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## Development of a Strategic Workforce Plan for Primary Care

*Exploring the impact of Digital Transformation on the Primary Care Workforce*

### Summary of Event held on 24<sup>th</sup> April 2023

#### Purpose

To update key stakeholders on the successful delivery of a dedicated webinar that explores the impact of digital transformation on the primary care workforce, as part of the development of a strategic workforce plan for primary care.

#### Introduction

Health Education and Improvement Wales (HEIW) is dedicated to transforming the workforce for a healthier Wales. We are a Special Health Authority within NHS Wales and sit alongside Health Boards and Trusts. We have a leading role in the education, training, development, and shaping of the healthcare workforce in Wales, in order to ensure high-quality care for the people of Wales.

We are working together with the Strategic Programme for Primary Care (SPPC) to produce a Strategic Workforce Plan for the Primary Care workforce across NHS Wales. Key to this, is the impact to which digital technologies, artificial intelligence, robotics, and automation can and will have an impact on the current and future workforce.

As part of this strategic workforce plan, we hosted a dedicated event around digital in the Primary and Community Care arena specifically. This event allowed us to explore thoughts and opinions on how the future of digital, AI and robotics has the potential to change the landscape and workforce across all sectors, but specifically Primary Care.

The theme of 'Building a digitally-ready workforce' forms the sixth pillar of the Strategic Programme for Primary Care (SPPC) and draws on the 'A Healthier Wales: Our Workforce Strategy for Health & Social Care Ambition': "By 2030, the digital and technological capabilities of the workforce will be well developed and in widespread use to optimise the way we work, to help us deliver the best possible care for people".

The key themes for engagement around digital in the primary care workforce are:

- How can primary care grasp the opportunity that digital advancement offers?
- What are the key challenges and barriers in doing this?
- How can we create the right learning environments to help embed technology within Primary Care?
- How can clusters support the digital revolution by providing 'at scale' solutions – e.g., skills, learning opportunities, back-office functions?



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- How can we reflect that the new generation of our workforce will be more 'tech savvy' than the majority of the population they serve - how do we bridge the tech gap with patients and citizens?

190 participants attended the event from across the Primary and Community Care sector, ranging from GPs to non-clinical support roles. There was high levels of engagement throughout the event and they seemed to be a willingness to move with technological advances, and participants were keen to get involved.

There are many digital and AI opportunities and information/research to date shows:

- Research indicates that the speed at which technology is growing is doubling every 18 months (computing) and over 89% of big data has been produced in the last 2 years
- Artificial Intelligence and Precision Medicine (Genomics) are likely to play a big role in how we deliver care in the future and people will need to develop new skills
- Other technology (remote surveillance and consultation, decision aids etc) will impact on how we deliver care and how people receive care
- The technology may not change the numbers of people in the workforce but will have a big impact on how they work and on relationships between patients and healthcare workers
- Technology and automation of routine tasks could provide the 'gift of time' and will augment rather than replace workers.

It is also noted that key to digital advances being successful in the health care and primary care arena are the following considerations when addressing 'human factors':

- Ethical Consideration
- Usability
- Accessibility
- Trust and Transparency
- Safety and Error Management
- Workforce Integration
- Privacy and Security
- Training and Education

This event provided the first of many opportunities for health and primary care employees and wider stakeholders to get involved with informing the strategy.

The information gathered from this, and future events will all be utilised to form part of the overall Primary Care Strategic Workforce Plan, along with further event feedback.

### Event Programme:

This can be found at Appendix 1.



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### Event Feedback:

In order to gather further information from attendees and understand whether the event was successful, feedback will be gathered from all attendees via the below feedback form. This feedback will be analysed and included in this report at a later date.

<https://forms.office.com/e/5d823zBF9Z>

### Presentations:

There were presentations across multiple topics during the afternoon and covered the below:

- How can telehealth and telemedicine improve the delivery of primary care services?
- How can technology support careers and improve personal health and wellbeing?
- How can technology enable new ways of working – (Example case study in relation to remote recruitment)?
- What is the potential of digital health and Artificial Intelligence (AI) within primary care and what impact will this have on the current and future workforce?
- How can digital health change the shape of the workforce and the requirements for training and education?
- DHCW roadmap for primary care, focusing on the pipeline over the next two years.

To access the above presentations, the full set of slides are available in appendix 4.

The full recording from the event is available below:

<https://pro.panopto.com/Panopto/Pages/Viewer.aspx?tid=84347e96-eec0-429b-987f-afee013ca271>

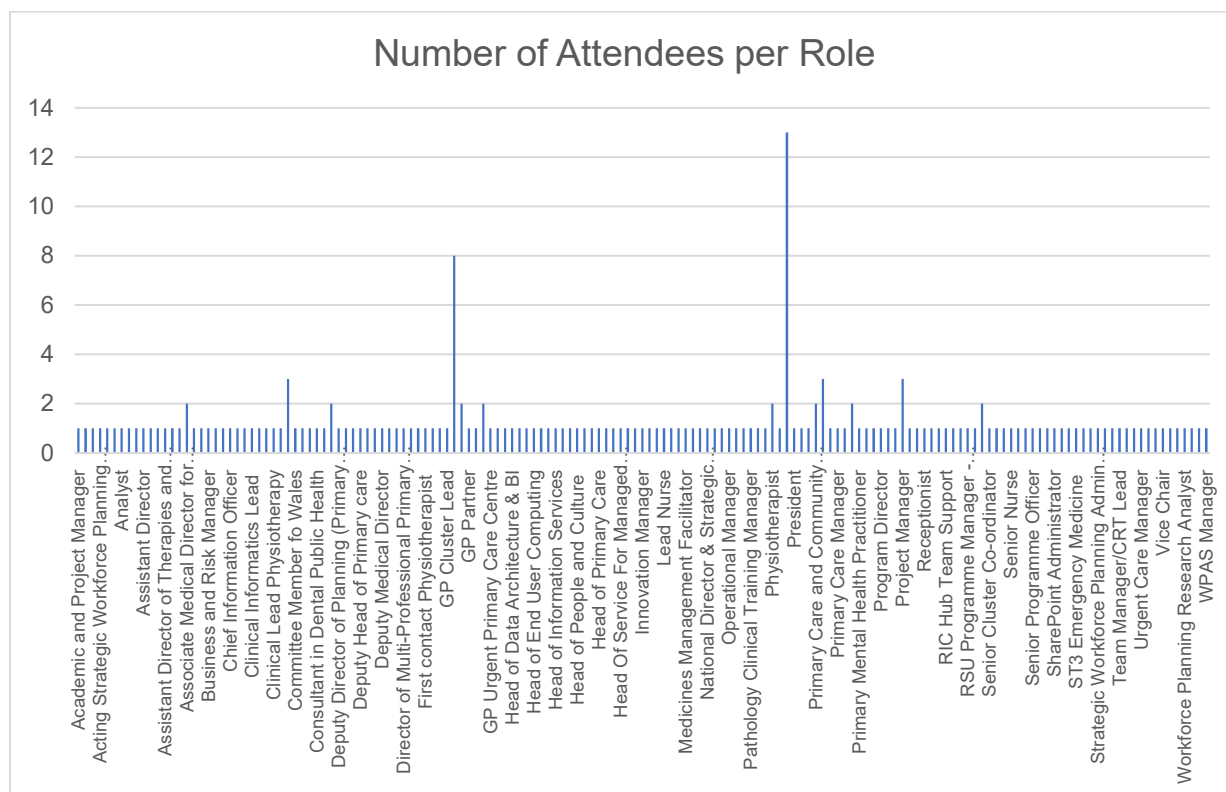
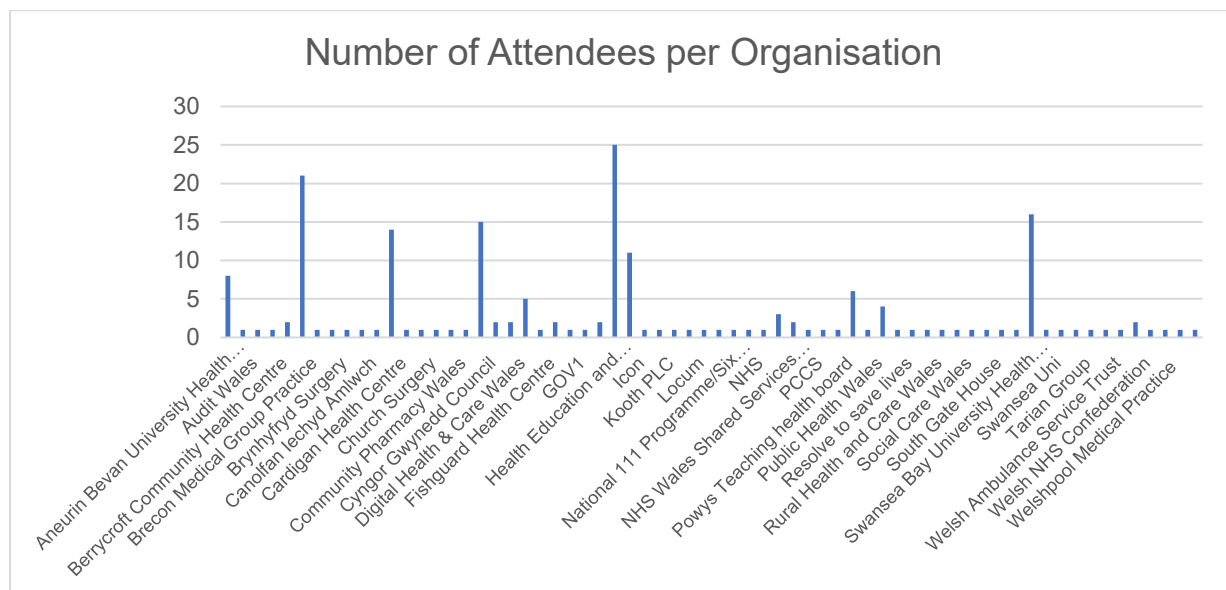


