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# What do we mean by digital health and social care?

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# Contents

# Introduction

This free course, *What do we mean by digital health and social care?*, will focus on digital health and social care technologies.

Digital health technologies encompass a range of innovations and interventions. During this course you will explore the different types of technologies that exist in health and social care and the advantages and disadvantages associated with each of them.

You will access policy and strategy in your region and consider what this means for you as health and social care and service users. Figure 1 provides an illustration of the different types of digital innovations currently available.



**Figure 1** 28 Internet of things icons

This OpenLearn course is an adapted extract from the Open University course K102 *Introducing health and social care*.

# Learning Outcomes

After studying this course, you should be able to:

- explain what is meant by digital and health technologies
- evaluate the types of technologies used in health and social care
- identify the policies and digital innovations local to where you live.

# 1 Defining digital health and social care technology

As Figure 1 (in the Introduction) showed, there are lots of different types of technology, so it might be useful to define what we mean by digital health and social care technology before exploring particular policy in your region. This section will enable you to define the concept of digital health and social care technologies.

In 2019 the Topol Review estimated that by 2039, 90% of jobs will require digital skills (Topol, 2019). Therefore, the digital skills you are learning as you study will be valuable both now and in the future. There are many perspectives about what digital health and social care is, ranging from simple use of electronic records through to more complex artificial intelligence and robotics in surgery.

You will probably have heard a lot of different terms to describe digital health and social care technology. For example, the Digital Health & Care Institute (2018) use the term 'Health Information Technology' (HIT), The Welsh Government (2015), National Institute for Health and Care Excellence (NICE) (2019) and King's Fund (in Macguire *et al.*, 2019) use phrases such as 'digital technology', 'digital health technologies' (DHT) and 'digital change' while NICE (2019) outline quality standards requirements for the use of such technology, including information about how to evidence effectiveness and economic benefits (cost versus benefit).

Figure 2 provides a summary of the different 'levels' and 'purpose' of digital technology.

**Evidence tier 3a**

**Preventative behaviour change**
Address public health issues: smoking, eating, alcohol,
sexual health, sleeping and exercise

**Self-manage**
Allows people to self-manage a specified condition.
May include behaviour change techniques

**Evidence tier 3b**

**Treat**
Provides treatment
Guides treatment

**Active monitoring**
Tracking patient location, using wearables to measure,
record and/or transmit data about a specified condition

**Calculate**
A calculator that impacts on treatment, diagnosis or care

**Diagnose**
Diagnoses a specified condition
Guides diagnoses

**Evidence tier 2**

**Inform**
Provides information, resources or activities to the public, patients or clinicians.
Includes information about a condition or general health and lifestyle.

**Simple monitoring**
Includes general health monitoring using fitness wearables and simple
symptom diaries.

**Communicate**
Allows 2-way communication between citizens, patients or
healthcare professionals.

**Evidence tier 1**

**System services**
DHTs with no measureable patient outcomes but which provide services
to the health and social care system

**Figure 2** NICE (2019) Evidence Standards framework for digital health technologies.

## Activity 1 What do you understand by digital health and social care?

The following video was produced by The Health and Social Care Alliance Scotland in 2016 to explain digital health options. You may already receive some of these services. It also invites feedback from viewers. Watch it and then answer the question below.

Video content is not available in this format.

