

# + Healthcare & The Digital Revolution

**Challenging the Translational Gap**

+

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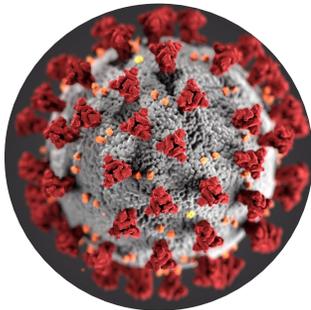
# CONFLICT OF INTEREST



- Executive Medical Director
- Board Member NHS and BT Health
- Consultancy Global Health Executive  
Founder and Director - Harley City Clinic
- Faculty Harvard Medical School
- (surgical innovation leadership)
- Faculty Imperial College London (PCPH)
- UCL Global Business School Health
- Executive education
- Annals of Surgery, JIHM , JAI , NICE, RCP, RCGP

# Welcome To The 21<sup>st</sup>

(30.12.19)



On 9 January 2020, it was announced that a novel coronavirus had been identified

*Board Director of  
Hospital*





## Secondary/Tertiary Care

10 March 2020 Guidance released to finalise SOP for infection control and to consider stopping all Aerosol generating procedures (Dental guidance similar).

April 2020 Guidance confirms one way systems, revert all non-emergency work to Alternative consulting; mentioned telephone review and if presenting to inform all staff to treat in ID/Hazardous environment protocol

NHSE, West

Suffolk

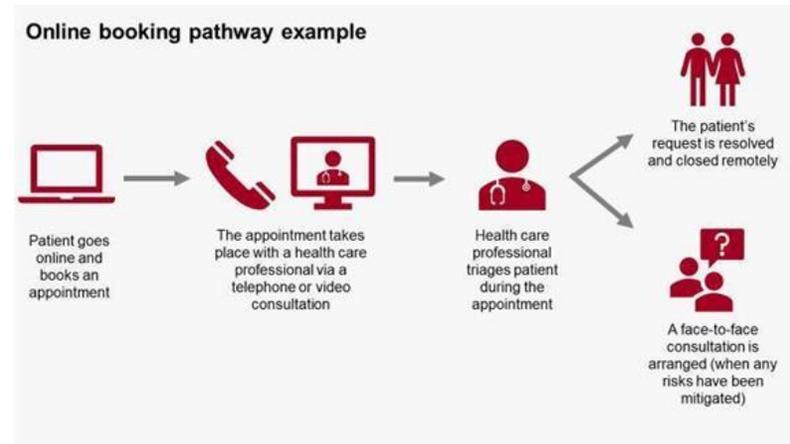


# Primary Care

5 March 2020 NHSE Guidance reverted all practice to move to Online booking, Triage and signposting where possible. General Practice was advised to manage as much as possible online. SMS, Telemedicine and Online consultation.

10 March 2020 NHSE Guidance update on Home Management Teams and Category 1-3 step up/step down Management in Primary Care.

NHSE -  
SOP





## The Change in Access Landscape

- The number of consultations fell by a third, from 3,169,664 a week to 2,135,041 a week – (Wave 1)
- face to face to telephone appointments increased by 145%,
  - - rising from 531,704 in w/c 2 March to 1,305,424 by w/c 23 March.
- Face to face appointments fell by almost 70%
- Home visits dropped 53,233 a week to 19,061 a week
- There was a 70% reduction in face to face appointments per week
- There was a 118% increase in telephone appointments per week

# Key Questions



## Defining the Standard

Defining Digital Health



## What's the Picture?

Virtual consultations



## Digital health Cycle

Why does it so often Fail?



## Education

What should we be teaching?



## Evidence

What do we need to change  
and keep?



## Future

What is on the horizon?



## Technology

Technology refers to methods, systems, and devices which are the result of scientific knowledge being used for practical purposes.

Courtesy Dictionary

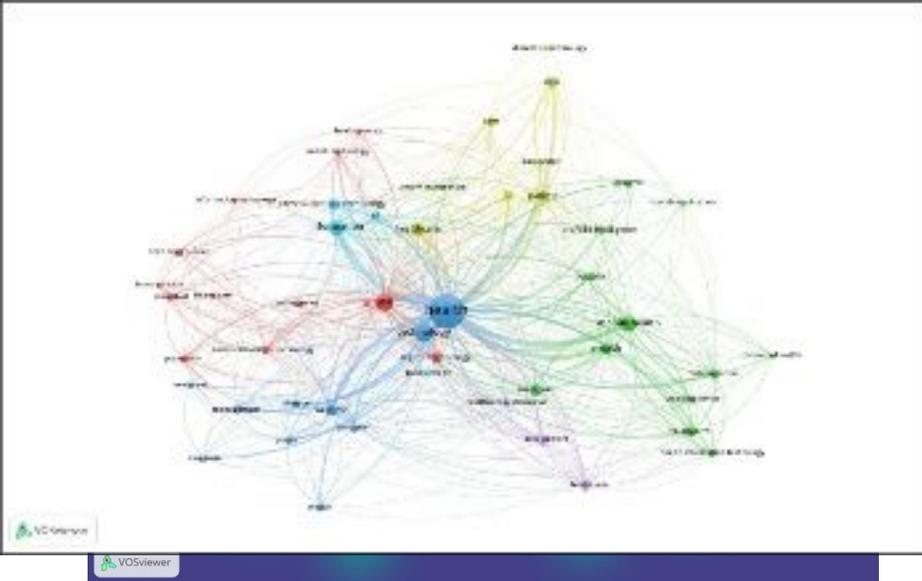
2022



## Digital Health

“use of information and communications technologies to improve human health, healthcare services, and wellness for individuals and across populations.”

