have some understanding of “why” we should measure outcomes. They see the value in aligning all processes toward the one common goal that really matters: the outcomes of care that patients experience.’

What isn’t immediately clear, however, is exactly “how” we should measure and report patient-centred outcomes. ICHOM has summarised the process in four stages, as shown in figure 4:

Figure 4: The Implementation Journey



Source: ICHOM

¹⁷ <http://www.ichom.org/measure/>

ICHOM provides some further explanation on the four stages of the measurement process:

1. Engage & Prepare: Identify key evangelists and engage the senior management and workforce. Set up a multi-disciplinary project team, assess your starting point and identify your goals, then map out your project plan. This “diagnostic” process is key to ensuring the efforts will translate into results farther down the line.

2. Set Up Data Collection: Develop a data-capture model (when are data points captured?) and identify the tools that you wish to use (how the data points will be captured). With this, select the most appropriate data-storage solution. The data collection will begin. The data-capture model will require regular review and iterations, to ensure data accuracy and quality.

3. Measure & Analyse: Verify the accuracy of your data to ensure it is of high quality. Review your goals to ensure that you analyse and risk-adjust data appropriately. Then, report your data in the most meaningful way, depending on the goal the organisation wants to achieve.

4. Learn & Drive Change: Learn from your outcomes data to identify best practices and opportunities for improvement. Establish an “outcomes culture” and drive change through the organisation to improve health care for patients.’

Most of the measurement process will be specific to a given organisation and although it can be helpful to see what other organisations have done, it is not always possible to replicate the good practice directly. There is a mixture of culture change to address as well as developing technical solutions to data capture and reporting.

Professor Michael Porter sets out in his paper¹⁸ the dimensions of health outcomes measures. Porter says:

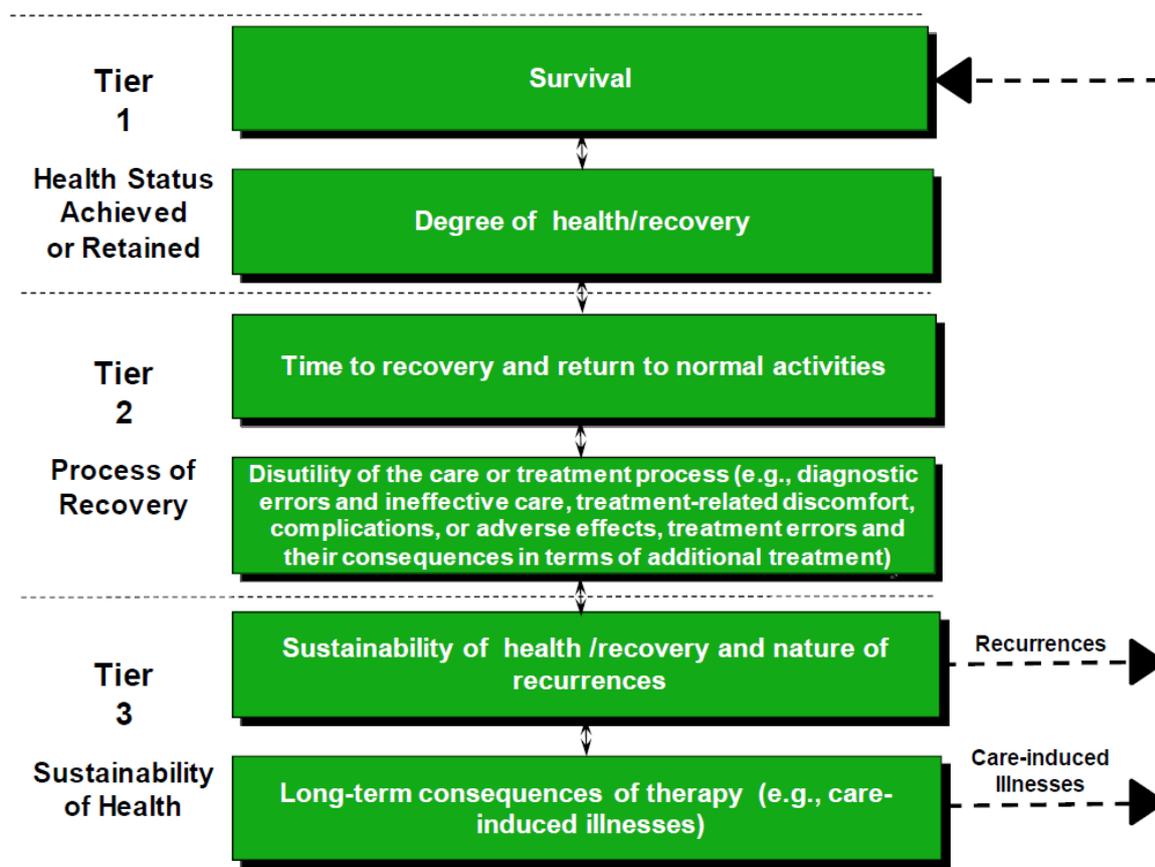
‘There are always multiple dimensions of quality for any product or service, and health care is no exception. For any medical condition or patient population, multiple outcomes collectively define success. The set of outcomes is invariably broad, ranging from immediate procedural outcomes, to longer-term functional status, to recovery time, to complications and recurrences. Survival is just one outcome, albeit an important one, as is the incidence of particular complications or medical errors. Medicine’s complexity means that competing outcomes (e.g., near-term safety and long-term functionality) must often be weighed against each other.

