



**Delivering value with digital technologies**  
Briefing: December 2021



# Accounting for revenue and capital

Implications for the digital age

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# Delivering value with digital technologies

Digital technologies such as digital medicine, genomics, artificial intelligence and robotics have a huge potential to transform the delivery of healthcare<sup>1</sup>.

These technologies can empower patients to participate actively in their care, with a greater focus on wellbeing and prevention. They also support the prediction of individual disease risk and personalise the management of long-term conditions.

The HFMA, supported by Health Education England and NHSX, is delivering a 12-month programme of work to increase awareness among NHS finance staff about digital healthcare technologies. It will also enable finance to take an active role in supporting the use of digital technology to transform services and drive value and efficiency<sup>2</sup>.

This briefing explores the key funding and accounting issues that NHS finance teams need to consider when developing business cases for digital transformation projects. Illustrations are included to highlight the impact these issues may have on plans for digital innovation.

<sup>1</sup> HFMA, *Introduction to digital healthcare technologies*, July 2021

<sup>2</sup> HFMA, *Delivering value with digital technologies*

# Executive summary

Before investing in digital technologies, a business case needs to be developed that sets out what the problem is and how the proposed solution will deliver value for the NHS body and its patients. The business case will need to set out a compelling case for investment, which requires an understanding of its financial impact.

Public sector finance and accounting is complicated. There are budgeting rules, accounting rules, as well as business rules. All these rules must be followed but do not always align.

In the NHS, the whole system is made even more difficult by the fact that the NHS is not a single entity but hundreds of separate independent organisations – all following their own rules and trying to achieve their own objectives. Innovative digital projects add further complications because the rules assume business as usual rather than innovation.

Accounting for innovative digital technologies is complex because it is not always clear whether the NHS body is purchasing an asset that, in accounting terms, is capital expenditure or a service that is revenue or a mixture of the two. It is therefore vital that the financial impact is considered at an early stage in the development of the business case.

Many of the digital technologies discussed in this briefing are at the pilot or testing stage. The accounting and funding arrangements may well change as they move from pilot to business as usual and will need to be re-evaluated.

The key funding and accounting issues that NHS bodies need to consider when entering into innovative digital transformation projects are:

- How will the investment be paid for?
- What type of funding will be accessed and what conditions are attached to the funding?
- Does the expenditure, in part or whole, meet the definition of a capital expenditure?
- Does the classification of the expenditure align with the funding?

## Key messages

The financial arrangements for digital technologies are no different to any other project in the NHS. It is important to identify early on how a digital investment will be paid for, and how the expenditure will be accounted for. Both will have an impact on an organisation's ability to deliver digital transformation.

**Capital expenditure is money spent on purchasing an asset (tangible or intangible) that has the potential to earn income or will be used to provide services in the future. The asset will be controlled by the organisation and used for more than a year.**

**Tangible assets include buildings but also computers and equipment. Intangible assets can include software that is either developed in house or specifically for the NHS body.**

**Revenue (or resource) expenditure is usually described as day-to-day running costs. Any expenditure that does not meet the definition of capital is revenue.**

A summary of the key messages is provided on this and the next page. The key funding and accounting issues that NHS finance teams need to consider when developing business cases for digital transformation projects are discussed further on page 6.

## How the investment is funded

The main source of capital funding for NHS bodies is the Department of Health and Social Care (DHSC), including NHSX. Funding from the DHSC is classified as either capital or revenue. All government funding is classified this way.

Capital funding from the DHSC is conditional on it being used to finance capital expenditure. If the substance of the expenditure on the project that the NHS body is planning does not align with the type of funding, there is a real risk that the project will not be able to go ahead or, if it does, there will be a breach of the budgeting rules.

It may be that some of the expenditure incurred on the project meets the definition of capital and some does not. In that case, the element that is not capital cannot be funded from capital resources.

Simplistically, capital funding cannot be used to finance expenditure that is classified as revenue expenditure or vice versa. This can be a challenge for innovative digital projects, where capital funding is made available for an investment that does not meet the accounting criteria for capital expenditure.

There is unlikely to be a simple solution to this conundrum. It is important that it is considered at a very early stage so that negotiations can take place to change the classification of the funding.

Alternatively, the arrangement could be revised so that it is, in substance, a capital project. However, experience shows that designing an arrangement to achieve a particular accounting treatment is rarely successful. The accounting will be determined based on the substance of the transaction.

NHS bodies do have other avenues to acquire capital assets – for example, self-financing where they have sufficient cash balances or leasing assets. From 1 April 2022, all leases of tangible assets will count as capital funding. However, intangible assets are scoped out of the new accounting standard for leases.

### Classifying expenditure as capital or revenue

NHS bodies are required to classify all expenditure as either capital or revenue, in accordance with accounting standards. Funds are allocated by the government as either capital or revenue and can only be spent on the expenditure that is in the same classification.

Capital expenditure is unique at the national level because it increases public sector net debt and the government's borrowing requirements<sup>3</sup> over the long term.

It is important to understand whether expenditure on a new digital product or service meets the definition of capital expenditure, as there is a limit on the amount of capital expenditure that the NHS as a whole can incur in any one year. This is called the DHSC's capital departmental expenditure limit (CDEL).

CDEL restricts all spend on capital regardless of the source of the funding. Integrated care systems are given an annual capital allocation that are, in turn, allocated to NHS bodies for locally agreed projects. National capital programmes, such as the new hospitals programme, are managed centrally.

NHS demand for capital expenditure each year exceeds the annual CDEL, which means that health systems cannot deliver all the capital projects they would like to.

The accounting treatment that determines whether the expenditure is capital or not is based on the substance of the arrangement and needs to be considered on a case-by-case basis.

The complex accounting rules mean that it is not always immediately clear whether new digital investments are capital or revenue expenditure. When putting a business case

together, NHS staff need a good understanding of financial reporting standards and how they are applied in the NHS<sup>4</sup>.