Video 1 What is digital health?
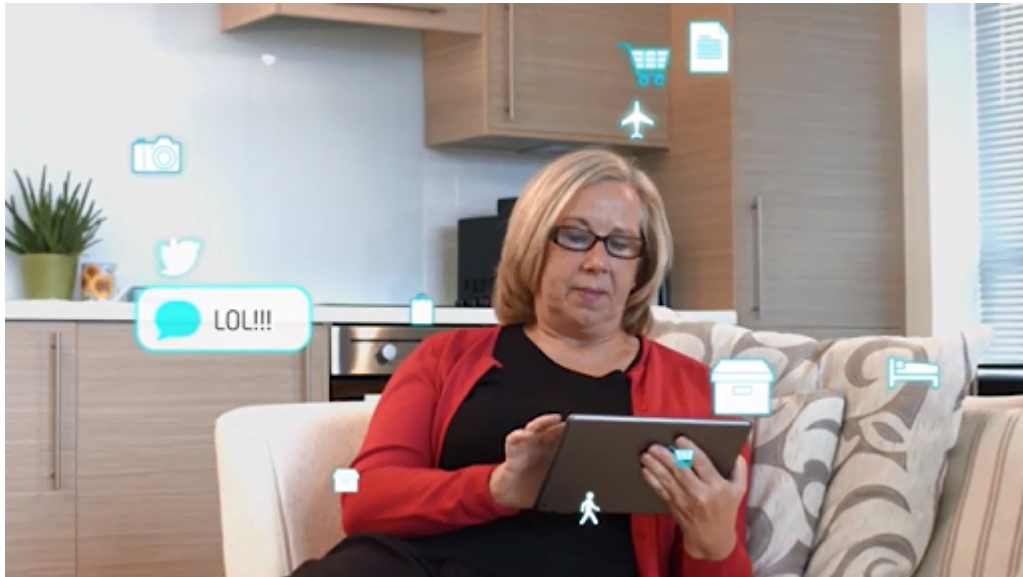


Think about the term 'digital health and social care technology' and write down your own definition of this from your own perspective.

Provide your answer...

Discussion

Different people will have different definitions that reflect the wider context of digital health and social care. Your definition might have come from your own experience as an individual consumer of health care or from your work. Definitions will probably have included the internet, mobile or smartphone applications, electronic records or even games.

# 2 Policy for digital health and social care

The use of digital health and social care technologies are part of health and social care strategy, both across the United Kingdom and the rest of the world. Figure 3 illustrates some of the different digital health and social care policy and strategy across the UK. Click on the different UK countries to see further information.

> Interactive content is not available in this format.
>
> **Figure 3** An interactive map of the UK.

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**Activity 2 Learning about digital health and social care strategy in the UK**

In this activity, you will explore digital health policy and how local health and social care sectors are applying this.

1. Search online for digital health policy or strategy documents that apply to your geographic location. If you're not based in the UK, explore one of the UK nations which interests you.
2. Choose one of these documents and read the introduction.
3. Fill in the table below.

Where you are prompted to provide a full reference of the document you have found, use the title and URL / web address. Identify what kind of resource it is (e.g. if it's a report, you need to go to the 'report' section of this guide and so on).

| | |
|---|---|
| **Title and full reference of document** | *Provide your answer...* |
| **How is digital health technology defined or explained?** | *Provide your answer...* |
| **Why is it being used?** | *Provide your answer...* |
| **Provide at least one example of a digital health technology being proposed.** | *Provide your answer...* |

Discussion

You might have used a number of different documents in this activity; these might have been local social care policy, documents relating to the NHS or a national strategy document. Here is an example of a completed table:

| | |
|---|---|
| **Title and full reference of document** | Title: Informed Health and Care, A Digital Health and Social Care Strategy for Wales<br><br>Welsh Government (2015) *Informed Health and Care, A Digital Health and Social Care Strategy for Wales.* [Available Online] https://gweddill.gov.wales/docs/dhss/publications/151215reporten.pdf (Accessed 12 August 2019) |
| **How is digital health technology defined or explained?** | It is described as digital technology and includes interactive, personalised services such as electronic records, the internet and dedicated web services. |
| **Why is it being used?** | • To help manage austerity and increasing demand for services<br>• To help manage pressures on services<br>• Introducing new and improved ways of delivering services<br>• To help people access services and information about their care<br>• Empowering service users and staff<br>• Allowing people to manage their own health. |
| **Provide at least one example of a digital health technology being proposed.** | Dedicated web service that allows ordering of test, creating and viewing documents and accurate maintenance of records. |

# 3 Why are digital technologies important?

There are a range of advantages and disadvantages of technology in health and social care. For now, this section will look at the advantages.

Imison *et al*. (2016) suggests that there are seven opportunities for the productivity and quality of care.