Restova, Frontiers



# What defines Digital Health?

1527 records were analysed in a literature review where Digital Health was given a definition. 855 peer-reviewed articles and 672 web pages

**Table 1.** Ten top terms with the highest frequency in the definitions

Term	Occurrence	Relevance score
Health	49	0.09
Technology	35	0.18
Use	31	0.12
Information	25	0.35
Mobile health	24	0.53
Healthcare	19	0.31
Medicine	14	0.71
Wellness	14	0.48
Patient	14	0.46
eHealth	13	0.42

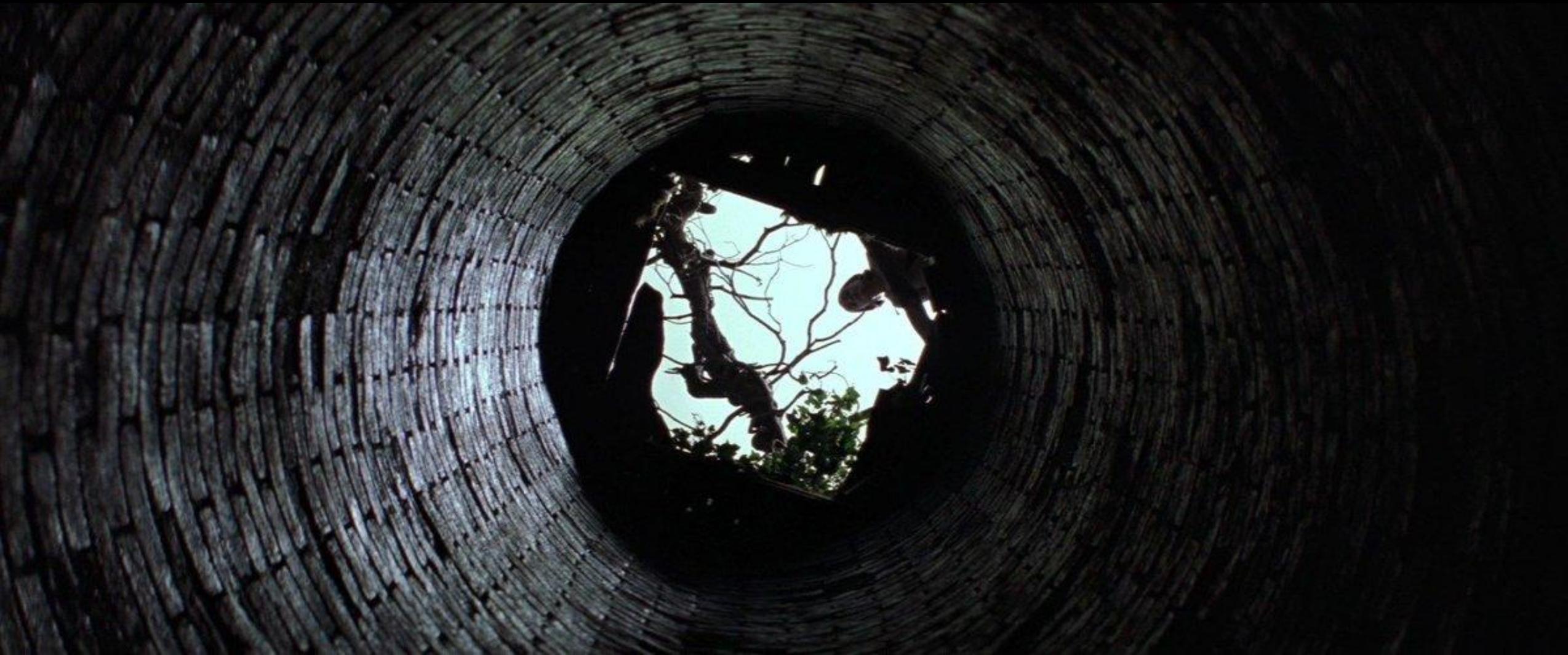
Fatehi et al.  
2020



Scientific terms that added value  
'human health', healthcare services,  
disruptive technology



Key words  
Health, Technology, Use, Information

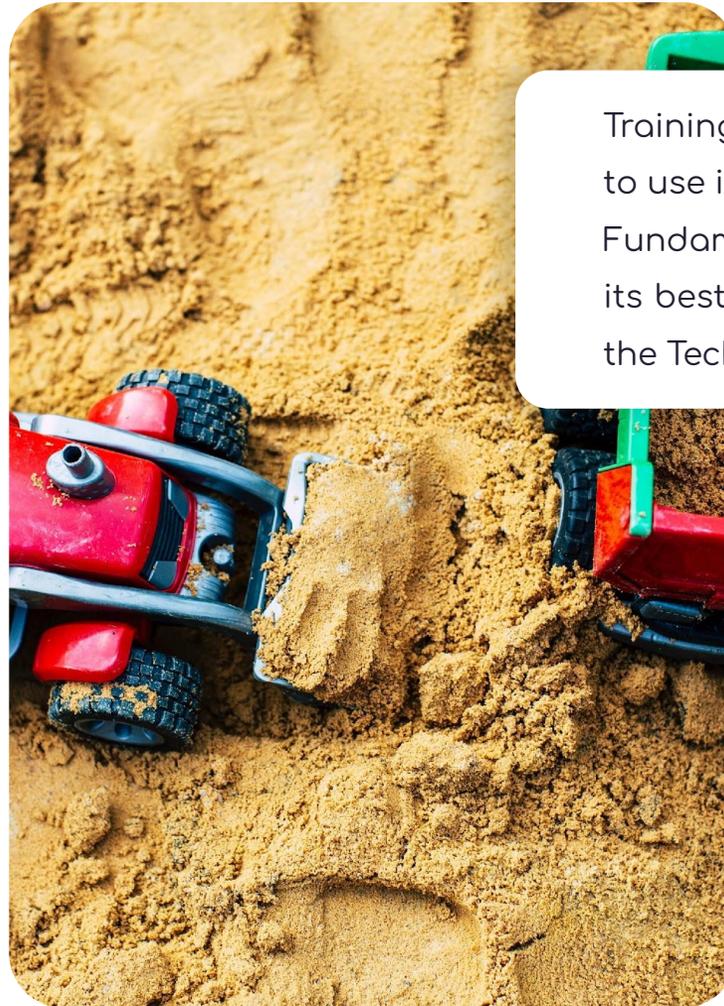


# Why do we fall?

## Common Pitfalls

- Training
- Ongoing Support
- Simulation
- Deep reflection
- Feedback
- Clinical Risk Management

Thomas Wayne,  
2008



Training is not just the Technology and HOW to use it. It's the **WHERE** to apply it Fundamentally Teach people to understand its best use case and allow them to sandbox the Technology .

In the IT world, the terms “sandbox” or “sandboxing” are common. But what is sandboxing exactly and how is it used?

Sandbox technology allows you to create an isolated test environment within a system.

Thomas  
S

# The Failure of Technological adoption in the Pandemic

During several months of the pandemic Legislation and regulatory guidance failed the clinical population with adequate training and support for delivery of healthcare.