The full set of outcomes for any medical condition can be arrayed in a three-tiered hierarchy (see figure 5). The top tier of outcomes is generally the most important, with lower-tier outcomes reflecting a progression of results contingent on success at higher tiers.’

Porter says that in each tier of the hierarchy there are two levels, as shown in figure 5. Success at each level will be measured with at least one outcome metric. Porter notes that it is important to decide an appropriate time and frequency with which to measure each of the outcomes.

¹⁸ This framework paper is supplementary Appendix 2 to Porter ME. What is value in health care? N Engl J Med 2010; 363:2477-81 (10.1056/NEJMp1011024). **MEASURING HEALTH OUTCOMES: THE OUTCOME HIERARCHY** Michael E. Porter, Ph.D

Figure 5: Michael Porter's Outcome Measures Hierarchy



Source: Michael E. Porter

Stage 3 of the ICHOM model notes that data quality and accuracy must be high. The Audit Commission, in its 2009 report *Figures you can trust*¹⁹ provides an appendix of standards for better data quality. The standards define the management arrangements that should be in place to ensure good data quality. They cover governance and leadership, policies, systems and processes, people and skills and data use and reporting and set out the key components for each theme.

Outcomes measurement is a developing area and there is little best practice but **Outcomes Based Healthcare**²⁰ has shared some its work on outcomes measurement in some North London CCGs. They acknowledge the difficulty in measuring outcomes but conclude that 'we have yet to come across any satisfactory technical reason why outcomes can't be measured.'

¹⁹ <http://webarchive.nationalarchives.gov.uk/20150421134146/http://archive.audit-commission.gov.uk/auditcommission/subwebs/publications/studies/studyPDF/3509.pdf>

²⁰ <http://outcomesbasedhealthcare.com/myth2/>

Linking outcomes to costs, in the English NHS, means developing a payment system for healthcare providers with financial incentives to deliver specified outcomes and quality levels. There have been some attempts to link payments with outcomes, for instance the Quality and Outcomes Framework (QOF) in primary care, the Advancing Quality initiative in North West England, and the nationally led Commissioning for Quality and Innovation (CQUIN) scheme for CCGs and best practice tariffs for trusts as part of the National Payment System.

The Health Foundation²¹ says ‘developing payment systems is a significant capability gap for many CCGs; many of those we spoke to had procured consultancy support to enable them to proceed. One commissioner said: ‘The only thing we were clear about was that it was about patients, their carers, and doing the right thing for them. We had no framework for pricing, outcomes, 10-year contracts or service delivery.’

HFMA held a roundtable discussion on the topic of future payment systems in the NHS, which was summarised in a 2013 briefing²² *Future payment systems in the NHS*. In the briefing we note ‘there have been attempts to move away from a system based predominantly on paying for activity towards one that focuses more on the quality of the services delivered (for example, through the development of best practice tariffs). But in most cases these overlays to the payment system link payment to the quality of the input or intervention rather than the actual outcome for the patient.’