This briefing explains the factors that need to be considered. As well as having an understanding of the definitions of tangible and non-tangible assets as set out in financial reporting standards, there are additional considerations that are specific to the NHS, such as whether an asset is of low value or treated as part of a larger group of assets.

The changing way that digital technologies are delivered is raising new challenges for how software should be accounted for. This briefing describes the most recent conclusions on when software should be capitalised.

### Accounting for digital projects across an integrated care system

Digital transformation projects often involve multiple organisations across a health system. The implications for funding and accounting for the investment need to be considered separately for each organisation involved, as they may well be different.

### Conclusion

The financial arrangements for digital technologies are no different to any other project in the NHS. However, it is particularly important to understand the financial regime when developing innovative digital technologies:

- Often when the technology is new, the financial arrangements are also new, so the appropriate accounting will need to be considered from first principles. The accounting arrangements are being developed along with the technology.
- Funding may be for capital expenditure, but spending on digital technology may not meet the definition of capital, meaning that there is a mismatch between accounting and funding.
- Where the digital technology does meet the definition of capital, capital is a scarce resource and there is an annual limit for the DHSC that must not be exceeded. The project must therefore be within budget, and expenditure must be made in the year for which it is planned as there are no carry-forward arrangements.

The following sections provide more detailed information:

- How will the expenditure be funded?
- How should the expenditure be classified?
- How should the expenditure be accounted for?

<sup>3</sup> HM Treasury, *Consolidated budgeting guidance 2021/22*, March 2021 (paragraph 1.49)

<sup>4</sup> DHSC, *Group accounting manuals*, updated May 2021

# How will the expenditure be funded?

All investments need to be paid for. Often the investment must be made early in a project and there is a time lag before the benefits are generated and the value is realised. Therefore, NHS bodies need funding to be able to make the investment.

Funding from different sources will be accounted for differently, and this needs to be considered early in the development process. Government funding comes with an additional complication – it will be classed as either capital or revenue.

However, the type of funding received has no impact on how the associated expenditure is accounted for. A current issue, particularly for innovative digital transformation projects, is that the classification of the transaction as capital or revenue expenditure differs from the type of funding received. In other words, funding is made available for a capital project, but the arrangement entered into does not meet the definition of capital spend.

Determining the appropriate accounting treatment for an innovative project is likely to require a level of judgement on the part of financial professionals. That judgement will be made using the principles set out in current accounting standards that do not take into account the public sector funding and budgeting framework.

Auditors will consider these judgements and will want to be satisfied that the accounting standards have been applied appropriately. It is therefore important to assess the accounting treatment at an early stage, and as the project develops, and to engage auditors as early as possible.

Some NHS provider bodies can fund investments through internally generated resources – in other words, through their cash balances. However, most will need to seek external funding from other sources:

- Government – from the DHSC, including NHSX
- Leases
- Charitable donations.

## Internally generated resources

Transactions funded from the NHS body's own cash balances will not have any conditions attached, making this the most straightforward option. However, the capital expenditure

**The vast majority of public sector expenditure is constrained by departmental expenditure limits (DEL). All government departments, including the DHSC, are required to keep their expenditure within these limits. This means that even if an NHS body can afford to spend money on a capital project, it can only incur that expenditure as long as the capital expenditure for the whole of the DHSC stays within the capital DEL or CDEL.**

**Revenue expenditure is similarly constrained within the revenue DEL or RDEL. This is managed through the allocation and contracting regime which is not considered further in this briefing.**

funded internally will still count against the DHSC's CDEL, so simply being able to afford an investment does not mean that it is always possible to go ahead.

## Government funding

All public sector expenditure is classified as either capital or revenue. The same is true for government funding. For NHS provider bodies in England, the DHSC often funds capital projects through public dividend capital (PDC). Revenue spend tends to be funded through contracts for services, although PDC can be used to provide a cash injection.

The terms of the PDC usually state that capital funding cannot be used to finance expenditure that is revenue in nature and vice versa. However, the funding stream does not determine the classification of the project's expenditure.

Whether expenditure is capital is determined by the application of international financial reporting standards (IFRS) as set out for NHS bodies in the DHSC's *Group accounting manual*<sup>5</sup>.

A key consideration for digital transformation projects is whether the terms of the funding align with the classification of expenditure.

<sup>5</sup> DHSC, *Group accounting manuals*, updated May 2021

“The type of funding received has no impact on how the associated expenditure is accounted for. Whether expenditure is capital is determined by the application of international financial reporting standards, as set out for NHS bodies in the DHSC’s Group accounting manual.”

### Lease arrangements

Assets can be leased from commercial companies, with the NHS body paying a fee to be able to use them.

Until 31 March 2022, leases are split into two types – operating and finance. Finance leases are akin to a hire purchase agreement and the lessor has use of the asset for most of its useful economic life.

Because the NHS body (the lessor) has the use of the asset for most of its life and will usually have paid the full cost of the asset over the lease period, it is accounted for as if the body had bought the asset in the first place.

The asset is recognised on the balance sheet along with a liability to pay for the lease. A finance lease counts as capital expenditure when the agreement is signed.

Operating leases are effectively rental agreements where the asset is not used for the whole of its life and the rental payments are expensed as incurred.

From 1 April 2022, lease accounting will change<sup>6</sup>, and all leased tangible assets will be accounted for as assets on the balance sheet, so that all expenditure on leases will effectively count against the CDEL<sup>7</sup>. Intangible assets are not within the scope of the new accounting requirements.

### Donated assets

Charities can make grants to NHS bodies to purchase assets or invest in technology. Occasionally, charities will donate assets directly to NHS bodies.

Assets funded from these grants, as well as those given directly, are called donated assets and are separately recognised in NHS bodies’ accounts.

The acquisition of a donated asset scores as capital expenditure against the DHSC CDEL. However, the donation counts as CDEL income, netting off the impact of the expenditure. Basically, donated assets do not affect the performance against this target<sup>8</sup>.