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## Registered and Attendees:

There were 297 people registered for the event, with 190 people attending the event on the day, split across various roles and organisations.







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## Interactive Polls:

In order to capture feedback, views, and opinions during the event, two interactive polls were posed to attendees, the results are summarised below in key themes. Further detail can be found in the appendix 2:

1. What are the opportunities to integrate telehealth and telecare into service models and workforce planning in primary care?

# Triage

Training

Medicines Management / Medication  
Reviews

Remote  
Monitoring

Multi-  
professional  
working

Skill Mix

Prevention

Prevention

Monitoring

Care  
Navigation /  
Collaboration

2. What are the opportunities that digital advancement offers for primary care?

# Automated Documentation

Empowering  
Patients

Time / Time saving

Person-  
centred care

Supporting  
the  
workforce

Genomics

Improve  
Productivity



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## Questions and Answers:

There was an opportunity for the audience to ask questions after each presenter either using the Q&A facility within MS Teams or verbally. Any questions posed verbally during the event are included in the above recording, however the majority of questions were posted into the Q&A facility and are captured and included in detail in appendix 3. However a summary of key themes drawn from the Q&A session is as follow:

- Interoperable systems across Primary Care
- Systems across primary and secondary care are not integrated (multiple login details required) and the ability to share information simply between primary care providers (e.g., GPs and dentists) is a real challenge
- The need to improve engagement across Wales with end users
- How can we draw a whole system digital offer together - health, education / social care?
- How can NHS staff with interest / skills in digital technology who aren't clinical leads but are 'champions' get involved and what training is available to help them?
- Sharing of good practice e.g., Accurx which allows text, photos, and videos with patients in the middle of a consultation.
- Discussions around automating documentation and the positive impact this would have in terms of workload on the General Practice workforce in particular.



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## Resources:

[Strategic Workforce Plan for Primary Care website](#)

[Engagement Resource Pack](#)

[Build our Future Workforce Resource Pack](#)

[Governance Reporting Information](#)

[High-level Plan Timeline](#)

[Plan on a Page](#)

[Future Events](#)

[Digital-first-primary-care-consultation-NHSCC-response.pdf \(nhsconfed.org\)](#)

[digital-technologies.pdf \(who.int\)](#)

[Artificial intelligence in primary care - PMC \(nih.gov\)](#)

[RACGP Nurse led clinics 2020](#)

[CIRC AI REPORT \(rcgp.org.uk\)](#)

[Digital Medicines Transformation Portfolio - Digital Health and Care Wales \(nhs.wales\)](#)

[Choose Pharmacy - Digital Health and Care Wales \(nhs.wales\)](#)

[NHS England » Digital First Primary Care](#)

[Digital Community Care Record - Digital Health and Care Wales \(nhs.wales\)](#)

[My Health Online - Digital Health and Care Wales \(nhs.wales\)](#)

[Digital Services for Patients and Public - Digital Health and Care Wales \(nhs.wales\)](#)

[COVID-19: digital support for patients - Digital Health and Care Wales \(nhs.wales\)](#)

[Electronic Test Requesting in GP Practices - Digital Health and Care Wales \(nhs.wales\)](#)

[Welsh GP Record - Digital Health and Care Wales \(nhs.wales\)](#)

[Dental e-Referrals - Digital Health and Care Wales \(nhs.wales\)](#)

[Projects | Digital Health Wales](#)

[eConsult | Digital Health Wales](#)

[Huma remote patient monitoring pilot | Digital Health Wales](#)

[TERMS - Technology Enabled Remote Monitoring in Schools | Digital Health Wales](#)

[NHS Wales Case Study - Healthcare & Telehealth Case Study | Pexip](#)

[Digital health care | The King's Fund \(kingsfund.org.uk\)](#)



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[Digital capability framework for healthcare in Wales pilot - HEIW \(nhs.wales\)](https://nhs.uk/digital-capability-framework-for-healthcare-in-wales-pilot)

[The impact of Covid-19 on the use of digital technology in the NHS \(nuffieldtrust.org.uk\)](https://nuffieldtrust.org.uk/the-impact-of-covid-19-on-the-use-of-digital-technology-in-the-nhs)

[NHS Wales Digital System Survey 2023 \(qualtrics.com\)](https://qualtrics.com/NHS-Wales-Digital-System-Survey-2023)

<https://www.nuance.com/en-gb/index.html>

<https://www.abridge.com/>

<https://www.nabla.com/>

<https://tortus.ai/>

[Better, broader, safer: using health data for research and analysis - GOV.UK \(www.gov.uk\)](https://www.gov.uk/better-broader-safer-using-health-data-for-research-and-analysis)

[Software and AI as a Medical Device Change Programme - Roadmap - GOV.UK \(www.gov.uk\)](https://www.gov.uk/software-and-ai-as-a-medical-device-change-programme-roadmap)



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## Appendix 1: Event Programme

### The Event

**When:** 24th April 2023 13:00 – 15:30

**Where:** Online Webinar via MS Teams

**Purpose:** To hear and think about the ways in which primary care will benefit from technologies and digital capabilities now and in the future.

**Audience:** The webinar was of interest to general medical services including support staff, urgent and emergency care professionals, other key professions (AHPs, Pharmacy, Dental, Optometry, UEC) and digital and data professionals.