Roundtable participants showed among NHS finance directors ‘there is broad support for the principle of paying for outcomes rather than just activity where this is appropriate. However, there are significant difficulties in developing such an approach, in particular identifying what constitutes a successful outcome and when such a judgement can be made. The payment system has attempted to move more in this direction, with innovations such as best practice tariffs and commissioning for quality and innovation (CQUIN) payments. These both link aspects of payment to the quality of services, as well as the simple delivery of treatment or interaction. The workshop backed the development of best practice tariffs as a means of reinforcing best practice care. There was more uncertainty about the value of an overarching contractual mechanism for linking to quality targets, currently delivered by the CQUIN initiative. Most felt that good working relationships between organisations were more useful than contract wording to improve quality and that, in some cases, the CQUIN rules were not being followed, to allow funding to be given to providers.’

Linking outcomes to costs should focus the payer on specifying the outcomes required, rather than specifying how services should be delivered. This may lead to a longer commissioning and contracting process but potentially better services.

²¹ <http://www.health.org.uk/publication/need-nurture-outcomes-based-commissioning-nhs>

²² www.hfma.org.uk/download.ashx?type=infoservice&id=644

The Nuffield Trust²³ looked specifically at the issue of payment system reform and one finding was ‘the evidence presented in this report supports a role for financial incentives in improving the quality and productivity of processes of care. However, there is a lack of evidence for an impact on patient outcomes.’ Nuffield Trust research found that a payment system’s ‘primary objectives, supported by evidence, are as follows:

- to incentivise improvements in quality
- to incentivise improvements in efficiency and productivity
- to ensure resources are allocated both appropriately and efficiently, following the patient and matching need rather than demand
- to ensure transparency and accountability for the use of public resources.’

The paper goes on to note that the ‘wider ambitions of the health service that the payment system must support include:

- achievement of outcomes
- better integration and coordination of services both within and between sectors
- patient choice
- innovation, both in health care and health care payment systems

And finds there is ‘a lack of evidence for a primary role of payment in directly incentivising these, and non-payment approaches may be more effective in achieving changes in these other areas.’

Some examples of different options for pay for performance incentives are provided by the Nuffield Trust in a separate research briefing²⁴, shown in figure 6:

Figure 6: Examples of different options for ‘pay for performance’ incentives to providers

| | | |
|--|-----------|--|
| Based on quality | <i>or</i> | efficiency |
| Based on achievement against absolute threshold | | relative improvement |
| Rewarding (positive) | | penalising (negative) |
| Value determined as a proportion of core funding | | as a supplementary bonus over and above core funding |

Source: Nuffield Trust

The Nuffield Trust references research by the World Health Organisation (WHO) in 2000, which summarises the impact of different payment methods against objectives for healthcare providers. Delivering health outcomes is included in the second column ‘Deliver services and solve health problems’. Figure 7 provides the details and shows the most effective methods of payment are diagnostic-related payment systems and fee-for-service.

²³

http://www.nuffieldtrust.org.uk/sites/files/nuffield/publication/140220_nhs_payment_research_report.pdf

²⁴ http://www.nuffieldtrust.org.uk/sites/files/nuffield/publication/120823_reforming-payment-for-health-care-in-europev2.pdf

Figure 7: Advantages and disadvantages of four traditional payment currencies

| Payment methods | Provider behaviour | | | |
|-------------------------------|-------------------------|--|---|---|
| | Prevent health problems | Deliver services and solve health problems | Respond to people's legitimate expectations | Contain health care and transaction costs |
| Global budget (and salary) | ++ | -- | +/- | +++ |
| Capitation (with competition) | +++ | -- | ++ | +++ |
| Diagnostic-related payment | +/- | ++ | ++ | ++ |
| Fee-for-service | +/- | +++ | +++ | --- |

Key: +++ very positive effect; ++ some positive effect; +/- little or no, or variable, effect; -- some negative effect; --- very negative effect.

Source: adapted from WHO (2000: p. 106) by Hurst and Charlesworth (forthcoming)

Source: Nuffield Trust

In its 2014 paper on new payment models²⁵ Monitor addresses the drivers for more integrated care and the steps involved in designing capitated payment for a local integrated care initiative that fits with the national payment rules. Monitor explains 'capitated payments are one such payment arrangement that several local care economies are developing. Broadly speaking, capitated payment or capitation means paying a provider or group of providers to cover the majority (or all) of the care provided to a target population, such as patients with multiple long term conditions (LTCs), across different care settings. The regular payments are calculated as a lump sum per patient. If a provider meets the specified needs of the target population for less than the capitated payment, they will generate a financial gain to the local health system.'