1. More systematic, high-quality care
2. More proactive and targeted care
3. Better co-ordinated care
4. Improved access to specialist expertise
5. Greater patient engagement
6. Improved resource management
7. System improvement and learning.

Decision support tools for clinical decision making could improve the quality of care, and the use of electronic observations alongside laboratory tests can help to identify patients whose condition is deteriorating and thus improve productivity and care delivery. Remote community monitoring can improve access to services and electronic patient records can enable professionals from different areas of health and social care to access the right information at the right time and improve access to specialist expertise.

Technology can also promote better engagement with service users through the use of online networks and mobile applications. To help staff and managers, electronic rotas and mobile working can help to manage resources more effectively and efficiently. Finally, it is possible to use technology such as simulation in the education of health and care professionals. For example, the University of Derby have an immersive interactive Clinical skills simulation suite that imitates a real 'hospital ward' and where students are able to make decisions about care in a 'safe' environment.

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### Activity 3 The potential of digital technology for integrating care

Watch the following video, which discusses 'the role of technology of care integration', and make some notes in the box below about what you see as the advantages of electronic records. Understanding the advantages for integrated care will help you later in this course when examining the challenges of implementation and when exploring some of the innovations across the UK.

> Video content is not available in this format.
>
> Video 2 Role of technology in care integration

How can technology contribute to greater integration
across the health and care system?

*Provide your answer...*

Discussion

This video provided some examples of integrated patient records from different parts of the United Kingdom. Digital technologies are essential for progression of integrated care, sharing patient information between different agencies and organisations so that the information is available in the right place at the right time. Integrated digital care records are an example of how this can improve patient care, reduce costs and promote efficiency.

## 3.1 Advantages of digital health and social care technology

Digital health and social care technologies have had an increasing impact since 2010, and from previous activities in this course you will see that in the UK, both nationally and locally, digital health technologies are now part of policy and strategy moving forward. The advantages of these technologies are wide-ranging and they can help to change and improve health and social care for service users, providers, people and professionals working in these sectors.

The next activity will encourage you to think about your experiences of digital health and social care technology and what advantages there might be.

### Activity 4 Advantages of technology to you

Video content is not available in this format.
Video 3 The NHS at 70

As well as providing the potential advantages of digital technology, Imison *et al*. (2016) also outline the benefits of delivering digital health and social care based on a research project which is outlined in Figure 4, which depicts a summary of the digital landscape, with the patient and service user at the centre of what is done in health and social care.
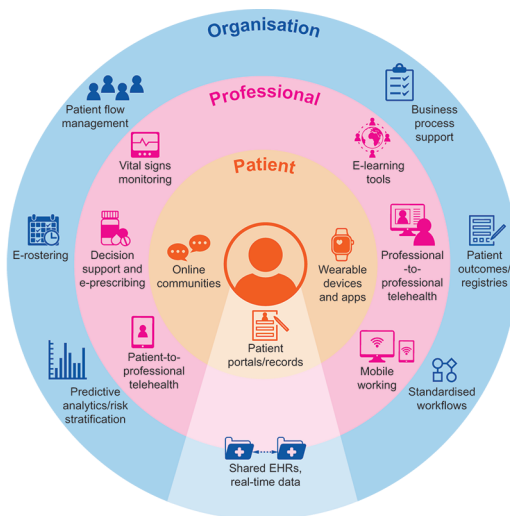


**Figure 4** The benefits of digital technologies for patients, professionals and organisations.

Think about some of the technology, both from the video and in Figure 4 above, and think about when and how you might come into contact with digital health and social care technology. This might be as a service user/patient, in your workplace, education or more widely.

| | |
|---|---|
| **What level is the technology you are thinking of at? Patient, professional or organisational?** | *Provide your answer...* |
| **What type of technology is it?** | *Provide your answer...* |
| **Does it have a positive or negative impact, and who is it impacting upon?** | *Provide your answer...* |
| **Why do you think this? For example, did it make your experience better? Did it result in better quality of care?** | *Provide your answer...* |

Now decide whether digital health and social care technology will have a positive or negative impact in the future.