### Presenters and Topics:

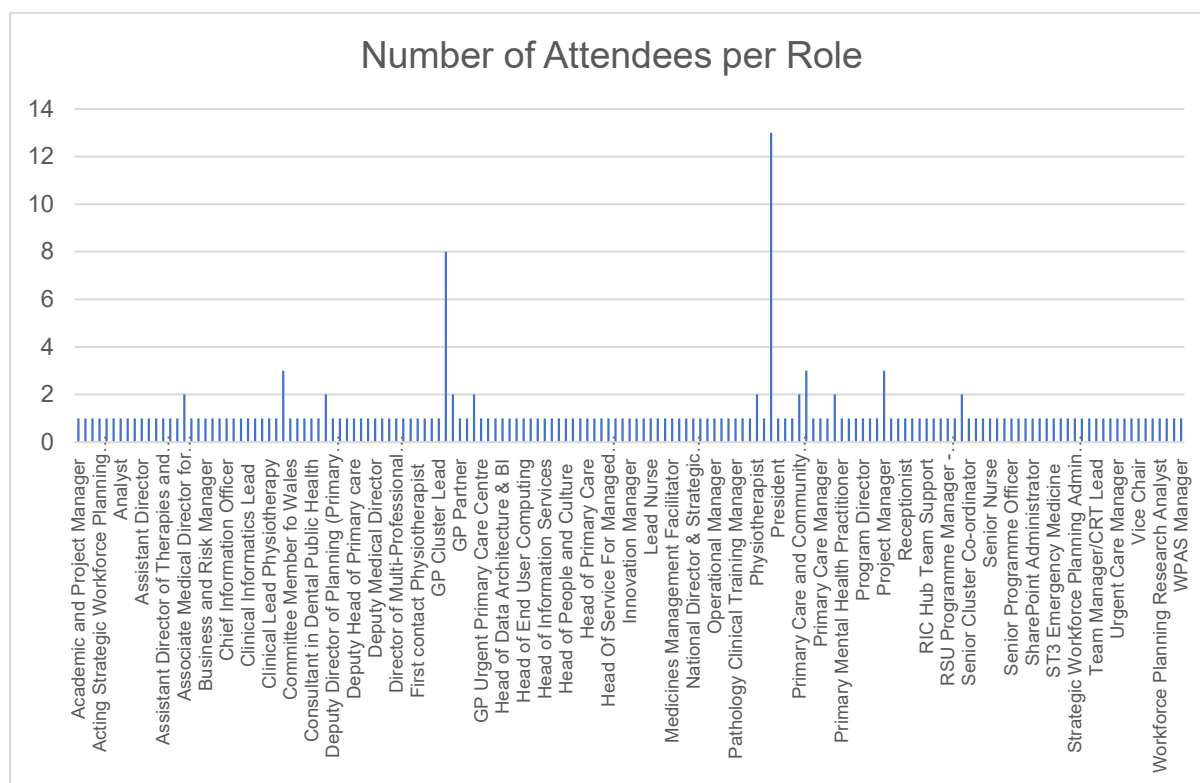
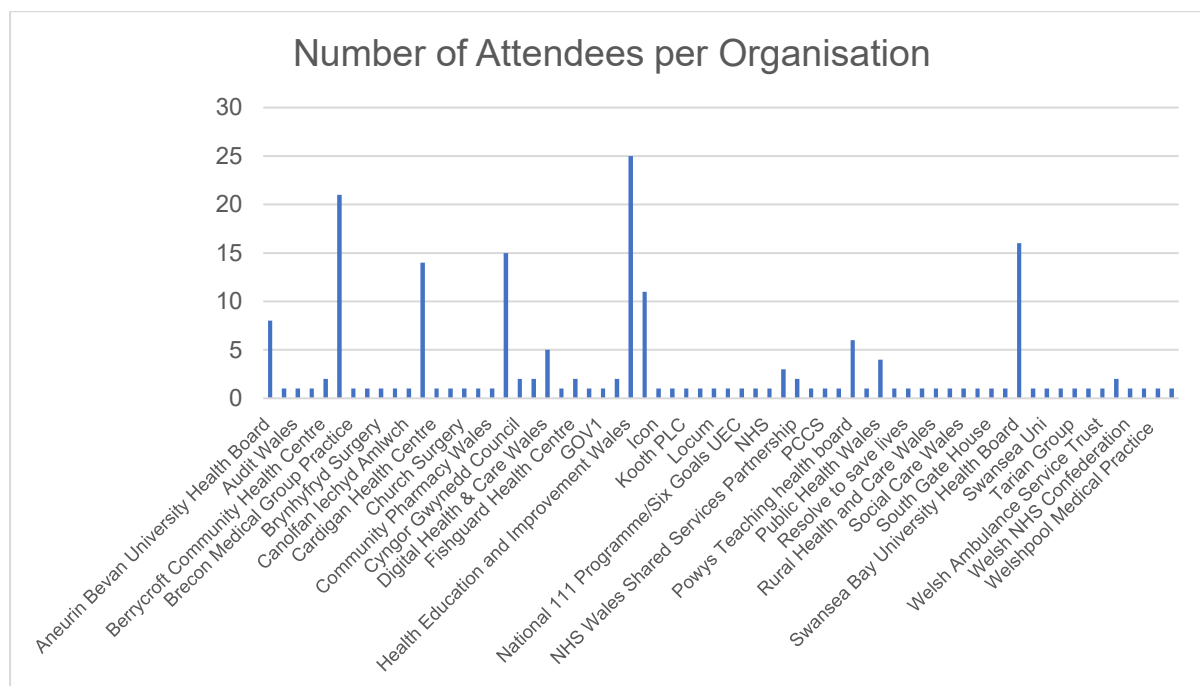
<b>Sian Richards</b>	Director of Digital and Data, HEIW	Setting the scene
<b>Dorothy Edwards</b>	Director of National Programmes, HEIW	
<b>Professor Alka Ahuja</b>	Consultant Child and Adolescent Psychiatrist & National Clinical Lead, TEC Cymru	How telehealth and telemedicine can improve the delivery of primary care services.
<b>Gemma Johns</b>	National lead for Research, TEC Cymru	How can technology support careers and improve personal health and wellbeing.  How technology can enable new ways of working – case study around remote recruitment.
<b>Dr Keith Grimes</b>	Digital Health & Clinical Product Consultant, Curistica	What's the potential of digital health and Artificial Intelligence (AI) within primary care and what impact will this have on the workforce.  How can this, change the shape of the workforce and the requirements for training and education.
<b>Sam Hall</b>	Director of Primary, Community and Mental Health Digital Services, DHCW	DHCW road map for primary care.  Focusing on the pipeline over the next two years. Closing Remarks



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## Appendix 2: Detailed Graphs