Monitor describes how local care economies are designing and implementing capitated payments to support new care models that aim to deliver more integrated care. 'These include participants in the Integrated Care Pioneer Programme as well as the Long Term Conditions Year of Care Early Implementer sites. For example, Waltham Forest, Newham and Tower Hamlets and North West London Clinical Commissioning Groups (CCGs) have or are in the process of developing and implementing integrated care models.' The paper provides detailed technical advice about developing a capitated payment system along with an analysis of the benefits and risks. Monitor has published a collection of new payment models²⁶ in support of its work on payment systems.

In an article for Healthcare Finance magazine²⁷ Steve Brown notes 'there are other possible models out there – for example, US schemes that link payment to a basket of quality and outcome-related indicators and a more detailed algorithm for calculating provider-specific levels of avoidable readmissions. But early signs (in the tariff for 2014/15) suggest the approach will be to build on existing mechanisms. Changes are likely to be incremental and linked to the ability to evidence outcomes without creating an excessive data collection burden.'

²⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/445731/LPE_Capitation.pdf

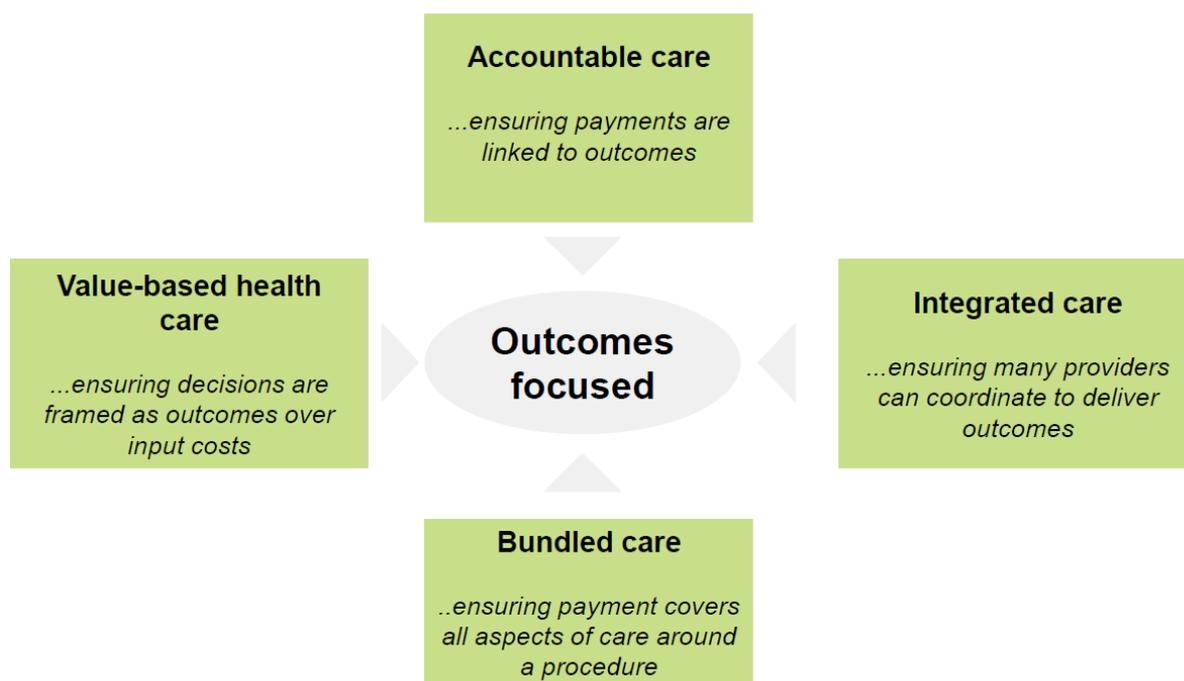
²⁶ <https://www.gov.uk/government/collections/different-payment-approaches-to-support-new-care-models>

²⁷ <http://www.hfma.org.uk/news/healthcare-finance/features/newsitem.htm?newsarticleid=1336&hf=true>

The previous section looked at the challenges and considerations in linking the payment system to healthcare outcomes. In the English NHS this early work has been put into practice in some health economies in the form of outcomes-based commissioning (OBC).