<sup>6</sup> HFMA, *IFRS 16 leases: practical application*, February 2020

<sup>7</sup> NHS England and NHS Improvement, *IFRS 16 guidance* (FAQ question 16), updated October 2021

<sup>8</sup> HM Treasury, *Consolidated budgeting guidance 2021/22* (paragraph 7.21), March 2021

# How should the expenditure be classified?

NHS bodies are required to classify all expenditure as either capital or revenue, so that compliance with HM Treasury's budgeting system can be monitored and managed.

This split is important at a national level because capital expenditure increases public sector net debt and the government's borrowing requirements on a long-term basis.

It is important to understand whether some or all of the expenditure on a new digital product or service can be accounted for as capital, as there is a limit on the amount of capital expenditure that the NHS as a whole can incur in any one year.

Managing public expenditure is complex; it is underpinned by the HM Treasury budgeting system<sup>9</sup>, which is designed to:

- Provide a structure under which HM Treasury can control public spending
- Appropriately incentivise departments to manage spending effectively.

HM Treasury's budgeting system<sup>10</sup> classifies all public sector expenditure into several different categories. The category into which the spend falls determines how it is managed and reported.

The categorisation of expenditure as either capital or revenue is the most important consideration for most NHS bodies, particularly provider bodies. It should be noted that the accounting treatment for all parts of a project, particularly complex projects, may not be the same. Expenditure on parts of the project could be capital, while other parts are revenue.

## Capital and revenue expenditure

Capital expenditure exchanges cash, which is a liquid asset, for a non-current asset that will last for more than a year (an illiquid asset). This will increase public sector net debt, which is calculated as the difference between financial liabilities and liquid assets.

Capital expenditure is an investment, as opposed to revenue, which is considered to be current expenditure.

Capital spending supports services that will be provided over a number of years. Therefore it is often funded through government borrowing, which is repaid over time, meaning the repayments reflect the fact that the asset is used over a similar period of time.

In practice, when managing capital expenditure there are two constraints that each NHS body needs to consider:

- The first relates to the organisation itself – is the expenditure affordable and is there cash or other funding available to pay for the new asset?
- The second is the CDEL, which is a hard limit on the amount of expenditure that the bodies that make up the DHSC group as a whole can incur in any one year. Even affordable capital expenditure cannot be incurred if it would mean the DHSC breaches the CDEL limit.

Since 2015/16, the DHSC's capital expenditure has been within 2% of the CDEL limit, other than in 2017/18 (see Table 1 overleaf). Availability of CDEL is a major constraint for NHS providers as their capital programmes (planned capital expenditure), when aggregated, have exceeded the CDEL available over the past five years.

Government departmental budgets are set annually through the estimates and supplementary estimates process, and underspends cannot usually be carried forward. This means that funding is lost if it is not spent.

An overspend in any year would mean that the funds voted by Parliament had been exceeded. This would mean the regularity opinion on the DHSC accounts would be qualified by the auditors, as the expenditure over the voted limited would be deemed to be irregular. It is likely that the overspend would be recovered from the next year's budget.

There is a national mechanism for government departments to carry forward CDEL underspends relating to significant investment programmes (subject to HM Treasury approval), but this is managed by the DHSC<sup>11</sup> and is the exception rather than the norm. NHS bodies must work on the basis that underspends will, in effect, be lost.

<sup>9</sup> House of Commons Library, *Public spending: a brief introduction*, September 2021

<sup>10</sup> HM Treasury, *Consolidated budgeting guidance 2021/22*, March 2021

<sup>11</sup> There is also a mechanism for the DHSC to transfer CDEL to RDEL. This did happen in 2015/16 and later years to avoid an RDEL overspend, but has now been phased out as a practice due to the recent pressure on the CDEL budget



**Table 1: DHSC CDEL outturn 2019/20**

	2015/16	2016/17	2017/18	2018/19	2019/20
	£m	£m	£m	£m	£m
CDEL budget	4,710	4,616	5,598	5,983	7,125
CDEL spending outturn	4,652	4,556	5,238	5,941	7,015
<b>CDEL underspend</b>	<b>58</b>	<b>60</b>	<b>360</b>	<b>42</b>	<b>110</b>
CDEL underspend %	1.23%	1.30%	6.43%	0.70%	1.54%

Source: DHSC annual report and accounts 2019/20

When, as in 2017/18, the CDEL budget for the year is underspent, the underspend is not carried forward and resource is effectively lost.

The 2017/18 DHSC annual report and accounts stated:

*'This underspend arose predominantly due to NHS providers' capital spend being significantly lower than they planned and forecast. This does not mean the capital requirements of the system fall below the current CDEL budget, but instead demonstrates the challenge the Department faces in ensuring the maximum consolidated capital spend is delivered within an annual voted limit.'*

*'Recognising that the current capital regime presents challenges both nationally and locally in effectively planning and forecasting capital investment, the Department is working closely with NHS Improvement to review the regime over the coming year to minimise future unnecessary underspends and ensure the maximum funding is deployed in the most effective manner.'*

The arrangements for managing and monitoring capital expenditure in the NHS have changed since then, but the critical issue remains – there is an annual spending limit that cannot be exceeded or carried forward, and demand for capital expenditure still exceeds the CDEL available.

Integrated care systems (ICSs) are now given a capital allocation so that capital expenditure can be managed locally within each system. National programmes are still managed centrally.

While these arrangements apply to all expenditure incurred by NHS bodies, for innovative digital technologies it is important that the accounting and the financial impact is

considered at an early stage in the project. The illustrations in this briefing highlight that the appropriate accounting for digital technology varies depending on the substance of the arrangement, so it will need to be considered on a case-by-case basis. Otherwise, there is a real risk that funding may not be appropriate for the project or that the expenditure will result in breach of either CDEL or resource departmental expenditure limit (RDEL).