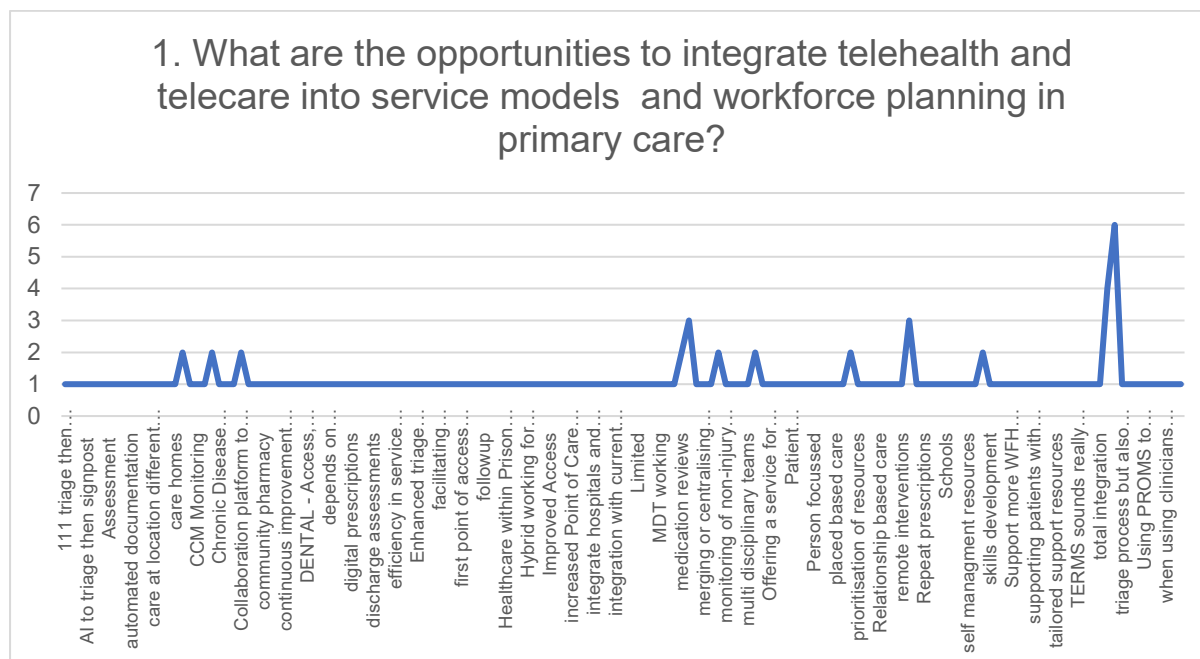




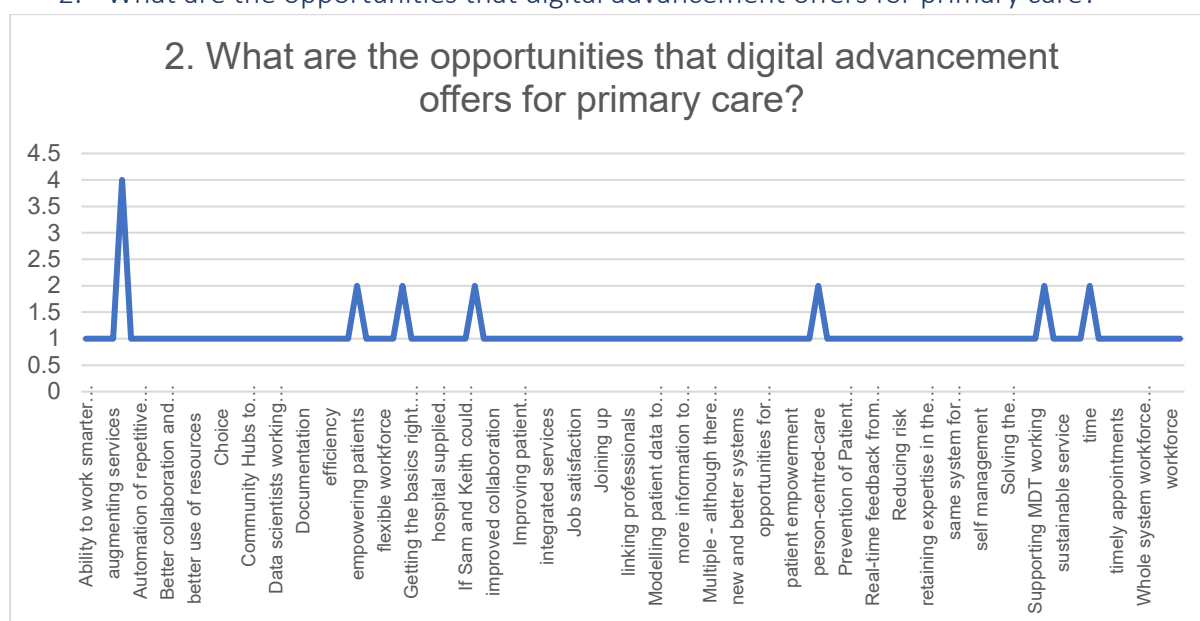
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1. What are the opportunities to integrate telehealth and telecare into service models and workforce planning in primary care?



2. What are the opportunities that digital advancement offers for primary care?





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### Appendix 3: Detailed Q&A

Question	Question/Comment	Response
Question 1	Limiting factors for use of remote consultations in North Wales is the internet connection patients have	
Question 2	What is the progress with electronic WP10s? (without digital prescriptions some of the virtual assessment possible is much less useful). Also, we need to encourage community pharmacy involvement	<b>HEIW:</b> Sam Hall will be covering some of the bigger system developments later but if she doesn't address the question around electronic prescribing, we will get a written update.
Question 3	Accurx has been amazing in primary care, and we pay to use it. It allows text, photos, and videos with patients in the middle of the consultation. Would be lost without it.	
Question 4	Will there be directory of the best equipment systems? with recommendations.	
Question 5	New initiatives are sounding great but what about simple sharing of information between primary care providers, e.g GPs and dentists?	
Question 6	Recognising 'Primary Care' encompasses Primary and Community Care services, any opportunity to integrate telehealth and telecare, that enables us to deliver prudent person-centred joined up care (right skill in timely way closer to home) would be very welcome. Ambition for interoperability of systems that enable systematic collection of information to support data to knowledge would also be very welcomed!	
Question 7	Thank you for the presentation. Is there a primary care clinical lead also? The team seemed administration and research heavy - are there a lot of clinicians involved also?	
Question 8	regarding remote recruitment- would the appointees work remotely in the country they are recruited from	
Question 9	Thinking about where Children spend their lives - how can we draw a whole system digital offer together - health, education / social care?	



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Question 10	Question - how can NHS staff with interest / skills in digital technology who aren't clinical leads but are 'champions' get involved and what training is available to help them?	
Question 11	Will there be recommendations about the best systems/ tools or gadgets etc.	
Question 12	Just taking a cheeky opportunity - The Digital Systems usability Survey for frontline staff to gain knowledge of what systems they are using in practice and how they feel about them! Open until 8th May: <a href="https://www.nhs.uk/digital-system-survey-2023/">NHS Wales Digital System Survey 2023 (qualtrics.com)</a>	
Question 13	I wonder if the acquisition by American telehealth firm Amwell (for \$320 million) of both SilverCloud and the AI chat firm Conversa represents a move towards AI in primary care that speaks to what you're talking about?	
Question 14	Digital development in Wales has been excellent but engagement with end users has been poor and systems we are asked to use on a daily basis do not fully meet our needs. Will there be a change in this area?	<p><b>Abigail Swindail:</b> Yes, there are GP leads within DHCW working to engage clinicians across Wales, also a team of Clinical informaticists who lead on clinical engagement within systems and specialties across Wales.</p> <p><b>Keith Grimes:</b> Fully support increased engagement with patients, HCPs etc. Needs champions in the practice side of things too though</p>
Question 15	One of the problems in primary care is that the systems we in our everyday practice are not integrated and all need separate logins - for a morning surgery I often have to login into 7 different systems - clinical, docman, lexicon - to dictate letters, X-ray requests, Welsh portal to request bloods, FIT test requests etc etc. Could it all be integrated with only 1 login	<p><b>Keith Grimes:</b> Heart-breaking stuff, I agree. Moving towards a single system (or one that feels single) is the goal</p>