OBC is concerned with the commissioner, or purchaser, contracting with a healthcare provider for specific healthcare outcomes rather than the provision of a service for a given population. It is similar to the emerging accountable care organisation model. In a November 2014 ICHOM presentation to the King’s Fund, Dr James Kent and Dr Tom Kelley discussed the elements of outcomes-focused care, summarised in figure 8.

Figure 8: Evolving healthcare systems



Source: ICHOM slide set

The purpose is to improve healthcare outcomes and quality while making best use of financial resources by giving providers financial incentives to develop an optimal care pathway. The contract may be with a single provider capable of delivering a service in a new way or with a provider willing to work with others so the care pathway is integrated, improving outcomes.

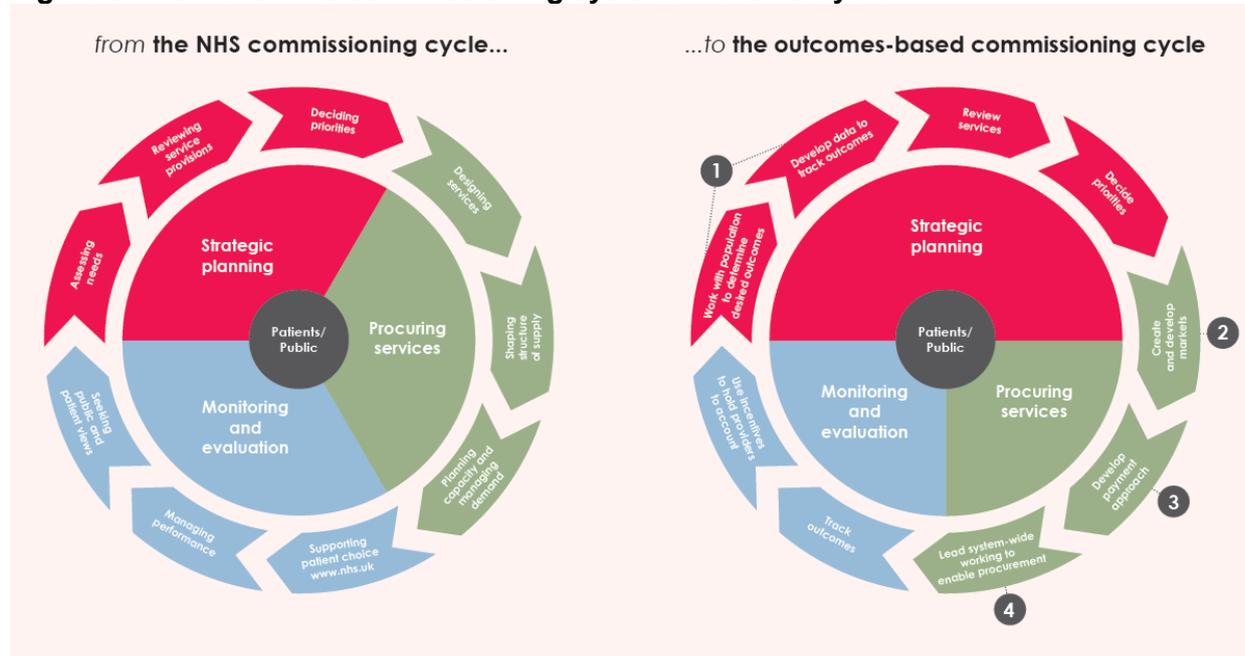
This section outlines some of the theory of OBC and how it is being implemented in practice. There are some examples of its small scale use in the UK and also internationally. Introducing OBC is supported by NHS England and NHS Improvement, among others, through various resources aimed at developing new commissioning models and payment systems. Although OBC is a commissioning model and a challenge for healthcare purchasers, providers also need to adapt to find ways of working together to integrate services, therefore OBC represents a challenge to the whole healthcare system.

The **Health Foundation** has produced a useful paper on outcomes-based commissioning²⁸. It finds OBC is not about ‘an individual intervention, it is one part of a broader approach to transforming a whole health care system’. The paper identifies five components that are typical to OBC:

- ‘(1) use of outcomes
- (2) a population approach
- (3) use of metrics and learning
- (4) payments and incentives
- (5) coordinated delivery.’