### Capital expenditure

To contain expenditure within CDEL, it is important to appropriately classify the expenditure. For NHS bodies, other than the DHSC itself<sup>12</sup>, total capital expenditure is expenditure on new fixed assets less the net book value of sales of fixed assets. This expenditure includes finance leases and other transactions that are in substance borrowing, such as public/private partnership (PPP) arrangements that are 'on-balance sheet'. This means the asset is recognised by the government body as if it owned the asset. Expenditure is determined on an accruals basis rather than a cash basis<sup>13</sup>.

This briefing provides illustrations of the two types of fixed assets:

- Tangible – for example, land, buildings and IT systems
- Intangible – for example, patents, IT software and trademarks.

It is important to note that there are also revenue consequences of owning fixed assets. Fixed assets have an impact on the resource budget in terms of their subsequent measurement after they are acquired – depreciation, maintenance costs and impairment are all revenue costs.

<sup>12</sup> There are other types of expenditure that government departments incur that will count against their CDEL, but these are managed by the DHSC so are not covered by this paper (HM Treasury, *Consolidated budgeting guidance 2021/22*, table 1C, March 2021)

<sup>13</sup> For example, an NHS trust has signed a contract to build a new property. The builder is paid on monthly certificates signed off by the quantity surveyor. On 31 March, the certificate for £220,000 of work done in March has been approved by the quantity surveyor but has not been paid. That amount will be included in capital expenditure for the year even though the cash will be paid in the following financial year. Transactions will be reflected in the accounts in the period that the liability has arisen, or control of the asset is either received or relinquished – this may not necessarily be the same accounting period in which the cash transaction is made

# How should the expenditure be accounted for?

Accounting for digital technologies can be complex because it is not always clear whether the NHS body is purchasing an asset that would be classified as capital expenditure or a service that is revenue expenditure.

In accounting terms, if the expenditure is capital, it will either be the purchase of a tangible or intangible non-current asset. If the expenditure does not meet the criteria set out in accounting standards to be the purchase of a non-current asset, then by default it is revenue expenditure that should be expensed as it is incurred.

In order to aid understanding, this briefing includes a number of illustrations that work through some of the accounting requirements, as well as the process that accountants will need to work through to determine the appropriate accounting treatment. As illustrations, they are relatively simple and high-level.

## Tangible non-current assets

International accounting standard (IAS) 16 *Property, plant and equipment* defines property, plant and equipment (PPE) in paragraph 6 as:

*‘Tangible items that:*

- are held for use in the production or supply of goods or services, for rental to others, or for administrative purposes; and*
- are expected to be used during more than one period.’*

The *Conceptual framework for financial reporting* that underpins all accounting standards defines an asset as:

*‘A present economic resource controlled by the entity as a result of past events.’*

**Illustration 1** on the following page sets out a straightforward example of the purchase of a tangible asset, while **Illustration 8** expands this example to consider the impact on the accounting treatment of multiple bodies using the same asset.

**Illustration 3** demonstrates the importance of control when determining whether expenditure is capital or not.

The DHSC’s *Group accounting manual*<sup>14</sup> (GAM) categorises NHS bodies’ PPE as:

- Land
- Buildings (excluding dwellings)
- Dwellings
- Transport equipment
- Plant and machinery
- Information technology
- Furniture and fittings
- Stockpiled goods (DHSC and Public Health England only)
- Payments on account and assets under construction.

“The purchase of a tangible or intangible asset that will be used to provide services for more than a year is capital expenditure. By default, expenditure that is not capital is revenue. Digital projects can include both revenue and capital expenditure.”

<sup>14</sup> DHSC, *Group accounting manual 2021/22*, May 2021

## Illustration 1: Interventional and rehabilitative robotics

### Accounting for tangible non-current or fixed assets

Robot-assisted surgery is becoming more common in orthopaedic, laparoscopic and neurosurgical procedures. Snake robots for reaching peripheral areas in the lungs or for performing gastrointestinal surgeries are available, expanding the scope of robotics in surgery.

A robot used for surgery would meet the definition of plant and machinery and, as it would be used to provide healthcare services for several years, purchasing it would meet the definition of capital expenditure. The cost of the asset would therefore be capitalised.

However, the asset will have an impact on revenue expenditure each year that it is used<sup>15</sup>. The total capital cost will be charged to revenue in the form of depreciation each year that the robot is expected to be used.

If the asset was damaged or was no longer fit for purpose, it would be written off in the year in which the damage occurred as an impairment. This would be a charge to revenue.

### Intangible non-current assets

International accounting standard (IAS) 36 *Intangible assets* defines an intangible asset as:

*'An identifiable non-monetary asset without physical substance.'*

The definition of an asset set out in the accounting standard aligns with the definition for a tangible asset, as it is:

*'A resource:*

- *controlled by an entity as a result of past events; and*
- *from which future economic benefits are expected to flow to the entity.'*

In addition to these two criteria, the standard requires that an intangible asset must be identifiable, which means it must either be:

- Separable - capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable asset or liability, regardless of whether the entity intends to do so

or

- Arise from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

**Illustration 2** is an example of where this definition would not be met, while **Illustrations 5** and **6** are examples of the development of an intangible asset.

The example accounting policy in the GAM reflects the requirements of these accounting standards:

*'Intangible assets are non-monetary assets without physical substance which are capable of being sold separately from the rest of the trust's business or which arise from contractual or other legal rights. They are recognised only where it is probable that future economic benefits will flow to, or service potential be provided to, the trust and where the cost of the asset can be measured reliably.*

*Internally generated goodwill, brands, mastheads, publishing titles, customer lists and similar items are not capitalised as intangible assets.*

*Expenditure on research is not capitalised. Expenditure on development is capitalised when it meets the requirements set out in IAS 38.*

*Software which is integral to the operation of hardware – for example, an operating system – is capitalised as part of the relevant item of property, plant and equipment. Software which is not integral to the operation of hardware – for example application software – is capitalised as an intangible asset.'*

Intangible assets must be categorised into one of the following classes:

- Software licences
- IT – in-house and third-party software
- Development expenditure
- Licences, trademarks and artistic originals
- Patents
- Goodwill
- Websites.