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Question 16	What is the best way for someone to get involved in development of AI in primary care? I have an interest. In North Wales we just did an exercise to look at historic admission data to identify people at risk of admission, spot trends and bottlenecks, etc... Applying AI to this (this like the example you gave) would have been so powerful.	<b>Keith Grimes:</b> Get in touch with me (LinkedIn/twitter) and I'll share some links. I'm sure the HEIW team will also build this out in terms of opportunities.
Question 17	Topol fellowships are not available to NHS Wales unfortunately. UWTSO do offer an MSc in Digital Transformation, specifically implemented for staff in NHS Wales.	<b>Sian Richards:</b> We have clinical fellowship in Wales, and we are actively encouraging digital programmes including AI. We will include the details in the resources with the outcome pack from this session
Question 18	Do you think the low morale of front-line health care workers may be a barrier to the utilisation of AI and development of digital pathways, as in, it is another new thing to learn/implement on top of everything else, and right now there may be competing issues that need attention before introducing these new ways of working?	<b>Keith Grimes:</b> Yes, sadly. It often feels like we are 'snookered' - too trapped by the current pressures to muster the time and energy to adopt the things we need to get out. However, there are techniques to use to deal with this at a system level, as long as stakeholders such as yourselves are consulted to work out what problems need to be sorted first.
Question 19	I am interested in automating documentation. As a fellow GP this would certainly cut down on time and allow complete focus on the patient, supporting the relationship-based care agenda. Where can I find out more about this?	<p><b>Keith Grimes:</b> There are a few options out there:</p> <p>Microsoft Nuance: <a href="https://www.nuance.com/en-gb/index.html">https://www.nuance.com/en-gb/index.html</a></p> <p>Abridge: <a href="https://www.abridge.com/">https://www.abridge.com/</a></p> <p>Nabla: <a href="https://www.nabla.com/">https://www.nabla.com/</a></p> <p>Tortus: <a href="https://tortus.ai/">https://tortus.ai/</a></p> <p>(The lower down the list, the further from real world implementation they are.)</p>



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		Some of the latter are looking for primary care partners to take their offering further, if you want to get in touch
Question 20	Thank you, Keith, one of the best talks I have heard on AI potential, ethics etc	
Question 21	Keith, I'm delighted to hear you talk about fully integrated AI use and the user interface when thinking about practice end use of innovative methods. I've lost count of the poorly integrated bolt-ons for the clinical system we use. How on earth do we get to a point where we have flexible systems that can grow and change in time integrate with other parts of the NHS with the current way the IT in practice is commissioned?	<b>Keith Grimes:</b> Tricky, but achievable if we build out knowledge and capabilities in the NHS to allow us to either build our own solutions adopting best practice or insisting on this being done if we buy or partner with providers. We also need to insist that use of open standards and interoperability is mandatory.
Question 22	Thank you for a really interesting talk. I have an interest in medical education - Which Medical schools have digital health as an independent part of their curriculum? Do you think this needs to be part of the curriculum in its own right?	<b>Keith Grimes:</b> I'm not sure which schools have an independent part/module, but I am speaking with some schools to develop integrated modules. The hard question is always what makes way for the new content? <b>Claire Campbell:</b> True - however I think it could be touched on every year as part of a spiral curriculum. I think the ethical discussions are important and often not considered. Undergraduate education arguably has the best opportunity to have the headspace to lay a foundation for these conversations.
Question 23	There have been a lot of advances in digital services / AI since the Topol report, a lot being as a result of enforced change due to Covid, - is the review being updated?	<b>Keith Grimes:</b> Good question. I don't think there is a 'Topol 2.0' but there are many new reports in its wake. The Goldacre review is a good example: <a href="https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/674442/Better_broader_safer_using_health_data_for_research_and_analysis.pdf">Better, broader, safer: using health data for research and analysis - GOV.UK (www.gov.uk)</a>



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Question 24	this is really interesting Keith but I worry that nothing much will happen in my life time at least in north Wales as we write patient notes in long hand in our...see more	<b>Keith Grimes:</b> There are some foundational components that we need - such as EHRs - to allow for change. Once we have that, things can move quickly
Question 25	Is their partnership working with the Medical royal Colleges as they set the postgrad medical curricula?	<b>Keith Grimes:</b> Personally, I have been in touch with Royal College of Surgeons and Faculty of CLinical informatics about this. <b>Nicki Lloyd:</b> I'll bring this up in my next meeting with the RCGP and how they see their curriculum design developing and innovating in this area. Thanks Keith!
Question 26	Can we look at all Wales workforce needs - across sector (health, education and social care as a minimum) curriculum to drive whole system approaches? and ensure we make change stick	
Question 27	Thank you for such an inspiring talk- just to raise awareness of the implications of the evolving UK Medical Device Regulations which will need consideration when developing AI solutions or apps which fit the definition of a 'Medical Device'. <a href="https://www.gov.uk/government/consultations/software-and-ai-as-a-medical-device-change-programme-roadmap">Software and AI as a Medical Device Change Programme - Roadmap - GOV.UK (www.gov.uk)</a>	<b>Keith Grimes:</b> Thank you. Awareness of device regulation, as you mention, is important. UK trying to move forward here
Question 28	Thanks Sam. One of the major challenges in my field, dentistry, is that primary care dental practices are run as businesses. Do you have any thoughts on how this barrier may be overcome, as incentives to invest in technology is needed to bring dentistry into the wider health care system when it comes to digital advancement?	
Question 29	When is the NHS app going live	
Question 30	Great news Sam and keen to support AHP engagement from Primary and Community Care lens - will be in touch	
Question 31	Can you confirm please Sam that it will include pharmacy contractors (community pharmacy) pretty sure it does	<b>Sam Hall:</b> Yes
Question 32	It would be great to link on mental health and cross policy approaches through the lens of service users	





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Question 33	Is there a data framework which will help set general regulations that 'apps' or any 'digital health' innovations need to comply with/follow during the build phase? as this will be really helpful to streamline cross-functional operation (simple use as- avoid 10 logins to 10 different apps, when 1 can trigger the next as they are both compatible)?	
Question 34	What is the timeline for delivery after POC	
Question 35	Thanks, this has been a really interesting and informative session today. It's good to hear about the spread of AI and stay motivated about the potential for positive change.	



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## Appendix 4: Presentation



# *Archwilio effaith trawsnewid digidol ar y gweithlu Gofal Sylfaenol*

## ***Exploring the impact of digital transformation on the Primary Care Workforce***

***Webinar 24<sup>th</sup> April 2023***

***Development of a  
Strategic Workforce Plan  
for Primary Care***



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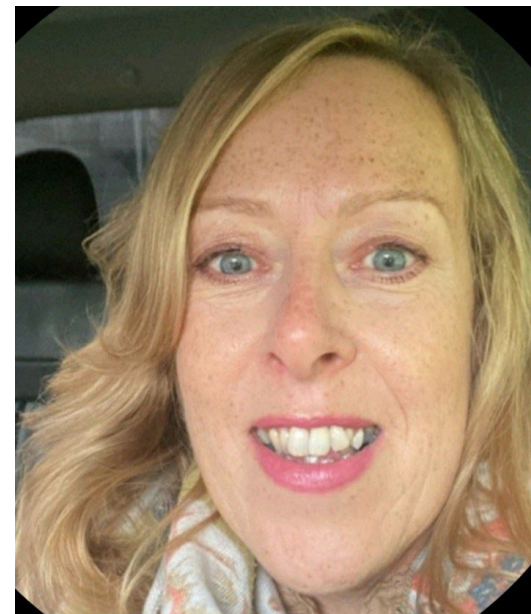
# Gosod y cefndir

## Setting the scene



**Sian Richards**

Director of Digital and Data  
Health Education and Improvement Wales



**Dorothy Edwards**

Programme Director – National Programmes  
Health Education and Improvement Wales





CYMRU

TECHNOLOGY ENABLED CARE

CLOSER TO HOME

# *Exploring the impact of Digital Transformation on the Primary Care Workforce*

Prof Alka Ahuja National Clinical Lead  
Gemma Johns National Head of Research

# The Talk

- What is Technology Enabled Care (TEC) Cymru?
- TEC Update
- Clinical and Digital skills
- The Research & Evaluation Team & Our Approach

## **Some of TEC's Studies**

- Working From Home (WFH)
- Day in the Life of Series (DILO)
- NHSX eConsult vs. eHub Study
- 100% Remote Hiring - Solent Trust Study
- Q connect
- All-Wales Public Opinion Study Spring/Summer 2023



# What is Technology Enabled Care?



## VIDEO CONSULTING

Medical or social care carried out through video conferencing tools.