*Provide your answer...*

### Discussion

You will have found that digital health and social care technology has a range of advantages for professionals, health and social care workers, patients, service users and services. Figure 5 summarises those from the Digital Health and Care Institute (2018).

**Figure 5** The benefits of digital technologies.
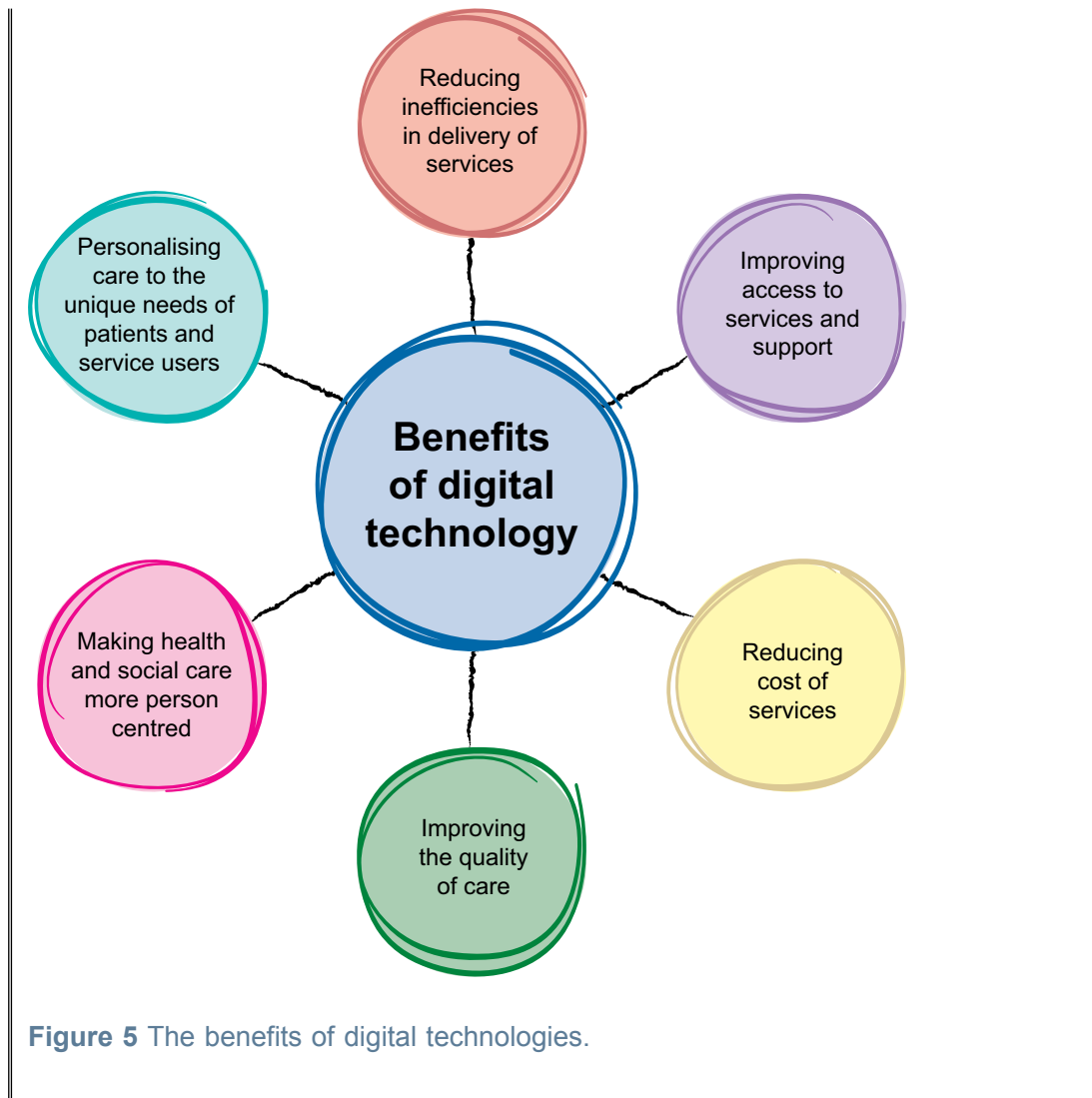
## 3.2 What are the disadvantages for implementation?