<sup>15</sup> HFMA, *How it works - understanding the financial position*, March 2018

## Illustration 2: Telemedicine

### Accounting for software solutions

Telemedicine is the use of telecommunication and information technology for the purpose of providing remote health assessments and therapeutic interventions. This includes texts, audio and video consultations.

One example of telemedicine that has been used during the Covid-19 pandemic is Attend Anywhere (known as Near Me in Scotland). This is a web-based platform that allows clinicians and patients to have a remote consultation using video. Both participants will need a device that has a camera and internet connectivity, such as a laptop or a phone. It is assumed that the patient will use their own device and the clinician will already have access to a computer or phone.

The main cost of introducing this initiative will be the software. If the licence to use the software is purchased for a period of longer than a year, then it may meet the definition of an intangible asset, as its use will allow the NHS body to provide a service over the years that it can use the software.

When the accounting standards were written for intangible assets, often application software was purchased as a multiple-year licence. However, this business model has changed and now software tends to be purchased as a service in a similar way to utilities. The contract simply requires the NHS body to pay a monthly or quarterly fee to be able to access the application. In this case, there is no asset that will be used for more than one year, simply an ongoing contract for a service.

Therefore, it is unlikely that telemedicine would meet the definition for capital costs. These costs would score against the RDEL in the year in which they were incurred. This means that they would need to be funded through contract income.

### Low-value and grouped assets

In the NHS, the accounting policy is that assets (tangible or intangible) that cost less than £5,000 are not capitalised. The £5,000 de minimis includes non-recoverable VAT. The cost of these assets is charged to revenue<sup>16</sup> as it is incurred.

However, if several low-value assets are purchased as part of a single collective asset, they are capitalised as a grouped asset. To be capitalised as a group, each of the items in the group must meet all these criteria:

- The total cost of the grouped asset is greater than £5,000
- The assets are functionally interdependent – so they can only be used together

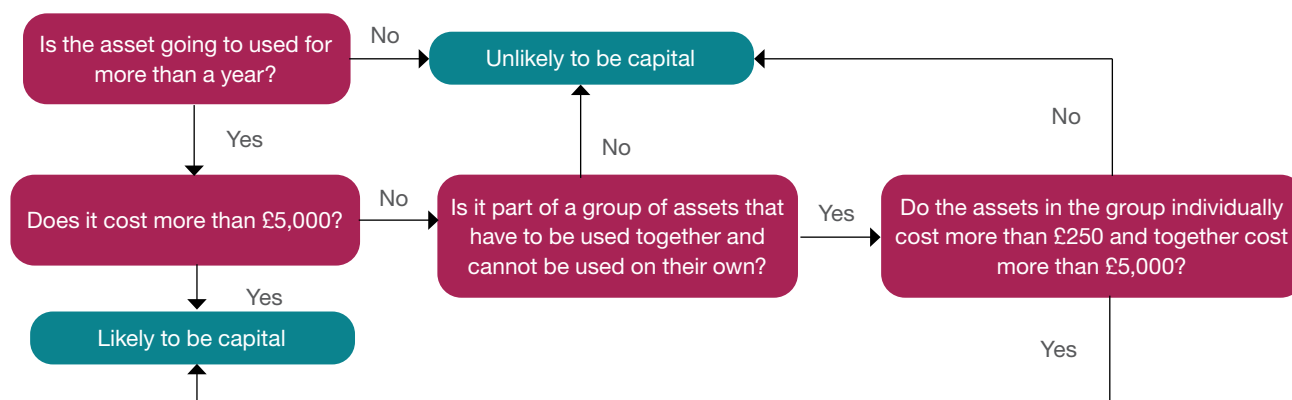
- The assets are bought at the same time and are planned to be disposed of at approximately the same time – effectively, the plan is to use the assets together for the whole of their useful economic life
- The group of assets is under single managerial control
- Each individual asset has a value of more than £250.

**Illustrations 4 and 8** consider how the definition of a grouped asset might work in practice.

The flowchart on the following page sets out the main questions that need to be asked when determining whether or not expenditure can be capitalised.

<sup>16</sup> This is also referred to as being expensed

## Capitalisation flow chart



### Illustration 3: Wearables and sensors for remote monitoring and diagnostics

#### Accounting for assets that are given to patients

Wearable technology in healthcare includes electronic devices that people can wear – such as Fitbits and smartwatches – and are designed to collect the data of the user’s personal health and exercise. Examples include wearable electrocardiogram (ECG) monitors and blood pressure monitors. For patients with type 1 diabetes, the NHS has been prescribing wearable sensors since 2019. The sensor is worn on the arm and relays glucose levels to a smartphone or e-reader.

Wearable technologies would meet the definition of a tangible asset as they are purchased to be used to deliver healthcare services and are expected to be used for more than one year. However, to identify whether a particular wearable should be classified as an asset, how it is used needs to be understood.

If the wearable is given to a patient and is not expected to be returned to the NHS body, the NHS body does not have control of the asset. In this situation, the wearable would not be accounted for as an asset as it would not meet the overarching definition of an asset that is set out in the *Conceptual framework for financial reporting*<sup>17</sup> that underpins all accounting standards. The framework requires entities to have control of any assets recognised in its accounts.

It is unlikely that wearables and sensors would meet the definition for capital costs. These costs would therefore score against the RDEL in the year in which they were incurred. This means that they would need to be funded through contract income. New developments in this area could be funded through charitable donations, but it is likely that this would be to get the development started. Once it became business as usual, wearables and sensors would have to be funded from revenue in the same way as consumables such as prosthetics, dressings and drugs.

In 2003, digital hearing aids were made available to the general public<sup>18</sup>. These were funded from capital funds. But auditors determined that they did not meet the definition of capital expenditure. So, to align the accounting with the funding, a specific amendment was made to the NHS accounting guidance in relation solely to the purchase of digital hearing aids in a particular period. It is unlikely such an amendment would be made to the accounts guidance again.