*Consultations between patients and clinicians in order to monitor, diagnose and treat ill health or a means to provide peer to peer support.*



## TELEHEALTH

The remote exchange of data between a patient at home and their clinicians.

*Telehealth equipment can take measurements such as blood pressure, weight, blood oxygen saturation levels, ECG rhythm, temperature and other vital signs.*



## TELECARE

Remote real time monitoring to manage the risks associated with independent living.

*Examples include alarms, sensors, GPS. Alerts can be sent linked to an 'alarm receiving centre' where a response could range from advice to an emergency call out.*

# Technology Enabled Care...Closer to Home



## Increasing understanding and awareness of TEC

- bridge the gap between policy, strategy and funding to guide priorities
- design and deliver services based upon need with those use them
- engage and collaborate across partners in health, social care, industry and academia
- advocate the benefits that TEC offers to deliver convenient care closer to home
- provide oversight via central repository of TEC activity in Wales



## Deliver rapid, scalable and sustainable TEC

- take an agile approach to scale services from pilot to national transformation
- coordinate nationally – deliver locally
- develop governance models and strategic programmes
- source the right expertise for high quality, safe and secure solutions
- facilitate national business cases and procurements for economies of scale



## Support cultural and behavioural change

- support the workforce to be digitally skilled, confident and motivated
- understand the barriers to inclusion
- community of practice and resources
- enable integrated working across sectors
- drive and influence change through user leadership and advocacy
- create online hubs for patient and professional support



## Provide the evidence base for learning and investment

- inform policy, consultation and development
- use data to guide exploration, design, decisions and investment
- publish and promote evaluation and research findings
- support excellent in research practice to foster a culture of fast failure
- position Wales as leading TEC adopter with business, health and care economies



★330K★  
CONSULTATIONS

Over 14k users in over 50  
specialities

91.1% users would use VC  
again in the future

*"It can be more convenient for patients  
of working age, as they can access  
appointments whilst in work"* -  
**Neurology Nurse, Cwm Taf Morgannwg**

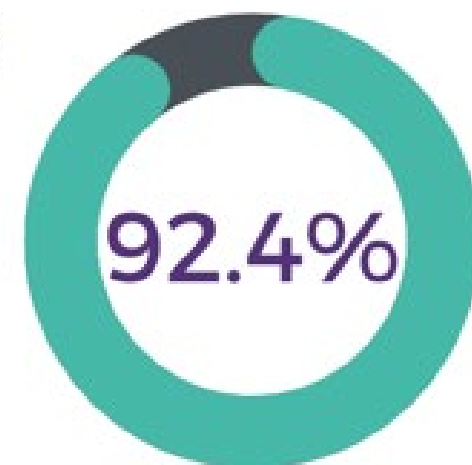
## BENEFITS OF VC



9.4 million miles  
saved for patients



317k patient  
hours saved



Patient's rate VC Excellent,  
Very Good, or Good



Clinician's rate VC  
Excellent, Very Good,  
or Good



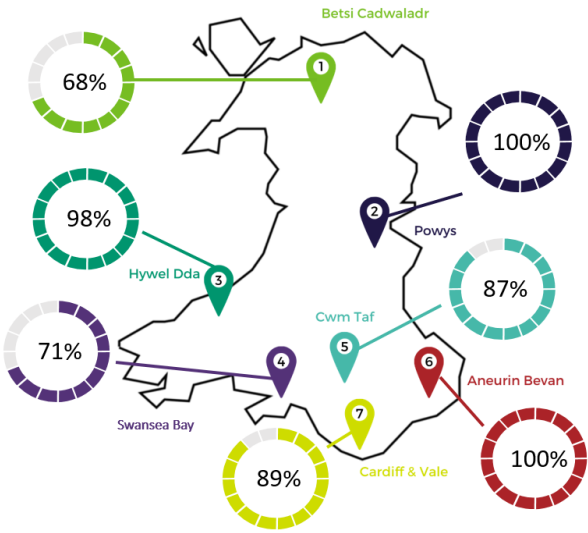
68% of patients reported being  
able to 'understand their illness'



Reduced waiting  
times by 68.6%

Reduced DNA rates by

**61.1%**



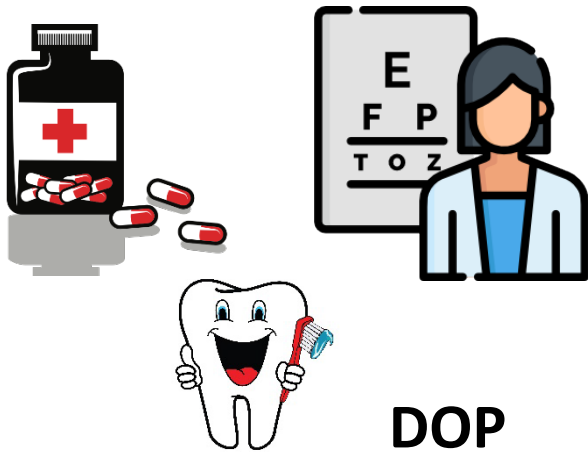
## Primary care/OOH Service

- *Mental Health*
- *MDT meetings*
- *Care Homes*

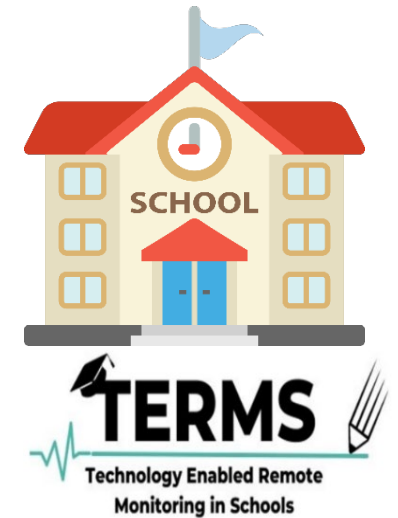


## Secondary and Community care

50 specialities and services



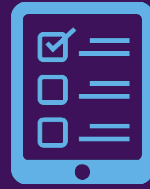
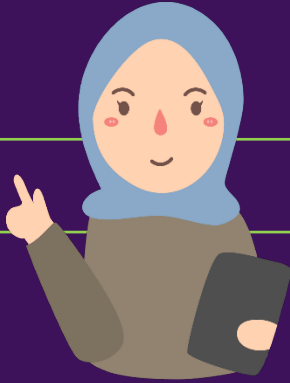
Partnership with DCW



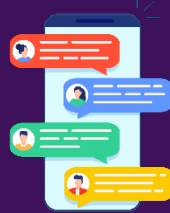
*“Would be great if these could be done more often once lockdown restrictions have been lifted. I didn't have to spend time away from work, I saved on fuel and time for travelling to the surgery”*