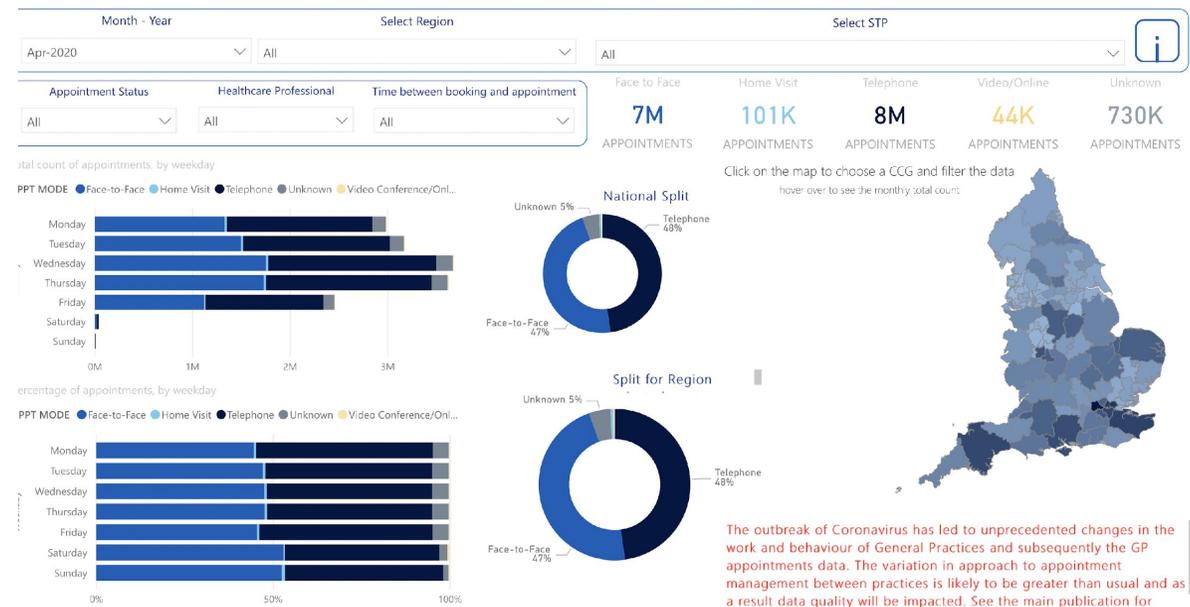


Adoption was an overnight failure due to lack of confidence and understanding.

26m Appointments



The outbreak of Coronavirus has led to unprecedented changes in the work and behaviour of General Practices and subsequently the GP appointments data. The variation in approach to appointment management between practices is likely to be greater than usual as a result data quality will be impacted. See the main publication for



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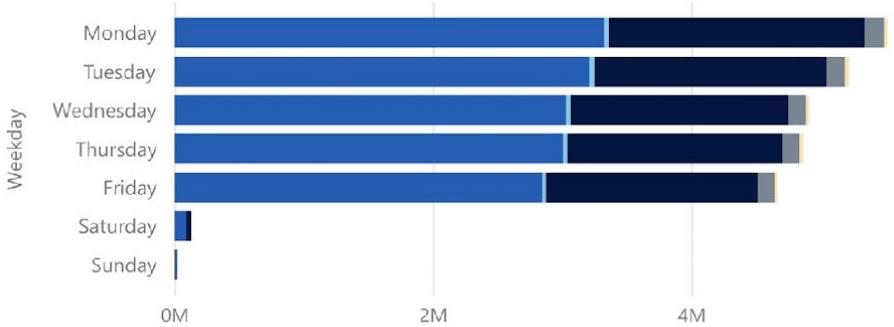
Month - Year: Feb-2022 | Select Region: All | Select STP: All

Appointment Status: All | Healthcare Professional: All | Time between booking and appointment: All

Face to Face	Home Visit	Telephone	Video/Online	Unknown
<b>16M</b>	<b>170K</b>	<b>9M</b>	<b>128K</b>	<b>688K</b>
APPOINTMENTS	APPOINTMENTS	APPOINTMENTS	APPOINTMENTS	APPOINTMENTS

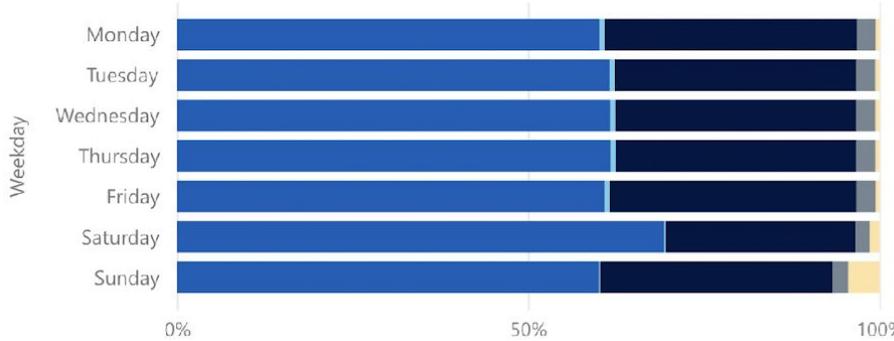
Total count of appointments, by weekday

APPT MODE: Face-to-Face, Home Visit, Telephone, Unknown, Video Conference/Onl...

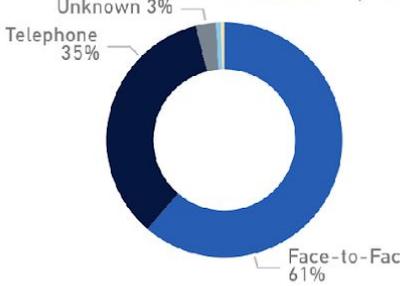


Percentage of appointments, by weekday

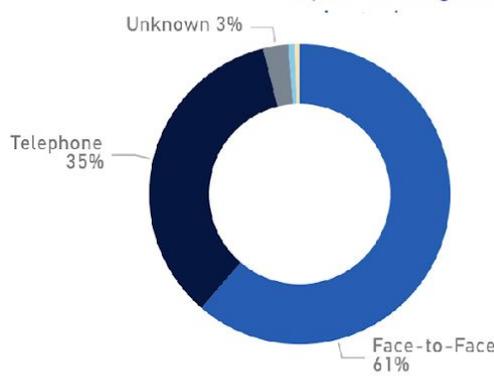
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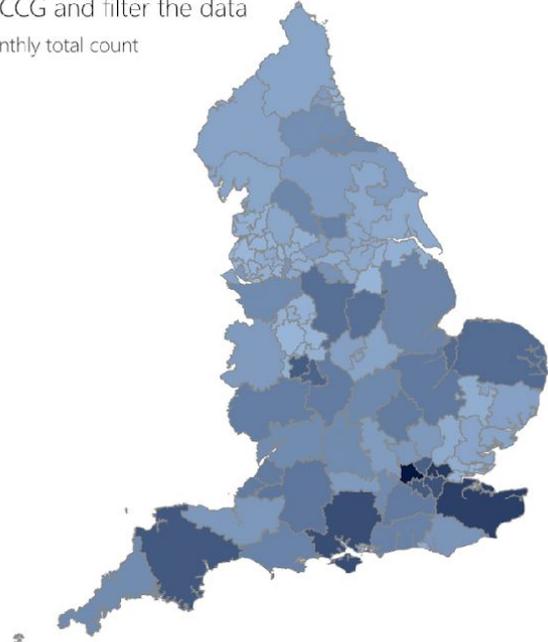
National Split