The paper identifies several OBC contracts already awarded in England and some planned contracts. There are 23 OBC contracts that have been awarded or planned, ranging in value from £2 million to £930 million. The services covered include individual services such as musculoskeletal, dermatology and older people’s to whole population health and care. The paper also provides a graphical representation of the differences between the current NHS commissioning cycle and the OBC cycle, as shown in figure 9. The OBC cycle includes four key areas where commissioners will need new skills.

Figure 9: From the NHS commissioning cycle to the OBC cycle



Source: Health Foundation

In figure 9, the Health Foundation highlights four areas requiring new commissioning skills. The approach to the first, ‘work with population to determine outcomes, and develop data to track outcomes’ is partially covered by the work of ICHOM and others but will require close working between commissioners and their populations and patients.

The second area identified by the Health Foundation is to ‘create and develop markets’. This is an area of development for both commissioners and providers and recognises the fact that in most areas the current providers are not capable of delivering OBC contracts. Providers will need to develop new ways of working as much as commissioners and in many cases, new providers will be needed. Developing markets and supporting new provider organisations will take time. This area shares similarities with the introduction of personal

²⁸ <http://www.health.org.uk/publication/need-nurture-outcomes-based-commissioning-nhs>

social care budgets and personal health budgets, which have allowed social care users and patients to own and direct their own budgets. New care providers have been established in response.

The third area is 'develop a payment approach', which is challenging in practice, as covered in the previous section.

The fourth and final area is to 'lead system-wide working to enable procurement'. This highlights the onus on commissioners to commit time and resources to developing payment systems, new markets and goodwill with prospective partners to make ambitious changes to the healthcare system a reality. In most health economies this is likely to be the biggest challenge.

In a 2014 report²⁹ the **King's Fund** also discusses emerging commissioning models aimed at promoting integrated services and improving quality. These models are much like OBC. The report outlines two care models – a prime contract and an alliance contract.

'In a prime contractor model, the CCG contracts with a single organisation (or consortium) which then takes responsibility for the day-to-day management of other providers that deliver care within the contracted scope or pathway. There is a significant variation on the prime contractor model - the prime provider model - that stipulates that the contracted organisation also provides services directly. An alliance contract sees a set of separate providers enter into a single agreement with a CCG to deliver services, where the commissioner(s) and all providers within the alliance share risk and responsibility for meeting the terms of a single contract.

In practice, these contracts are merely the 'scaffolding' for the integrated model and there is no clear demarcation between how different approaches are being used on the ground, or how they stimulate closer partnerships between those providing frontline services for patients. Instead it is the terms of the contract that will act as a lever for collaboration.'

OBC is an incremental development of commissioning rather than an entirely new approach and draws on previous models, which have had varying degrees of success. Among the King's Fund's conclusions are:

'These new contractual approaches rely heavily on procurement and supply chain management to design integrated delivery, yet there is limited experience of how to apply these business principles in health care.'

And:

'The types of contracts described here are not in themselves a panacea or shortcut – the contract itself will not solve problems, develop integrated services or fix poor relationships. Nor is it a tool to allow CCGs to disengage from strategic commissioning or monitoring the overall performance of care across their area.'

²⁹ <http://www.kingsfund.org.uk/sites/files/kf/kings-fund-commissioning-contracting-integrated-care-nov14.pdf>

There are a few documented examples of OBC contracts in the English NHS. The **NHS Confederation** has collected some of these alongside a briefing explaining OBC³⁰:

The first example of an OBC contract in England was in Milton Keynes PCT for substance misuse services.

The key benefits are³¹:

- The contract was let to a third-sector organisation, acting as prime contractor for the complete substance misuse service.
- The service was transformed quickly, with improved outcomes for service users and financial savings for commissioners.
- Overall spend on the service was reduced by 20 per cent in the first year.

A second example from the NHS Confederation is the Pennine MSK Partnership³². The Pennine MSK Partnership created a new organisational form – the Integrated Pathway Hub – which works like a lead accountable provider and is responsible for all musculoskeletal services in Oldham. Since 2011, it has held a budget of around £23 million, covering primary, community and acute services.