# What is Telehealth...

## REMOTE MONITORING



## ROUTES OF COMMUNICATION



## CLINICAL PLATFORM

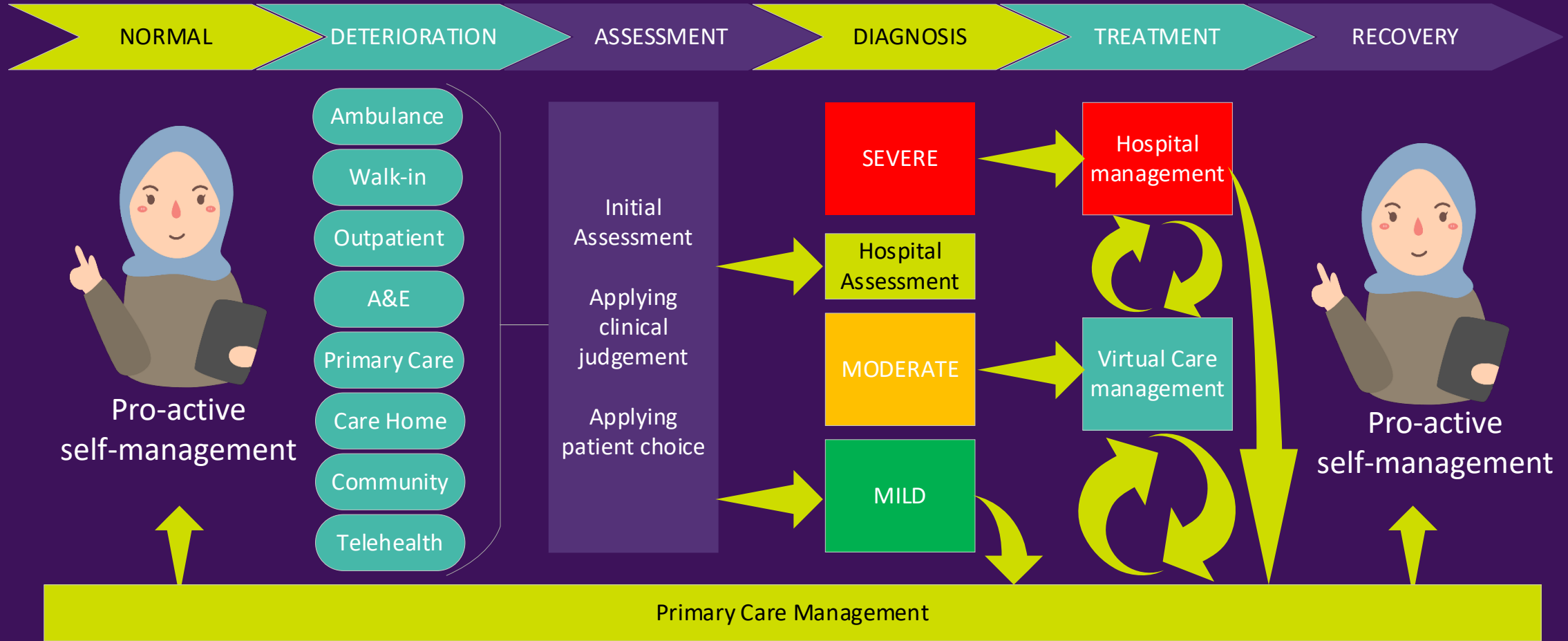


Single dashboard view of all patients and their real time data

Patients stratified by risk with alerts to prioritise caseload

Multi-Disciplinary Team collaboration

# PATIENT FLOW UTILISING REMOTE MONITORING



## Drivers

- **A Healthier Wales** 2022

Quadruple Aim. Sets out a clear ambition to deliver capabilities for home-based care and self-management

- **Strategic Programme for Primary Care** 2018

All-Wales Health Board-led programme supporting A Healthier Wales to achieve its ambition of the Primary Care Model for Wales

- **Six Goals for Urgent Care** 2021

Sets out expectations to achieve best possible clinical outcomes, value and experience for patients and staff

- **National Clinical Framework** – 2021

Planning and delivery based on 'prudent in practice', supporting the shift from hospital-based care to person centred, community-based care to transform clinical services in line with national priorities

- **Planned Care Programme** – 2022

Increasing health service capacity to support the adoption of new technologies

## Benefits

- Reduced admissions, readmissions and Length of Stay
- Increased capacity
- Reduced burden on A&E and Primary Care
- Provision of insights to enable interventions
- Improved clinical outcomes

- Reduced health inequalities
- Provision of personalised care tailored to the service user
- User empowerment with on demand self management guidance
- Improved service user satisfaction



## DISCOVERY...

- |                                |   |
|--------------------------------|---|
| ✓ Literature Review            | Robust evidence of efficiency and effectiveness benefits                                      |
| ✓ Independent Discovery Report | Good practice but fragmented and lacking co-ordination and digital learning                   |
| ✓ Market Analysis              | Strong marketplace with tried and tested, scalable solutions supporting multiple specialities |
| ✓ Service Providers            | Already starting to look at or adopt this emerging model of care                              |
| ✓ Programme & Governance       | Established with SRO in place   |
| ? Organisational capacity      |   |

# TERMS- Technology Enabled Remote Monitoring in Schools



In late 2022, The Health Foundation (Q lab) funded us to test out remote monitoring in schools and communities, on an all-Wales basis.

During this time, a range of activities were conducted, to include:

- ✓ Securing a contract with a remote monitoring product service provider, called **Doccla**.
- ✓ Recruitment of a full-time researcher into the team to work closely with us, schools and clinical teams.
- ✓ Early discussions, and initial recruitment of clinical sites for 1<sup>st</sup> round testing e.g., ADHD, obesity, diabetes
- ✓ Next steps, to recruit educational sites (special schools, FE placements), and additional clinical sites.



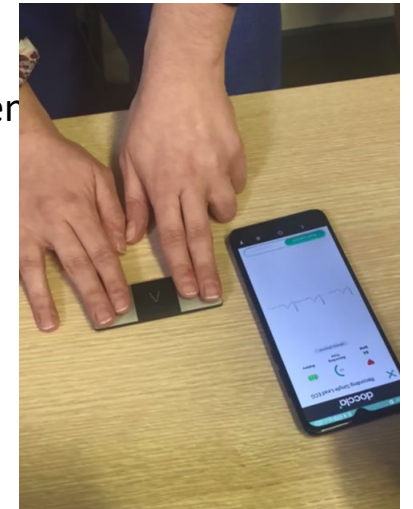
## **2023 – Time to Get Testing!**

For the next 1-year, we will work closely with clinical and educational settings in Wales.

Explore **digital use and acceptance, accuracy, confidence and trust, inclusivity, impact** with as many clinicians, patient families as possible.