Split for Region



Click on the map to choose a CCG and filter the data  
hover over to see the monthly total count



The outbreak of Coronavirus has led to unprecedented changes in the work and behaviour of General Practices and subsequently the GP appointments data. The variation in approach to appointment management between practices is likely to be greater than usual and as a result data quality will be impacted. See the main publication for

Month - Year

Select Region

Select STP

Mar-2020



All



All



Appointment Status

Healthcare Professional

Time between booking and appointment

All



All



All



Face to Face

16M

APPOINTMENTS

Home Visit

173K

APPOINTMENTS

Telephone

7M

APPOINTMENTS

Video/Online

127K

APPOINTMENTS

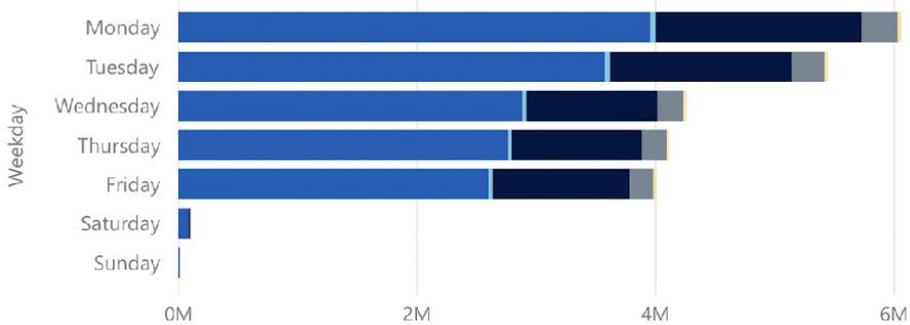
Unknown

1M

APPOINTMENTS

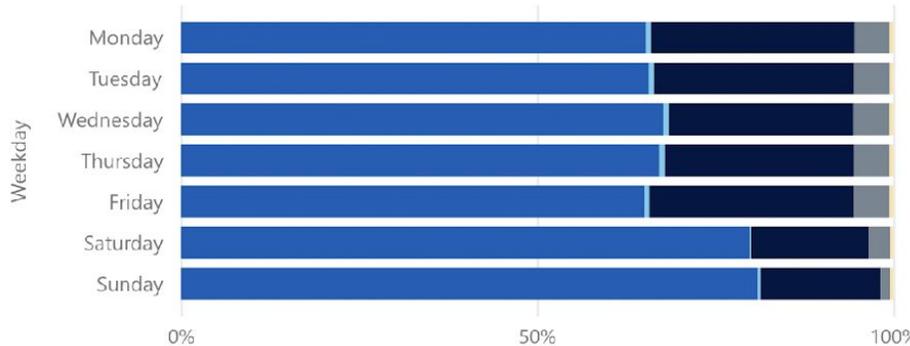
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APPT MODE ● Face-to-Face ● Home Visit ● Telephone ● Unknown ● Video Conference/Onl...

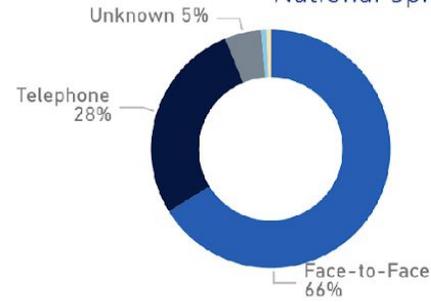


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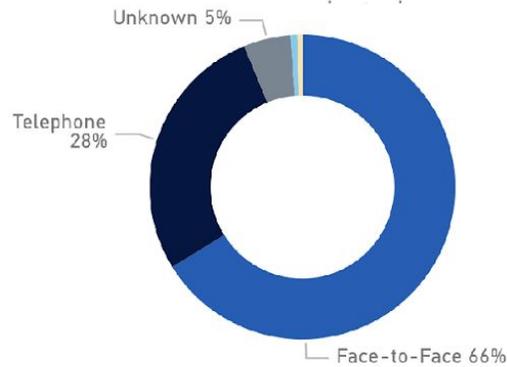
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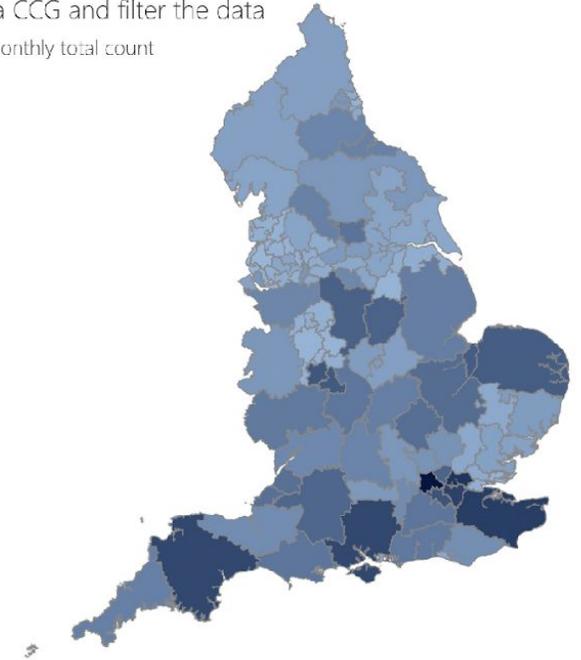
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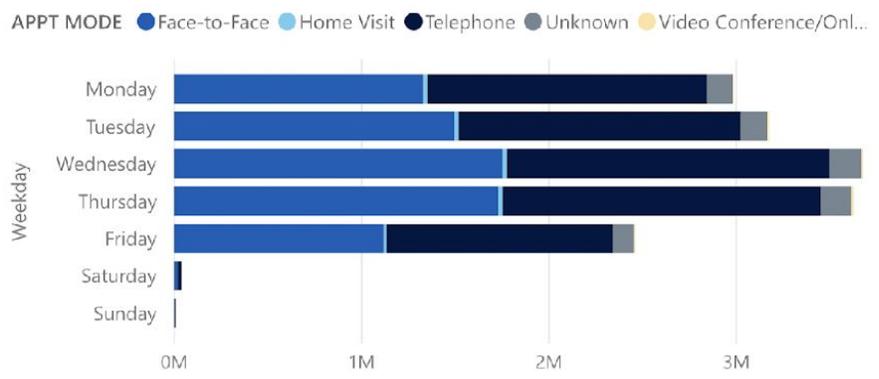
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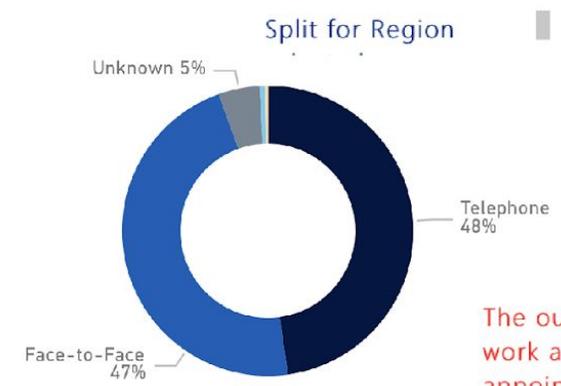
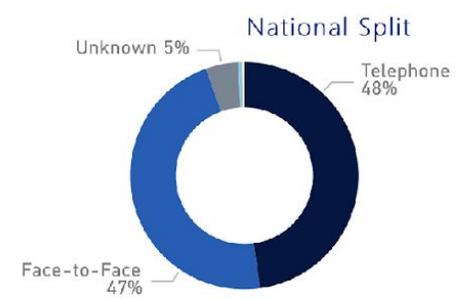
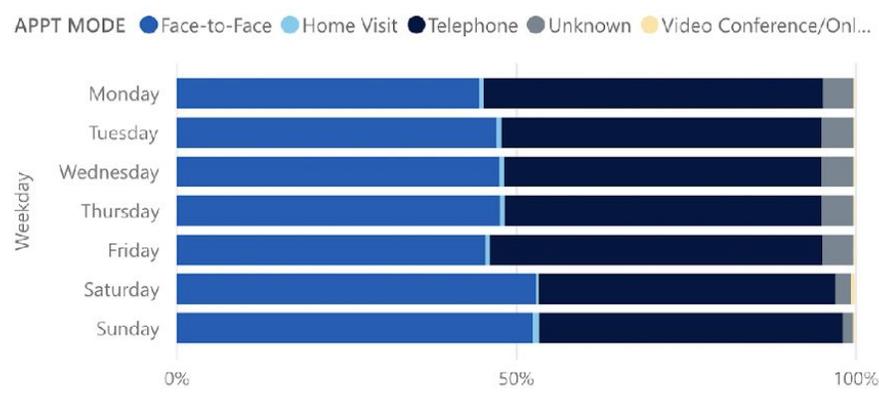
Appointment Status:  Healthcare Professional:  Time between booking and appointment:

Face to Face	Home Visit	Telephone	Video/Online	Unknown
<b>7M</b>	<b>101K</b>	<b>8M</b>	<b>44K</b>	<b>730K</b>
APPOINTMENTS	APPOINTMENTS	APPOINTMENTS	APPOINTMENTS	APPOINTMENTS

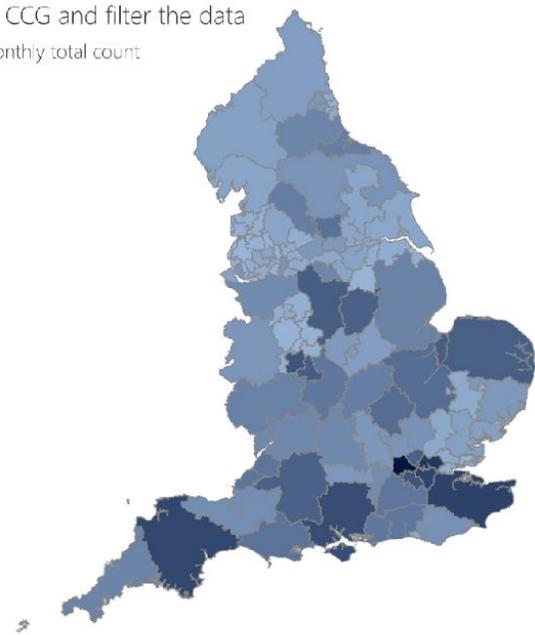
Total count of appointments, by weekday



Percentage of appointments, by weekday

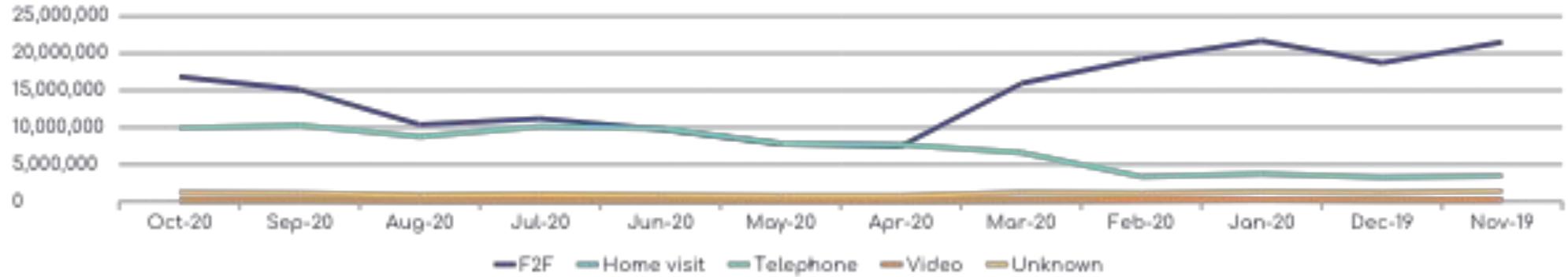


Click on the map to choose a CCG and filter the data  
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## Appointments Statistics



	Feb-22	Oct-20	Sept-20	Aug-20	Jul-20	Jun-20	May-20	Apr-20	Mar-20	Feb-20	Jan-20	Dec-19	Nov-19
F2F	15,531,970	16,870,835	15,093,125	10,391,966	11,184,673	9,763,381	7,729,597	7,480,941	15,921,794	19,230,573	21,733,394	18,770,999	21,531,912
Home visit	170,435	161,722	148,985	119,273	140,787	133,805	112,018	100,673	172,773	227,935	266,942	237,332	251,106
Telephone	8,820,477	9,950,370	10,262,227	8,744,907	10,114,285	9,849,385	7,813,734	7,652,390	6,637,656	3,322,241	3,701,775	3,252,172	3,444,334
Video	127,697	137,466	124,282	77,190	80,764	59,057	41,650	44,213	127,230	172,638	194,206	157,579	176,057
Unknown	676,366	1,173,819	1,078,562	817,465	964,350	879,639	717,891	726,213	1,188,143	1,146,264	1,297,567	1,183,535	1,401,759