Key benefits are:

- Musculoskeletal spend per head decreased by £10 in Oldham compared to an increase of £10 nationally (for the period 2009/10 to 2011/12).
- Oldham's knee replacement patients received an average health gain of 0.35 in 2011/12, compared to 0.27 in 2009/10, representing a statistically and clinically significant increase in patient health outcomes. (The England average health gain was 0.30 during the period).
- Involving patients in decisions to treat appears to lead to better outcomes.

HFMA's Healthcare Finance magazine April 2015 article *Sweetening the Deal*³³ describes one CCG's approach to commissioning a diabetes pathway.

'Liverpool CCG also has ambitious plans to transform diabetes to cope with – and head off – rising demand. While the CCG historically commissioned services from two local acutes and a community provider, its ambition has been to have a contractual relationship with one lead provider, with the spend on diabetes-related care placed in a centralised budget with payment linked to outcomes.

Phase one of the new integrated diabetes service plan started in December 2014. The aim is to provide direct specialist patient care outside hospital for everything that can be delivered outside hospital. This should mean a more convenient, seamless service for patients and a reduction in duplication and service gaps. On top of this, people with diabetes will be supported to achieve much greater levels of self-care and self-management.

In particular, the new model provides a single point of contact for all referrals. All referrals will be seen in a multidisciplinary team clinic with a consultant diabetologist or diabetes specialist nurse. From here, patients may be further referred to specialist nurse-intensive management clinics or dietician-led clinics.

³⁰ <http://www.nhsconfed.org/resources/2014/09/beginning-with-the-end-in-mind>

³¹ <http://www.nhsconfed.org/resources/2014/09/capitated-outcomes-based-contract-in-milton-keynes>

³² <http://www.nhsconfed.org/resources/2014/09/the-integrated-pathway-hub-at-pennine-msk-partnership>

³³ <http://www.hfma.org.uk/news/healthcare-finance/features/newsitem.htm?newsarticleid=1605>

Outcome measures include metrics covering reductions in the proportion of people with all the key complications, such as circulation problems, impaired vision, stroke or amputations, and those having serious hypoglycaemic episodes. In the transition period, the CCG has agreed to cover the additional costs incurred by the three providers and to protect the trusts' tariff-based outpatient income against potential drops in activity.'

NHS England has formalised the move to new models of care through its Vanguard programme³⁴. There are 50 vanguard sites and each will 'take a lead on the development of new care models which will act as the blueprints for the NHS moving forward and the inspiration to the rest of the health and care system.'

The **Health Foundation**³⁵ concludes 'OBC in the NHS is worth further exploration and experimentation. The concept is very much in a development stage, and it may well be five or 10 years before it is possible to proceed with significantly greater confidence than today. To work well, OBC needs to be nurtured. It will need careful, long-term support from policy makers, including NHS England, which should develop and support commissioners' capabilities; in addition, NHS Improvement should support providers, particularly in primary care, to respond. There also needs to be far greater peer-to-peer learning between areas experimenting with the approach.'

³⁴ <https://www.england.nhs.uk/ourwork/futurenhs/new-care-models/>

³⁵ <http://www.health.org.uk/publication/need-nurture-outcomes-based-commissioning-nhs>

OBC is seen by some as the main method to improve value in healthcare but to date OBC contracts are not used widely. This section will look at the challenges to using OBC and what are the areas that need to be developed.

The Health Foundation notes³⁶ 'the past three years have seen a rapid increase in the use of outcomes-based commissioning in England and this is expected to continue. However, areas adopting the approach are finding that it is significantly harder and taking significantly longer than they expected. Common issues encountered include a lack of capability and skills in areas such as data analytics, measuring outcomes and creating markets.'

NHS Right Care has produced a review of OBC contracting from the point of view of how commissioners can develop contracts³⁷. The review notes OBC contracts 'are examples of how providers can organise themselves very differently to provide integrated care. This means that those commissioners who are developing Commissioning for Outcome -Based Incentivised Contracts (COBICs) need to give existing providers sufficient warning about this very radical change of approach.

The second profound shift for most existing providers is to be able to move from delivering a contract concerning inputs to one that focuses on outcomes. If you have spent 10 years developing services and working to contracts that are all about inputs, suddenly working to outcomes is a very dramatic shift. This does not only involve a contract team thinking differently but will also involve the entire organisation of the provider.'

