

Library and Knowledge Services

DIGITAL BULLETIN

May 2023



WORD OF THE MONTH: DIGITAL

What is Digital?

Digital describes electronic technology that generates, stores, and processes data in terms of two states: positive and non-positive.

What is Digital Transformation?

The process of using digitised information to make established ways of working simpler and more efficient is called digitalisation.

Digitization

Digitization, or digitalization, is the conversion of paper-based information into digital data. Digitizing printed information may seem like an old practice, but it's a component of digital transformation efforts in virtually every industry or sector. It's also a cornerstone of foundational transformation initiatives in healthcare.

Artificial intelligence and automation

Artificial intelligence (AI) technologies, such as machine learning, enable a computer or machine to mimic the human mind's capabilities. AI learns from examples, recognizing objects, making decisions and more. When combined with automation, AI can infuse intelligence and real-time decision-making into any workflow. It can drive everything from innovative smart products, from increasingly personalized customer and user experience.



Digitalisation is using digital data to simplify how you work.

The process of using digitised information to make established ways of working simpler and more efficient is called digitalisation. Digitalisation isn't about changing how you work or creating new ways. It's about being more efficient and better, now that data is instantly accessible and not trapped in a file cabinet somewhere.

Digital transformation begins and ends with the patient.

DIGITAL HEALTH: TODAY'S SOLUTIONS AND TOMORROW'S IMPACT

INTRODUCTION TO ARTIFICIAL INTELLIGENCE FOR DIGITAL HEALTH SOLUTIONS

As the digital health care transformation unfolds, artificial intelligence (AI), algorithms, and clinical decision support are becoming a more accepted and integrated part of the health care ecosystem. Laboratory results and the decisions that are based on them are taking place outside the walls of the laboratory, clinic, and hospital.

Digital health care came to life globally through the COVID-19 pandemic, and a compound annual growth of 15.1% is projected each year from 2021 to 2028. Another significant shift is in the role of patients in their own health care journeys and decisions. In this article, we are going to focus on emerging digital health solutions that include those that use AI to provide clinical decision support.

Digital health is a broad term with a vast scope. It can include categories such as mobile health, health information technology, wearable devices, telehealth, telemedicine, and personalized medicine. Digital health solutions are regulated based on the potential risk they pose to patients.

Traditionally in a health care system, when thinking about digital solutions, Health IT systems like Electronic Health Records (EHR) or Electronic Medical Record (EMR), Laboratory Information Systems (LIS), Hospital Information Systems (HIS), and middleware tend to come to mind. Although these systems are the digital backbone of information in US health care systems, they are not the focus of this article. Instead, we will focus on AI and how it can optimize data to provide clinical decision support for clinicians and laboratorians and/ or empower patients to play an active role in their own health care journey.

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INTRODUCTION TO
ARTIFICIAL INTELLIGI

Digital transformation should add value to every patient.



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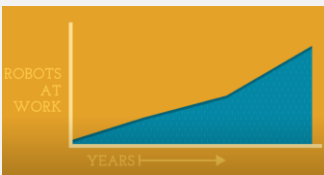
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Connecting People, Improving Lives: A Digital Future for Technology Enabled Care (TEC)?

1.7 million Vulnerable people rely on telecare in the UK

Common devices include **pendant alarms** and **fall detectors**

Technology Enabled Care (TEC) helps people live independently at home, avoiding **homecare, care homes and hospital**

Most telecare connects via **telephone lines** to one of the UK's **240+** monitoring centres

BUT by **2025** all UK analogue telephone services in the UK will be **SWITCHED OFF** and

REPLACED BY DIGITAL CONNECTIONS

If telecare providers don't **upgrade** from analogue to digital **BY 2025** then many people could lose the technology that keeps them safe

Any loss of TEC would put pressure on health and social care
Yet action is slow and uncertain

WHAT ARE THE POSSIBILITIES?

Moving from analogue to digital TEC could be about more than a simple replacement. Is this an opportunity for a fundamental redesign of TEC?

Emerging digital technology is already impacting health and care:

Big data analytics have cut A&E waiting times by

30 min

in some hospitals

Research shows that **artificial intelligence** is as good as human experts at recognising skin cancers

100s of UK councils use GPS tracking systems to monitor people with dementia

USERS & CHOOSERS ARE MORE TECH SAVVY

The average UK home has **8.3** web connected devices. By 2020 this will rise to **29**

20-30 billion devices will be connected to the 'internet of things' globally by 2020

10.7%

of UK patients ordered repeat prescriptions online in the last 6 months

Consumer power means the TEC sector risks falling behind. It must move with the times.

3 million wrist-worn health and fitness wearable devices were sold in the UK in 2015

WHAT ARE THE CHALLENGES?



Planning and awareness: Transition roadmap and education needed



Connectivity and interoperability: Problems triggered by complex digital ecosystem



Standards and regulation: Concerns about reliability and data accuracy



Information security: Cyber protection and data storage risks



Funding gap: Upgrades could cost £150m+

WHAT NEXT?

What should be done by TEC providers, manufacturers, regulators and government?

Read TSA's White Paper, **Connecting People, Improving Lives: A Digital Future for TEC?**

www.tsa-voice.org.uk

#digitaljourney



The voice of technology enabled care