*“There are times when a leader must move out ahead of the flock, go off in a new direction, confident that he is leading his people the right way.”*

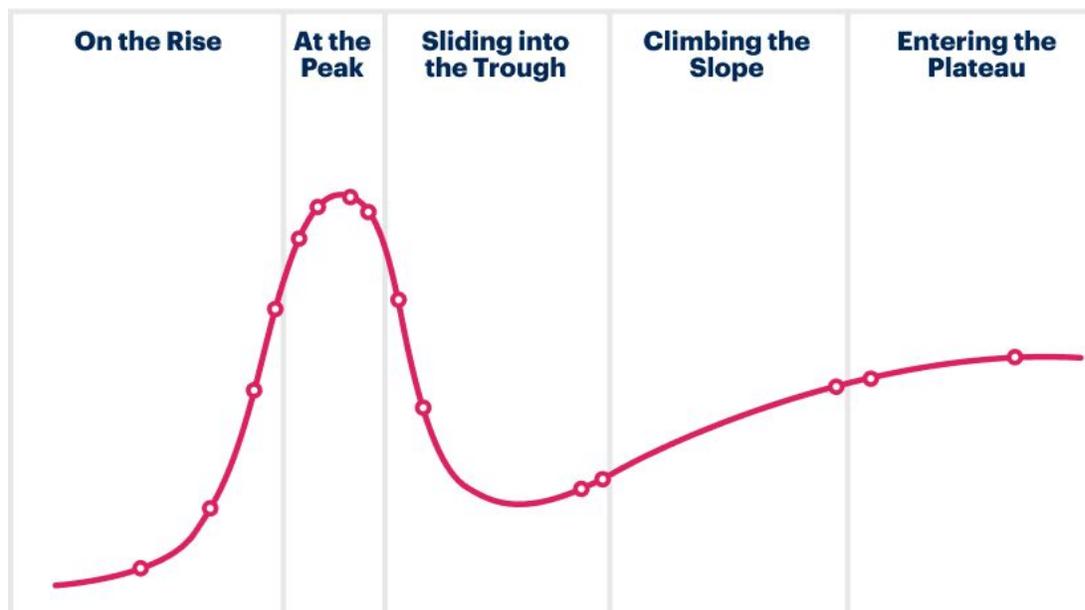
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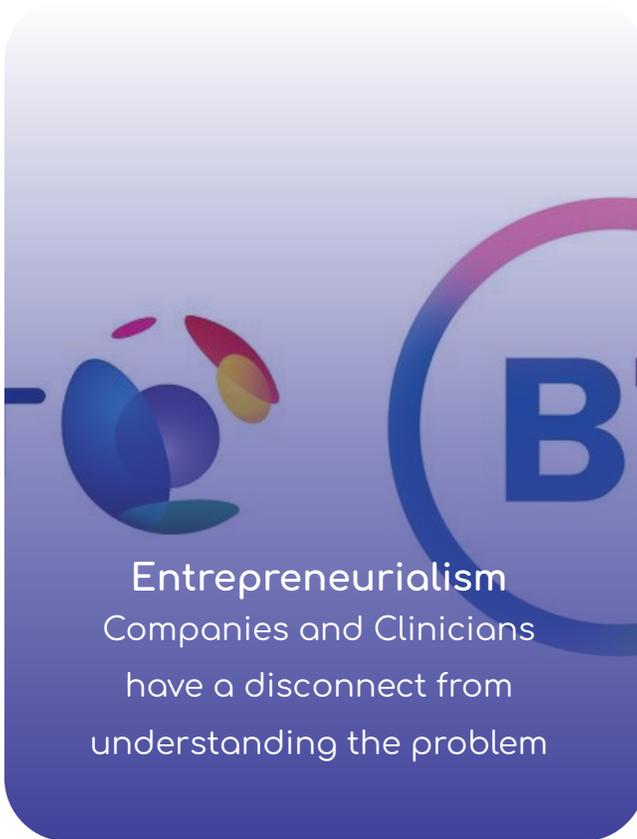
# Typical lifecycle of Digital health

Gartner Hype

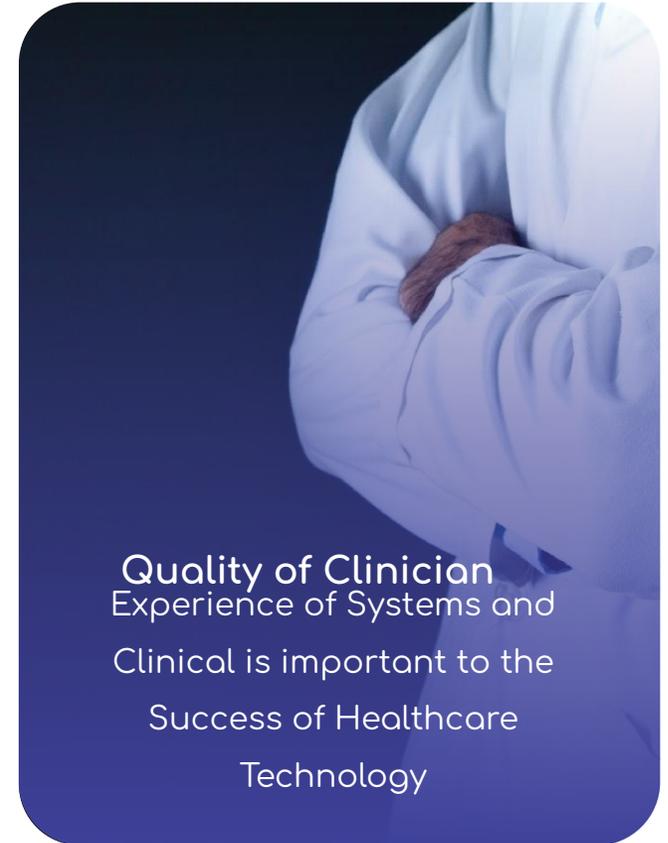


# The Translational Gap

- Why do technologies Fail?
- Why do companies not always adopt experienced clinicians?
- Why does patient care get obstructed by clinical pathway?