<sup>17</sup> IFRS, *Conceptual framework for financial reporting*, revised March 2018

<sup>18</sup> National archives, 4.7.21.1 *Capitalisation of digital hearing aids*, May 2008

## Illustration 4: Community wellbeing monitoring

### Determining whether the grouped asset definition has been met

A new wellbeing assessment system that takes place in a community pharmacy has been developed. Community pharmacists use a monitor attached to an iPad, patients visit the pharmacy and hold the monitor for a few minutes as their vital signs are monitored. The data is saved on the iPad and analysed using bespoke software that transmits the output to the local hospital's cardiology unit. The cardiac specialists then review the output and contact those patients identified as being at risk of having a stroke or heart attack for preventative treatment.

The NHS provider body will purchase the hardware and software to put this new system in place.

Paragraph 4 of IAS 36 states that where software is an integral part of the related hardware, and the hardware cannot operate without the software, then it is treated as property, plant and equipment. In this case, the handheld monitor is an integral part of the system and would not work without the bespoke software. From the other perspective, the software cannot be used without the monitor.

The same cannot be said for the iPad, as that can be used without the monitor or the associated software – albeit not for this purpose. Also, the software will be installed on the computers at the hospital. No additional hardware is needed as it can be run on existing laptops or desktops.

All these elements are required to make the whole system work – the handheld monitor, the iPad and the bespoke software on both the iPad and the hospital's computers.

Together they may meet the criteria of a grouped asset:

- They are functionally interdependent – the early warning system only works if all the parts are in place
- They are all acquired at the same date
- They are planned for disposal at the same date – as the only part of the system that could be used alone, consideration should be given to whether the iPad could be used for longer than the handheld monitor, but it is likely that their expected useful economic lives would be similar
- Each item has a cost of more than £250 and in total they cost more than £5,000
- They are under single managerial control – this is the criteria that would need further consideration as the devices are held at different locations that are not under the same managerial control. The hospital is an NHS provider body, but the community pharmacist is an independent contractor. As the NHS provider is paying for the whole system, it will need to put in place arrangements to ensure that the hardware it is providing to the community pharmacist is kept under its management. It would need to be included on the provider body's asset register, the software would have to comply with the provider's information governance and IT policies, periodic checks should be made to ensure it is still at the pharmacy (this may, in part, be done remotely as data is sent from patients to the provider) and all software updates and hardware maintenance would have to be managed by the NHS provider.

If the new service is funded by the commissioning organisation (clinical care group or integrated care board), then the same accounting requirements would apply but the asset would be recognised by the commissioning organisation. The management of the assets may well still be with the NHS provider body as it will be the cardiac team who will have the expertise. However, that would still be single managerial control – simply outsourced by the funding organisation.

### Software as a service

The accounting standard that relates to software refers to a digital world that has long since passed. IAS 38 was first published in 2001 and refers to software being held on compact disks. Now, systems are cloud-based and not downloaded onto individual machines.

The International Accounting Standards Board (IASB) has been discussing the implications of the changing way that digital

technologies are delivered. In 2019, it published guidance<sup>19</sup> on how cloud-hosted software should be accounted for. The conclusion was that the arrangement is not the purchase of an asset unless the customer has:

- Rights to decide how and for what purpose the software is used, including when it should be updated or reconfigured
- The power to obtain future economic benefits from the software itself and restrict others' access to those benefits.

<sup>19</sup> IFRS Interpretations Committee decisions (page 40), *Customer's right to receive access to the supplier's software hosted on the cloud*, March 2019

So, for most software packages that are available off the shelf, these are now purchased as a service and there is no asset involved. These will include healthcare-specific packages that are used by multiple NHS bodies.

**Illustrations 5 and 6** consider what this means for the development of new software in the NHS.

However, in some cases, the customer pays for systems to be customised to meet their specific requirements. The

software is not their asset, but they need to consider whether the tailoring or customisation is an asset on which they can capitalise. In 2021, the IASB issued its conclusions<sup>20</sup> on this issue – the costs of customisation could only be capitalised where an intangible asset meeting the definition of IAS 38 is created.

This may be the case where the customisation is undertaken in-house, but the overall conclusion seems to be that it is unlikely that there will be a separate asset created.

## Illustration 5: Automated image interpretation using artificial intelligence

### Accounting for in-house developed software solutions

Artificial intelligence (AI) technologies applied to diagnostic imaging, such as cancer screening, are among the most advanced uses of AI in healthcare.

AI will be a software solution. However, currently there are no off-the-shelf solutions available for NHS bodies to buy. Most AI products are still being developed and evaluated<sup>21</sup>.

Research, which is the stage before development, does not result in an intangible asset and cannot be capitalised. Research expenditure is always expensed as incurred by NHS bodies.

However, where NHS bodies are part of the team that is developing the AI solution, some of the costs may be capital where they meet the definition of development of an internally generated intangible asset.

Paragraph 57 of IAS 38 states:

*'An intangible asset arising from development (or from the development phase of an internal project) shall be recognised if, and only if, an entity can demonstrate all of the following:*

- (a) The technical feasibility of completing the intangible asset so that it will be available for use or sale*
- (b) Its intention to complete the intangible asset and use or sell it*
- (c) Its ability to use or sell the intangible asset*
- (d) How the intangible asset will generate probable future economic benefits. Among other things, the entity can demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset*
- (e) The availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset*
- (f) Its ability to measure reliably the expenditure attributable to the intangible asset during its development.'*

Development activities include the design, construction and testing of prototypes and models.

In order to capitalise the development expenditure, the NHS body needs to be able to demonstrate that it expects to generate future economic benefits from the asset. This will include consideration of how those benefits will be achieved. This may require considering how the intangible asset will be used alongside tangible assets or other resources. Regular reviews of whether the future economic benefits are achievable need to be carried out as the project progresses.

