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## **ANDREW DAVIES**

DIGITAL HEALTH LEAD ABHI

# ABHI

CONVERGENCE OF DIGITAL TECHNOLOGIES AND MEDICAL DEVICES

# WHAT IS A MEDICAL DEVICE?



"medical device" means any instrument, apparatus, appliance, software, implant, reagent, material or other article intended by the manufacturer to be used, alone or in combination, for human beings for one or more of the following specific medical purposes:

- diagnosis, prevention, monitoring, prediction, prognosis, treatment or alleviation of disease,
- diagnosis, monitoring, treatment, alleviation of, or compensation for, an injury or disability,
- investigation, replacement or modification of the anatomy or of a physiological or pathological process or state,
- providing information by means of in vitro examination of specimens derived from the human body, including organ, blood and tissue donations, and which does not achieve its principal intended action by pharmacological, immunological or metabolic means, in or on the human body, but which may be assisted in its function by such means.

MDR article 2, section 1



# WHAT ARE DIGITAL TECHNOLOGIES?



> tools, systems and devices that can generate, create, store or process data. The data processing and logic capabilities of digital technologies are enabled through microprocesses that are programmed to perform various functions.

**Smartphones/tablets** 

**Computers** 

**Digital cameras** 

Social media platforms

**Cloud computing services** 

Online platforms & market places

**Streaming services** 

VR & AR

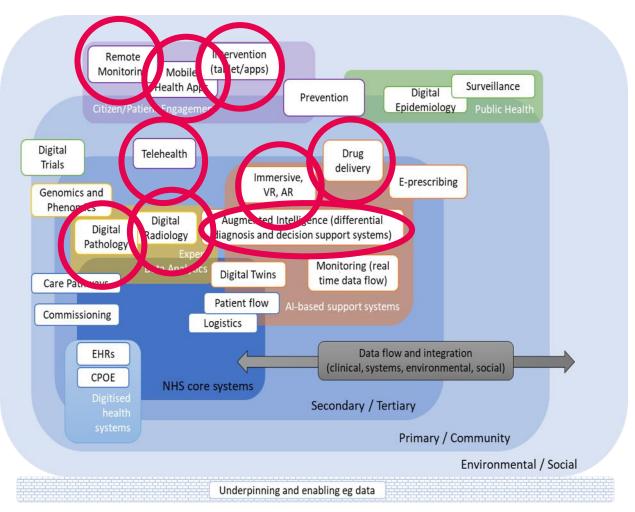
**Digital assistants** 

**IoT** 

**Blockchain technology** 

**Cryptocurrencies** 



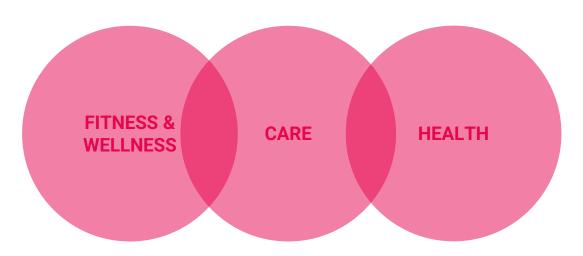


Digital health technologies use computing platforms. connectivity, software, and sensors for health care and related uses. These technologies span a wide range of uses, from applications in general wellness to applications as a medical device. They include technologies intended for use as a medical product, in a medical product, as companion diagnostics, or as an adjunct to other medical products.



# What Is Driving Convergence?

Change of Care Settings
Consumer Lifestyle Choices
Availability of Technology (and hence data)
Workforce and Financial Pressures



- Activity Trackers
- Weighing Scales
- Blood Pressure Monitors
- Oxygen Saturation
- HR/HRV
- Sleep

- Weighing Scales
- Blood Pressure Monitors
- Oxygen Saturation
- HR
- EPRs
- Remote Monitoring

- EPRs
- Clinical Decision Support
- Virtual Wards
- Diagnostics

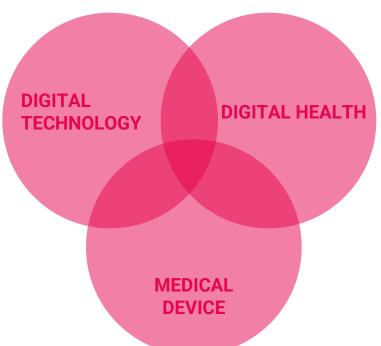


#### **DRIVERS**

Improved outcomes Shift in care setting Workforce pressures Financial constraints

#### **ENABLERS**

Improved data
Computing power/cloud
Material science



#### **CHARACTERISTICS**

Interconnectivity & integration
Accessibility
Personalization
Automation
Data-driven
Real-time monitoring
Improved communication

#### **CHALLENGES**

Infrastructure & investment Privacy and security concerns System interoperability Regulation & evidence



#### Largest core segments by employment



**Top 3 segments** account for

32%

of all employment in the core Medical Technology sector

#### Largest core segments by turnover



**Top 3 segments account for** 

32%

of all turnover in the core Medical Technology sector UK is home to the largest number of digital health start ups founded in Europe between 2010 and 2020. 182 companies have been founded and funded since 2010.

UK Digital Health Market is expected to register a CAGR of 9 - 15.5% up to 2027









Johnson Johnson











*s*tryker\*



Healthy.io

doccla

Sleepio



















## What is this convergence delivering

#### Supporting healthcare professionals to

- > Improve patient care and outcomes: more accurate and timely diagnoses, personalized treatment and real-time monitoring of patients' health status.
- > Increase efficiency and productivity: streamline processes and reduce administrative burdens, freeing up time to focus on patient care.
- > Enhance communication and collaboration: facilitate communication and collaboration between healthcare professionals, patients, and caregivers, reducing the risk of errors.
- > Improve population health management: better data collection, management and analysis can provide insights into patterns and trends that can inform service development and improve overall care.
- > Deliver cost savings: can help reduce healthcare costs by improving efficiency, preventing unnecessary hospitalizations, and enabling care in lower resource settings through remote monitoring and telemedicine services.



## ...and finally

Yes of course I used ChatGPT to develop with this presentation



it helped a bit, but not as much as Google





## THANK YOU

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