In the previous activity, you will have noted some of the advantages of digital health and social care technology. However, there are also disadvantages and challenges to be aware of.

An independent review report (Health Education England, 2019), 'Preparing the healthcare workforce to deliver a digital future', outlined some of the legal and ethical implications of digital health technology including patient safety, data governance, respect for human dignity and health inequalities. It is important that ethical principles are kept in mind when introducing the use of digital technology. For example, one of the primary ethical principles is 'do no harm', so patient safety needs to be considered before implementing any digital technology. This report also highlights some unintended consequences of digital health and social care, such as the risk of creating new inequalities with some parts of the population unable to access or use such technology.

Imison *et al*. (2016) further discuss and expand on the reasons why digital technology has been difficult to implement; 88% of UK adults report using the internet but only 2% report electronic engagement with health and care. Some of the barriers to this have been identified through research and experience, such as poorly designed information

technology systems, resistance to change, the lack of high quality research evidence to support the implementation of certain technologies and the length of time it takes to start to see benefits of change.

One of the barriers to using digital technology in health care settings is that not everyone chooses to be online because they don't feel comfortable using the technology or that they are concerned about the privacy and security of their personal information (Topol, 2019). In addition to physical access and privacy concerns, the use of digital technology may also have an impact on vision and posture; e.g. smartphone screens can create 'glare' that can impact on sleep.

From a legal and ethical perspective, Topol (2019) also identifies the risks associated with sharing data electronically, the use of biological databases and the systems and processes by which people provide consent for the collection and storage of this data and how this is managed, monitored, accessed and shared.

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### Activity 5 Disadvantages of being digital

Read the following:

> Bauer, M., Glenn, T., Monteith, S., Bauer, R., Whybrow, P. C. and Geddes, J. (2017)
> 'Ethical perspectives on recommending digital technology for patients with mental illness'. Read Table 1 and the section on 'ethical issues'.

Read through without making any notes. Think about the challenges and disadvantages associated with the use and implementation of health and social care technology. Finally, re-read the relevant section of the article, and highlight or make notes on what these might be for service users, patients, organisations or those who work in health and social care.

*Provide your answer...*

Discussion

The article shows that there are some significant challenges and disadvantages, particularly for those from vulnerable groups.

The article outlined some of the ethical issues that should be considered when implementing or making the decision to implement technology. The section on 'ethical issues' explored 6 areas of concern. Some examples are provided below.

- Issue 1 discussed the issues for medical professionals recommending digital technology to patients if they are not confident in their use. It is important to consider the technology being recommended and individual service user need. It is also noted that professionals should not assume that younger people are more able to use technology.

- Issue 2 discussed whether professionals should ignore when patients use technology, such as using internet searches to find information about their symptoms or potential 'self' diagnoses.

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# 4 Types of health and social care technology

There are a range of different types of digital technology that you might already have come across or experienced such as mHealth (mobile health), electronic records, telemedicine, wearables (such as watches that monitor your activity) and simulation. Digital Health and Care Institute (2018) provides a list of commonly employed digital technology, and Figure 6 provides more information about each of these. Click on the headings in the image below to read more.

> Interactive content is not available in this format.
>
> **Figure 6** Types of health and social care technology

## 4.1 Using technology in health and social care

You may well have experienced or used digital technology where you live or work; many people use smartphones, mobile apps and you will have been using the internet to access this OpenLearn course. Integrated and electronic patient records are becoming more and more popular and you have seen from the different activities in this course that people are broadening their use of digital technology.