Where developments do result in an intangible asset, the expenditure can be capitalised. It would then be depreciated by the NHS body over its assessed useful life. If it was later determined that there was no asset for use or sale or that the value of the asset was less than the capitalised costs, then the value of the asset would have to be impaired in accordance with *IAS 36 Impairment of assets*. This would count as revenue expenditure in the year that the change was made.

It is worth noting that although expenditure on development can be capitalised by NHS provider bodies, at the national level, both research and development is classified as capital and therefore counts against the DHSC's CDEL. The DHSC would therefore need to be informed if there were material research projects under way, so the budgetary impact could be managed.

<sup>20</sup> IFRS Interpretations Committee decisions (page 11), *Configuration or customisation costs in a cloud computing arrangement*, April 2021

<sup>21</sup> NHS England, *Report of the independent review of diagnostic services for NHS England*, October 2020

## Illustration 6: Shared care records<sup>22</sup>

### Accounting for the development of a data platform

The shared care records programme enables patient data and information to be shared across systems within the health and social care setting.

In this example, a seven-year contract has been signed with three suppliers for the development of a data platform that will be used to feed into a common data layer, or structure for organising and accessing patient data, to create and maintain a normalised, standardised, identifiable longitudinal patient record.

The contract specifically details the design, construction and testing of prototypes or models. These are predominantly digital technological components that cannot be physically seen or held. They are therefore intangible.

As the contract is for seven years with no break clause, the expenditure is capital in nature as it is used to develop an intangible asset that meets the IAS 38 definition of being '*capable of being separated or sold, transferred, exchanged, licensed regardless of intention, and it arises from contractual/legal rights*'.

The NHS body has the ability to obtain the future economic benefits from the underlying data platform that has been developed over the life of the asset. However, this will depend on the specific terms of the contract which, in this case, give the NHS body control over the asset.

The costs incurred meet the definition of development costs in accordance with IAS 38:

- The terms of the contract, as well as the business/project plan, provide evidence that there is the technical feasibility to complete the intangible asset to a point that it can be used or sold
- It is intended that the contract will be completed so there will be an intangible asset to use at the end
- The NHS body has the ability to use the intangible asset that has been developed
- It is likely that the developed intangible asset will generate future economic benefits in the form of improvements to healthcare services, and the NHS body can demonstrate the asset's usefulness internally
- The business plan demonstrates that resources are available to complete the development of the intangible asset
- The NHS body's accounting systems mean the expenditure attributable to the development of the intangible asset can be reliably measured.

This area is continuously changing and the approach to developing systems like this will vary from contract to contract.

There will not be a one size fits all for the different transactions involved in this area of digital technology – the move towards cloud-based solutions and licences demonstrates this. Other scenarios include:

- Procuring a licence for less than one year – typically this will not meet the definition of capital expenditure
- Licences that roll over annually and have to be renewed at the end of each financial year do not meet the requirement for the asset to be held for more than a year and are therefore unlikely to meet the definition of capital expenditure
- Data stored or generated by software owned by a third party may not meet the definition of an intangible asset because:
  - Control is with a third party
  - It is difficult to estimate or assess whether there is an intangible asset that will yield economic benefit to the NHS body.

<sup>22</sup> For more information on the national shared care record programme, see the webinar *Shared care records programme: financial governance and lessons learnt*



## System-wide initiatives

Often, digital initiatives involve multiple organisations. The implications for funding and accounting will need to be considered separately for each organisation involved as they may well be different. The arrangements between the organisations need to be clearly set out as the technological solution is developed as well as once the new arrangement 'goes live'.

**Illustration 7** considers the use of a tangible asset by multiple organisations.

The accounting treatment of arrangements between entities involves understanding which entity has control of any assets involved<sup>23</sup>.

Control depends on factors such as:

- Who can make decisions about
  - Who can use the assets
  - When they can use them
- What other resources are needed to manage and use the assets
- Where the risks relating to the assets lie and who is exposed to those risks
- Where assets are physically located.

It is also important to ensure the funding is in the right place to ensure that the financial impact of the new arrangement does not have an unfair impact, either positively or negatively, on the organisations involved in the new arrangement.

## Illustration 7: Robots being used by multiple organisations

### Accounting for an asset being used by multiple organisations

As we saw in **Illustration 1: Interventional and rehabilitative robotics**, the purchase of a surgical robot is clearly capital expenditure. Usually, these assets are purchased and used by a single NHS acute provider. However, as system working develops, it could be that the robot is used by multiple organisations in a system.

As an illustration, assume that there are three provider trusts in a system. Two are specialist providers and one is a district general hospital (DGH). The case is made for a surgical robot that will be used by all three trusts.

The robot will be installed in the DGH. It is expected that the two specialist trusts will each use the robot for one day a week, but there will be flexibility that will be agreed monthly. The specialist trusts' surgeons and nurses will run the theatres when they are using the robot, but the DGH will provide other staff and facilities management.

It is agreed that the DGH will receive PDC to purchase the robot and that they will enter into the contract with the supplier to purchase the asset. Although there is agreement between the three bodies on the specification for the robot and procurement process, the final contract is between the DGH and the supplier. The DGH will depreciate the asset over its useful expected life and will be liable for insuring and repairing the asset. The specialist trusts do not take any of the risk associated with owning an asset.

The arrangement between the three NHS providers needs to be considered in accordance with the relevant accounting standards. From 1 April 2022, this is likely to be IFRS 16 leases<sup>24</sup> as the agreement will 'convey the right to control the use of the asset for a period of time in exchange for consideration'. It is likely that there is a lease arrangement between the bodies as the specialist trusts will control the use of the assets for the sessions in which they are using it. They will determine which operations they will perform, on which patients, and which staff will perform the surgery.

There will therefore be a lease between the DGH and the specialist trusts. This will mean that both specialist trusts will show part of the value of the robot on their balance sheet and the arrangement will count as capital expenditure for them. The DGH will account for the lease with the specialist trusts as a lessor – probably as an operating lease.