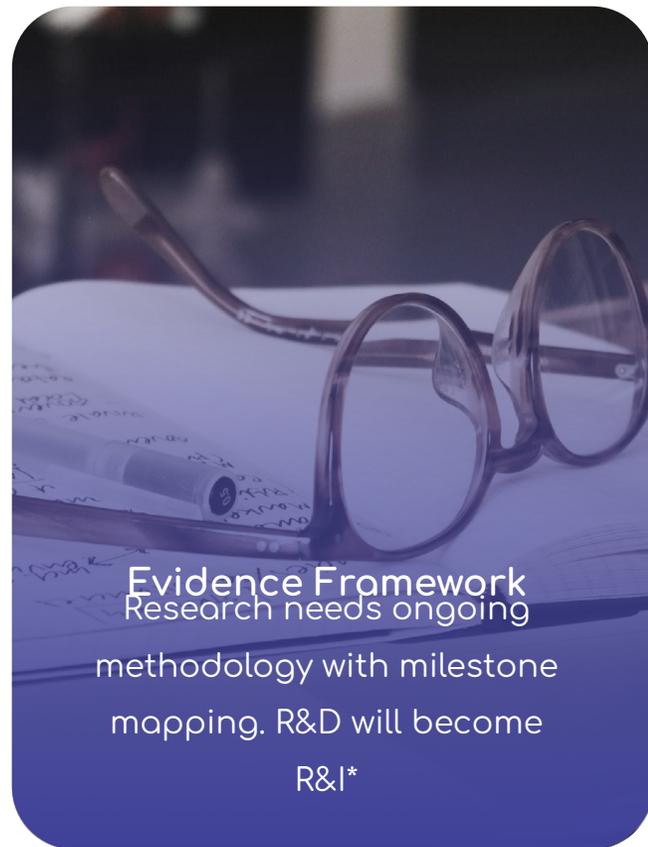


**Entrepreneurialism**  
Companies and Clinicians  
have a disconnect from  
understanding the problem



**Quality of Clinician**  
Experience of Systems and  
Clinical is important to the  
Success of Healthcare  
Technology





**Evidence Framework**  
Research needs ongoing methodology with milestone mapping. R&D will become R&I\*

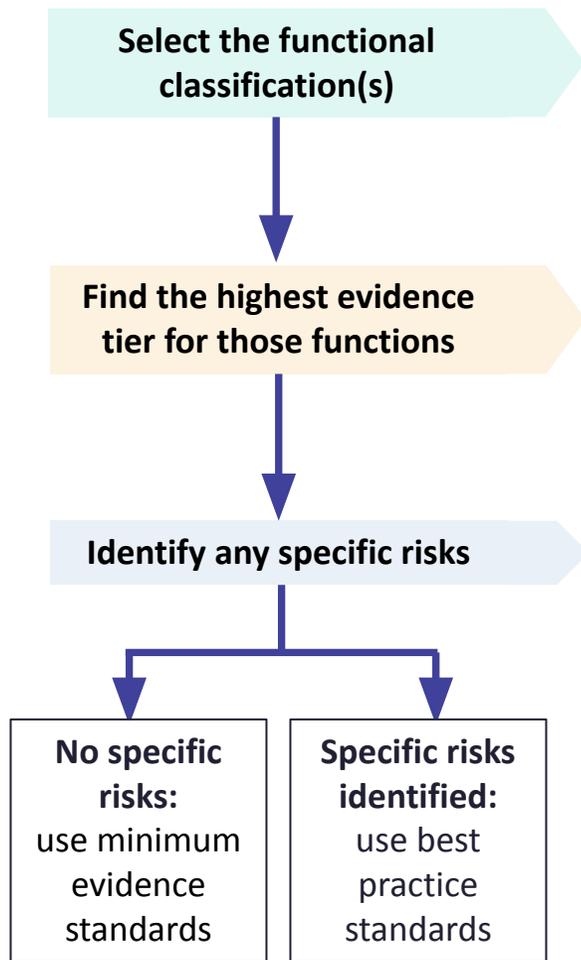


**Problem solving**  
Providers don't necessarily understand the problem and clinicians don't always understand systems

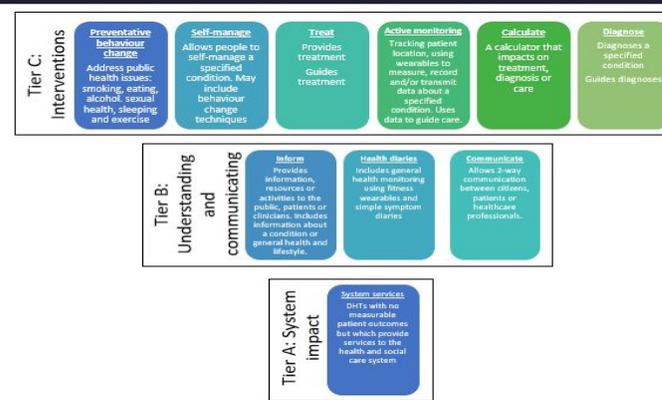


**Transformation of Systems**  
Senior Leaders & colleagues will need to understand how to change internal policy and operating procedures to align with a new decentralised way of working. This involves agile and current techniques to safeguard an individual and the organisation

\* One reason early-stage VC funding in the life sciences is so hard to come by these days is that investors have learned through painful experience not to take hot published data at face value.



Choose the functional classification that best describes the main function of the digital health technology (DHT).

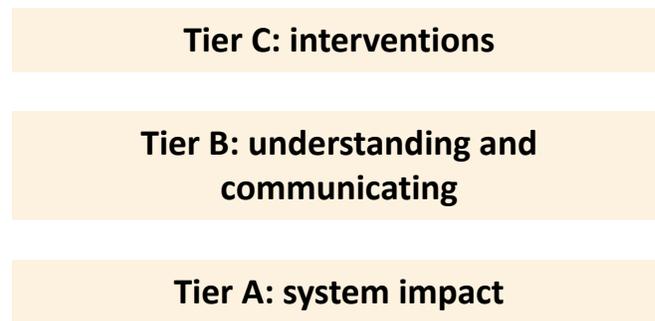


For technologies with more than 1 function, use the function in the highest

applicable evidence tier.

Identify the relevant evidence tier based on the highest functional classification.

There is an evidence table for each evidence tier.



Use the contextual questions to identify any potential specific risks associated with the DHT.

- Are the users in vulnerable groups?
- What are the consequences of DHT failure?
- Is there professional oversight?
- Is artificial intelligence used?
- Is a very high cost expected?

Changing systems requires several considerations:

- Human factors
- Clinical Risk Adjustment
- Culture
- Training & Support
- Intraoperability & Integration
- Clinical Leadership
- Evidence and Evaluation
- Co-Production

## Systems and Transformation

Terms like 'digital-first' and 'remote by default' are misnomers that can over-simplify digital transformation. Digital is important but it should be considered alongside traditional care not instead of traditional care. The problem we need to solve is how to strike the right balance for communities and what other changes (to legislation, for example) are required for transformation to stick.