NHS Right Care notes that 'for many health care organisations the delivery of an outcome seems unfair because in essence it involves something that is beyond the control of the organisation contacted to deliver it. But this is the essence of the argument for outcomes. If the NHS is to be judged on a successful outcome then everyone who does not see that outcome as their business has to work towards that successful outcome. Payment for outcomes forces the health care providers to work outside of their particular part of the pathway and to think of how the whole outcome is achieved. The surgeon becomes involved in the physiotherapy and the physio becomes involved in the nutrition.'

Building on the idea of market making in the previous section, NHS Right Care suggests commissioners 'run a competitive dialogue process. This encourages commissioners and providers to have a period of time when they are openly, fairly and within the law discussing the different ways in which the outcomes can be commissioned and provided.'

In its *Contracting for Outcomes* report³⁸ Outcomes Based Healthcare summarises the challenges and risks discussed in this briefing:

'Poor visibility of existing costs - the variability in payment and contracting systems across provider groups in the UK has a significant impact on the visibility of costs for defined segments of the population within the different care settings.

³⁶ <http://www.health.org.uk/publication/need-nurture-outcomes-based-commissioning-nhs>

³⁷ http://www.rightcare.nhs.uk/downloads/RC_Casebook_cobic_final.pdf

³⁸ http://outcomesbasedhealthcare.com/Contracting_for_Outcomes.pdf

Existing contractual restrictions - In a system where activity or case - based payment is predominant for acute and emergency care while capitated and block budgets prevails for community and primary care services, there appears to be little incentive to shift care from the high cost to more efficient care settings, or to incentivise prevention. These contractual constraints appear to work against some of the key benefits of a Value-based system.

Discrepancies in quality of coding:

Even though there is more clarity around budgets under case-based contracts, incorrect coding poses significant obstacles to identifying real costs associated with specific populations segments and ... local reimbursement negotiations (through block contracts and local tariffs) are not based on reliable cost information.

Difficulty matching outcomes with costs:

Difficulties in identifying the costs associated with delivering care to a specific patient segment across multiple providers can lead to potential mismatches between the outcomes being measured against the costs which relate to them.

Inaccuracies in estimating whole care cycle costs:

In any whole care cycle costing model, it is likely that initial costs may be an under or overestimate. This will impact providers depending on how much of the budget will be linked to achievement of outcomes.

In an article for BMJ on *Lessons learned in defining outcome measures for a population health approach*³⁹, the authors address concerns about the availability of outcomes data and fear of potential criticism from making outcomes data available or from being compared to others. They say:

'We addressed these concerns as follows:

1. When determining the patient outcomes, we tried to ensure a balance between the relevance of the metrics and the practicality of collecting them. Furthermore, wherever possible, we indicated where data could be accessed via national databases.
2. For the second concern, our strategy was to stress that our approach was not a top-down approach where they would be criticised based on their results; our approach was designed to help healthcare providers take strategic steps to be proactive and improve the services they are delivering to their populations.
3. The concern about being compared to others was addressed by stressing that data should be used to drive constructive comparisons and could help to create networks where different healthcare services could interact with each other and share information about success or failure of different types of initiatives being taken.'

³⁹ <http://outcomes.bmj.com/BMJ%20Outcomes%20Article%20Collection.pdf>

In an ICHOM case study on NHS Bedfordshire's approach to introducing an outcomes-based contract for its musculo-skeletal service⁴⁰ the key learning and take away message for OBC is summarised as:

'Controlling costs and improving quality is possible. Bedfordshire CCG designed a payment model that ensures strong control of costs through capitation while ensuring—and ultimately increasing—quality through a variable premium based on outcomes. Patient -reported outcomes can be used in payment models and to improve quality. Bedfordshire CCG wanted to drive quality by focusing on what matters most to patients. To do so, they leveraged an internationally-recognised set developed by the international health care community: the ICHOM Standard Set for Low Back Pain. Value -based payment is a win-win for payers and providers - start small, with high ambitions.'

Further reading

NHS Right Care has produced a comprehensive reading list on outcomes-based commissioning:

http://www.rightcare.nhs.uk/wp-content/uploads/2011/09/outcomes_based_commissioning_ERlist_dec2014.pdf

⁴⁰ <https://www.ichom.org/files/articles/ICHOM-Bedfordshire-Case-Study.pdf>



Published by the Healthcare Financial Management Association (HFMA)

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