As the accounting for lessees and lessors is not mirrored in IFRS 16, there will need to be adjustments by NHS England and NHS Improvement when they prepare the consolidated provider accounts to ensure that the robot is shown once in those accounts, but it will be shown at different values on the three organisations' balance sheets.

<sup>23</sup> HFMA, *Accounting for joint working arrangements*, July 2017

<sup>24</sup> HFMA, *Accounting for leases: why it affects you*, November 2019

## Illustration 8: Using virtual reality for pulmonary rehabilitation

### Accounting for projects delivered in patients' homes with GPs

Patients with chronic lung conditions benefit from pulmonary rehabilitation exercises that are usually delivered in classes held in hospital. But these classes are oversubscribed and have not been able to be held in person during the pandemic.

A GP has developed a way of delivering these classes remotely via virtual reality headsets<sup>25</sup>. The patient can join a class virtually and their vital signs are monitored by the GP via sensors built into the headsets.

The system requires a virtual reality headset and monitors as well as the software to link the patient to the physiotherapist delivering the class and the GP who is monitoring vital signs.

As in **Illustration 4: Community wellbeing monitoring**, the hardware and software are interdependent and would therefore be accounted for together as a tangible asset. The cost of virtual reality headsets varies as some use mobile phones while others are a standalone system. But all systems also include handsets, and no other bespoke hardware is required for this system.

For the purposes of this example, it is assumed that the whole system will be provided by the NHS body to the patient rather than using the patient's own phone. If the NHS provider body purchases the headsets and the associated software, then the key question is whether the whole system meets the definition of a grouped asset:

- Are the parts of the system functionally interdependent? The answer is likely to be yes, the training system only works if all the parts are in place.
- Are all the parts of the system acquired at the same date? This is likely to be yes.
- Are they planned for disposal at the same date? Again, the answer is likely to be yes. If there is a separate mobile phone and headset, they may have different expected lives, but the difference is unlikely to be material as they are both similar types of IT equipment likely to have a useful economic life of five years or less.
- Does each item have a cost of more than £250 and in total do they cost more than £5,000? Standalone virtual reality headsets cost more than £250 but a headset that uses a mobile phone is less than £100, as is the phone that is also required. The second option would therefore not meet the criteria for capitalisation. If the more expensive headsets are used, then it will depend on the cost of the bespoke software and any hardware requirements for the trust and the GP as to whether the total cost of the system is more than £5,000.
- Are the parts of the grouped asset under single managerial control? As the hardware is delivered to the patient's home, to demonstrate managerial control, the provider body would need to put in place arrangements for distributing and collecting the hardware and tracking it while it is in the community. This would be the case whether the cost of the asset is capitalised or not. The software would have to comply with the provider's information governance and IT policies – this could be complex, as an independent provider (the GP) is monitoring the information provided by the headset. All software updates and hardware maintenance would have to be managed by the NHS provider. If the cost test is met and the asset is capitalised, then the headset and controllers would need to be included on the provider body's asset register.

If it is determined that the equipment and software do meet the definition of capital expenditure, then the trust would have to apply for capital funding or fund for the project from its own cash balances. If it does not meet the definition of capital, then the trust would have to fund the new system from its annual revenue budget.

If the asset is provided by the GP practice, then none of these detailed considerations would apply because the GP is an independent contractor. However, the practice accounts will have to comply with UK generally accepted accounting practice (UK GAAP) or international reporting standards, so there would need to be some consideration of whether the expenditure is capital or not. However, this will not count towards CDEL.

Having said that, the GP would expect to be reimbursed for both the investment in the technology as well as the service being provided when monitoring the data. It may be that the technical investment will be funded by a capital grant from NHSX or NHS England and NHS Improvement. That grant will count towards the DHSC's total CDEL if the expenditure is considered capital.

The funding of the service element of this initiative would have to be part of the contract between NHS England and NHS Improvement or the local CCG and both the NHS provider and the GP.

<sup>25</sup> This innovation is real (*Fab NHS stuff, PR in VR - virtual reality pulmonary rehab programme*, April 2018) but it is in the development stage. The mechanism for delivering the service as business as usual has been assumed to illustrate the accounting considerations and may not reflect the arrangements going forward

# Conclusion

This is a complex area and this briefing has set out some of the difficulties and issues that need to be considered when investing in digital technologies. The illustrations are intended to prompt discussion about the funding and accounting for current NHS projects.

Further illustrations are being considered that cover more complex arrangements – for example, projects that include revenue and capital elements and innovative arrangements that effectively give the NHS body an investment in a private sector technology company.

If you have examples that you would like to share with us or you have any comments on this briefing, please contact Debbie Paterson, policy and technical manager at the HFMA – [debbie.paterson@hfma.org.uk](mailto:debbie.paterson@hfma.org.uk)



## About Health Education England

Health Education England (HEE) is part of the NHS, and we work with partners to plan, recruit, educate and train the health workforce. HEE exists for one reason only: to support the delivery of excellent healthcare and health improvement to the patients and public of England by ensuring that the workforce of today and tomorrow has the right numbers, skills, values and behaviours, at the right time and in the right place.

HEE's Digital Readiness Programme, commissioned by NHSX, aims to uplift digital skills, knowledge, understanding and awareness for all our health and care workforce. This includes:

- Supporting the right culture and environment – for example, by ensuring digital is understood, embedded and championed at trust and ICS board level.
- Professionalising the digital workforce through support for professional bodies, regional Informatics Skills Development Networks, and collaborative community networks.
- Establishing learning and development through the NHS Digital Academy and specific learning and development initiatives – for example, the Florence Nightingale Digital Nurse Scholarship – and through access to tailored, appropriate online learning for all.
- Building our future digital workforce by undertaking workforce analysis and demand forecasting, and sustainable models to recruit talent – for example, through graduate schemes – as well as opportunities for nurturing existing talent, such as through the Topol Digital Health Fellowships.

For more information visit the Digital Readiness Programme website or follow the programme on Twitter @HEE\_DigiReady

## 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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