IMISry,  
2020

# Process Adoption



# Hierarchy of Digital Adoption

- 06 Resource enablement – Team/ IT
- 05 Environment analysis and Adoption
- 04 Risk stratification of Disease presentation
- 03 Situation Awareness
- 02 Risk Management of Population – Assess the risk profile
- 01 Population Digital Competency / Literacy Assessment



MEDICAL REALITIES LIVE:  
**GLOBAL VIRTUAL GRAND ROUNDS**  
PUBLIC HEALTH AND COVID-19

Curious about how public health policy and innovation have been affected by COVID-19? Then join us on the 19th for a discussion with Dr Harpreet Sood and Sam Shah.

**Dr Harpreet Sood**  
Dr Sood is a Global Health and Health Technology Advisor who co-Founded the NHS Digital Academy. He is currently practicing as a primary health care doctor at UCLA Foundation Trust.

**Sam Shah**  
Sam Shah is a Digital Health Tech Advisor and NHS Consultant. Shih was named FT's 4th most influential BAME tech leader in 2019 and has experience in clinical commissioning, public health, and health economics.

May 19th | 18.00-19.00

Medical Realities | FIND OUT MORE AT COVID.MEDICALREALITIES.COM

# Educational Simulation

Feedback and Reflection is important to TEST and ASSESS and individual for Technological Adoption Competency

Clinical Contextualisation

Simulated Test Cases

Assessment

1

om Covid-19 Medical Realities Basic Life Support STORYBOARD BLS

Duration	Panel	Duration	Scene	Duration	Panel	Duration	Scene	Duration	Panel
05:00	1	05:00	Sc_20	07:00	1	03:00	Sc_20	07:00	Panel

**Dialog**  
VO: Check if the patient is responsive!

**Action Notes**  
INT. Patient's room.  
MS  
Patient in bed unresponsive.  
Doctor approaches patient and grabs the patient's shoulders.

**Action Notes**  
INT. Patient's room. Cont.  
MS  
Doctor shakes patients shoulder.  
Patient is unresponsive.  
Cut.

**Notes**  
Note: There is no need for instruction text on screen. Environments needs a blue curtain behind doctor.

Create a scenario

2

Build a test case

3

Learn and Train with Assessment





**Post Graduate Award, Principles of Clinical Virtual Consultation**

Post Grad Award, Principles of Clinical Virtual Consultation is an online course that you have access to 24/7. Designed by Healthcare Skills International Training and delivered online by Dr. Mateen Jiwani, a specialist in telemedicine and video consultations.

## Educational Challenge

Safety is central to providing patients with education and enablement are key factors of success and patient adoption. High risk situations need safeguarding. Safeguarding training needs change to ensure we understand the hazards of using Video Consulting. Education that delivers these key areas to protect patients and clinicians is important for Telehealth delivery.

Don't forget Showing competency and safe practice is how we avoid errors. This stems from human factors training and adoption.

+ Risk Management

+ Information Governance

+ Competency Assessment

+ Safety netting

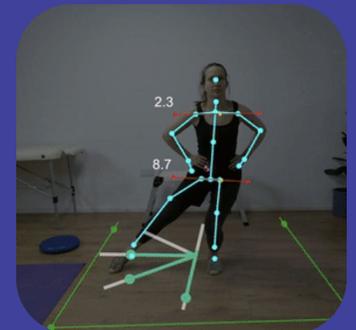
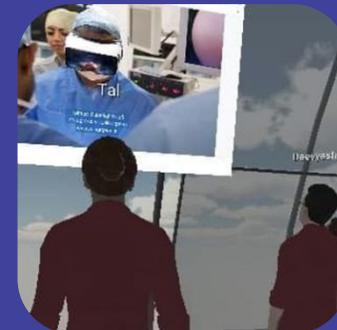
Indemnity

Patients recover from their ill

elen Hartley

# The Present and the Future

2020

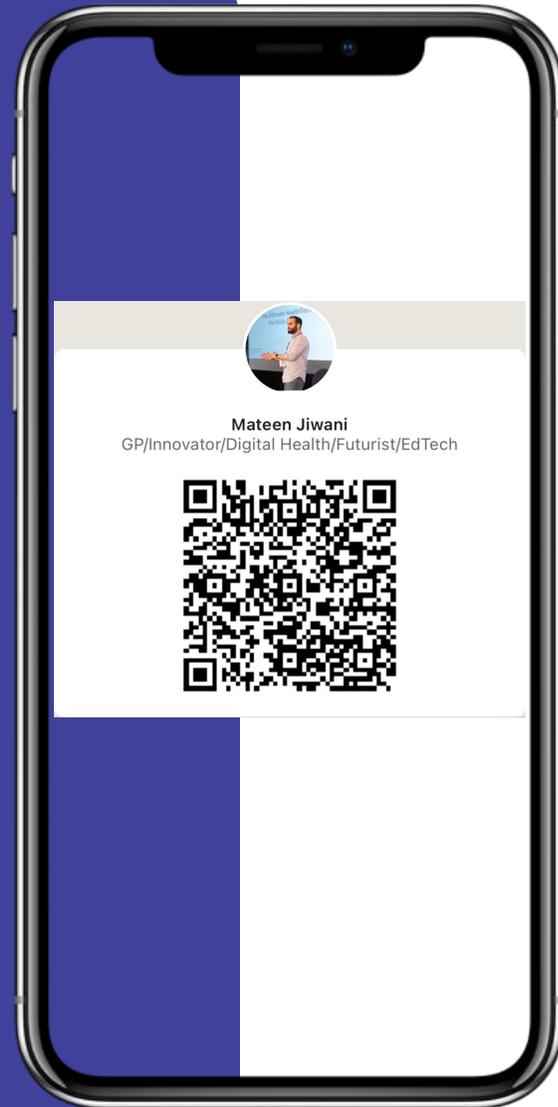


Technology moves faster than healthcare – we need to ensure we are guiding the development with partnership and collaborative efforts



Dark Knight,  
2012

# Thank you



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[virtualhealthdr@icloud.com](mailto:virtualhealthdr@icloud.com)



Learn. Action.  
Repeat

<https://www.frontiersin.org/articles/10.3389/fpubh.2015.00134/full>  
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<https://www.emishealth.com/news-events/news/primary-care-is-having-its-online-banking-moment/>  
<https://www.oxehealth.com/research#tab-section>  
<https://digital.nhs.uk/data-and-information/publications/statistical/appointments-in-general-practice/february-2022>  
<https://www.forbes.com/sites/davidshaywitz/2012/08/16/closing-the-translational-gap-a-challenge-facing-innovators-in-medical-science-and-in-digital-health/?sh=7f0df6934f80>  
<https://www.nice.org.uk/about/what-we-do/our-programmes/evidence-standards-framework-for-digital-health-technologies>  
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# References