The next activity provides some examples of digital technologies across different parts of the UK; you might have already heard about these, however, some might be completely new to you.
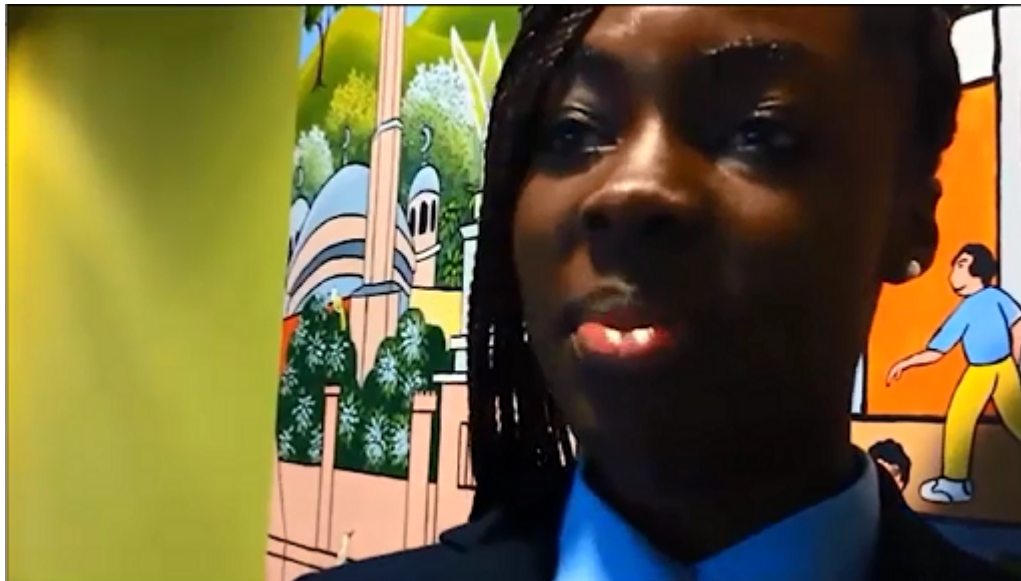
> **Activity 6 Map of technology of healthcare**
>
> Choose one of the UK nations, either the one you live in or one that interests you, and watch the associated video (and associated link if provided).
>
> > England
> >
> > Video content is not available in this format.
> > Video 4 ChatHealth

## Wales

Video content is not available in this format.

Video 5 Digital Communities Wales case study: Mental Health Matters



## Scotland

Video content is not available in this format.

Video 6 ROAR VR

Additional resource: Virtual Reality over the Doorstep

## Northern Ireland

Video content is not available in this format.
Video 7 Northern Ireland Electronic Care Record (NIECR)



Additional resource: Northern Ireland Electronic Health Record

## Part 2

Next, watch the following video.

Video content is not available in this format.

Video 8 DRIFT project



Now choose one of these case studies and write a short summary. In it, you should:

1.  summarise the technology used
2.  state a benefit of the technology used
3.  include a summary sentence that states why you chose this example and if you think it is a worthwhile use of technology.

*Provide your answer...*

Discussion

When you wrote your summary of the technology you should have been able to identify some of the benefits that it's providing for people and/or organisations. These are likely to include improved communication, sharing information, improving quality of, access to and the experience of care, efficiency and cost saving.

An example post might look similar to the example below:

DRIFT: Disseminating Research Information using Facebook and Twitter

1.  This project used the social networks Facebook and Twitter to bring together parents and carers of children and young people with Attention Deficit Hyperactivity Disorder (ADHD). It provided information about research and quality standards on the topic of ADHD and helped patients and the public understand what the research was saying and whether it was of good quality.
2.  The use of online social networks like this brought together patients from around the world, the project provided useful information and support for parents and carers of children with ADHD.
3.  This was a useful project because it proved to be an efficient and cost-effective way of reaching a lot of people.

https://www.open.edu/openlearn/health-sports-psychology/what-do-we-mean-digital-health-and-social-care/content-section-0 Tuesday 11 May 2021

# Conclusion

This free course, *What do we mean by digital health and social care?*, has defined the concept of digital health and social care technology and encouraged you to explore the strategy and policy in your area. You should now be able to source relevant documents and evidence that are applicable to your location and that tell you about why digital health and social care technology is being used, along with some examples.

You have explored the impact of digital health and social care technology. You should now have explored some of the advantages and disadvantages of such technology and its implementation, and you will have used some skills in reading an academic journal article and taking notes.

This OpenLearn course is an adapted extract from the Open University course K102 *Introducing health and social care*.

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# Acknowledgements

## Images

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