Due to the keen interest and rising demand across all NHS services, we now looking at

- Medication Reviews, e.g., ADHD,
- Diabetes, Asthma, Mental Health, Eating Difficulty/Disorder & Weight management services



# Remote monitoring- early findings

- Recruitment easy!! Retention- early days
- Better work life balance- care responsibilities/child care
- Attracts senior experienced clinicians- retired etc
- Nurtures creativity
- Professional development/new skills- digital leads
- Seamless care journey for patients
- More family involvement with patients
- Focus on patient choice and needs



**GENIE IS OUT OF THE BOTTLE NOW!!**

# Mathematical Modelling

- Supercool rota- Staff preferences & work balance
- Supply and demand forecasting
- Resource management & optimisation
- Reduce waste and variation

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Mean	2.42	2.65	2.23	2.16	2.20	1.29	1.43
Median	2	3	2	2	2	0	1
Mode	1	1	1	1	1	0	1
Minimum	0	0	0	1	1	0	0
Maximum	8	7	6	5	5	3	3
Range	8	7	6	4	4	3	3
Total	109	106	98	97	99	31	40

	Monday	Tuesday	Wednesday	Thursday	Friday	Total Weekly Hours
13.05.19	14.05.19	15.05.19	16.05.19	17.5.19		
9.00-5.00	9.00-5.00	9.00-5.00	9.00-5.00	9.00-5.00		
8.30-4.30	8.30-4.30	8.30-4.30	8.30-4.30	8.30-4.30		
LD	LD	LD	LD			
		LD		LD		
	LD	LD	LD	LD		
LD	9-3PM					
Monday	Tuesday	Wednesday	Thursday	Friday		
20.05.19	21.05.19	22.05.19	23.05.19	24.05.19		
9.00-5.00	9.00-5.00	9.00-5.00	9.00-5.00			
8.30-4.30	8.30-4.30	8.30-4.30	8.30-4.30	8.30-4.30		
LD	LD	LD	LD			
		LD		LD		
LD	LD	LD	LD			
			LD	LD		
Monday	Tuesday	Wednesday	Thursday	Friday		

The screenshot shows an Excel spreadsheet titled 'June Rota' with columns for dates from 01 June 2019 to 17 June 2019. The rows represent different staff members: Denise, Hayley, Bethan, Nicola, and Jane. The cells contain values representing hours worked or availability. Two dialog boxes are open: 'Solver' and 'Solver Parameters'. The 'Solver' dialog box shows the objective cell as '\$B\$10' and the variable cells as '\$B\$11:\$B\$17'. The 'Solver Parameters' dialog box shows the target cell as '\$B\$10' and the variable cells as '\$B\$11:\$B\$17'. The spreadsheet also includes a 'Total capacity' row and a 'WTE working on the site' row.

# Clinical Leadership Group

- Multi - disciplinary senior leads group
- Clinical priorities and alignment with TEC vision
- Wider clinical engagement , linking with clinical networks, Royal Colleges, societies etc
- COP and Master classes- sharing good practice
- Some of the current work- Project register, Digital consent, DILO, Digital nursing, Time and motion studies, research studies
- Scale and spread

Virtual Masterclass

---

# Managing Health from Home in the New Digital World

Thursday 27th April 2023  
9.00 am to 10.30 am





# Clinical Adoption and Business Change

(Supporting cultural and behavioural change)

- Supporting HEIW on the NHS Wales digital competency framework
- Nursing home training programme
- Mental health workforce consultation
- Secondary care training programme
- Website and resource centre
- National project register (TEC)
- TEC Cymru digital masterclasses
- Clinical adoption and business change framework





# Our Research Team

We have an internal & external working team inside & outside the NHS, inside and outside of Wales/UK.

- National Clinical Lead
- Head of Research
- Research Officer
- Several FT/PT Researchers
- Data Analyst
- Health Economist
- Digital Fellow
- PhD Students
- Academics
- National & International teams
- Multi-Agency Working – Schools/Gov
- Young Person Advisory Panel
- Duke of Edinburgh (DOE) Placements
- School/College Volunteer Scheme
- Medical Student Placements
- MSc Assignments

## The Evidence

## Why did we do it?

### Evidence Gap

#### The Problem

- Too many pilots and silo studies
- Local lens
- Small sample sizes / barely representative
- Rarely disseminated

#### Our Solution

- National team
- Independent lens
- Capture large, representative samples
- Using mixed methodologies
- Multi-disciplinary research team / expertise
- National showcasing

## TEC Cymru's 10 Golden Rules to Research & Evaluation



Make 'co-design'  
central to your R&E  
approach



Conduct a robust  
mixed  
methodology



Follow a Plan, Do,  
Study, Act  
approach



Evaluate from Day 1,  
and continue doing so



Get out there, and  
understand the lay of  
the land



Be open to learning,  
and ask all types of  
questions



Capture 'all' types  
of voices, and  
involve all players



Avoid assuming  
you know the  
answer/outcome



Keep asking these  
questions, and keep  
learning



Disseminate and  
share your learning

## TEC Cymru's Phased Approach



See our Framework at:

<https://digitalhealth.wales/tec-cymru/research-and-evaluation>

# Research & Evaluation

Our data so far is just the tip of the iceberg! Each measure often needs its own method. For example, we use...

- **Surveys** to capture large representative samples & measure **use, value, benefits**
- **Interviews** to measure **in-depth understanding and acceptance**
- **Focus groups** to capture **shared experience & perform peer validation exercises**
- **Health Economics** to measure **monetary & QoL impacts**
- **Clinical Trials & Quasi Experimental** to measure **effectiveness & safety**
- **Time and Motion Studies** to measure **efficacies & accuracies**
- **Ethnography & Day in the Life Of Case Studies** to measure **real life situations**
- **Clinical Audits** to capture **full patient records**
- **Mathematical Modelling** to predict & forecast **the future**
- **PPI Representation and Public Engagement** to ensure **we are doing what is right!**

# Working From Home (WFH): Ideal Model for Wales

## Purpose & Method

In March 2021, an all-Wales study was initiated to explore the pros and cons of WFH in more detail, and to workshop an 'Ideal WFH Model'. The purpose of this study will both inform recommendations to Welsh Government and future work that TEC Cymru undertakes.

The study involved recruiting 21 virtual focus groups (138 NHS clinical and non-clinical staff) & 396 surveys, and was followed by thematic Analysis to produce findings.

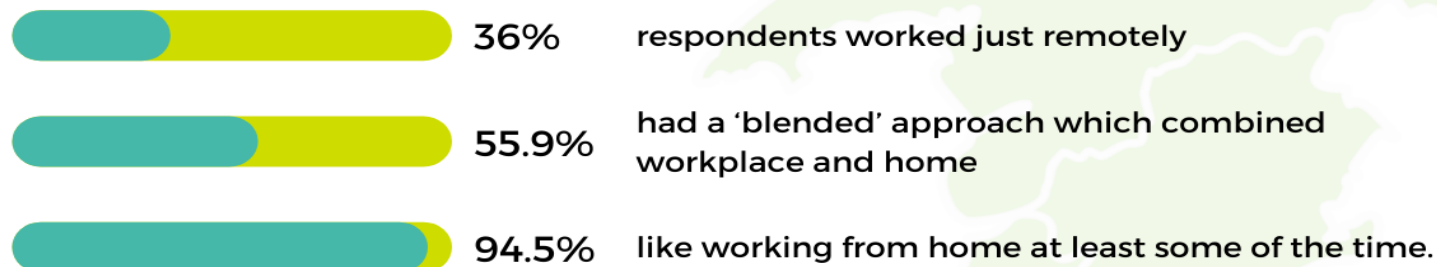
There were a total of 999 participants across part 1 & 2 of the study, with a robust peer review process conducted with 465 participants.

## Analysis

A summary of findings...

**tec**  
CYMRU

### Working styles & preference



### 'Liking' and 'Disliking' Remote Working



**Benefits of Remote Working** - Convenience, flexibility, less distractions, increased productivity, improved work-life balance, less time and money travelling.



**Disliking: Reduced Social Contact** - Feeling isolated, missing professional support and social contact with colleagues, less motivated, less clear boundaries between work and home life.



**'Dislike' or 'Difficulties'** - Dislike of WFH was sometimes related to a lack of resources at home e.g. technology, no electronic records.

## Suitability of Remote Working

**Physical Space for Remote Working** - Most (87.1%) had sufficient space for WFH and felt they could conduct their responsibilities. However, some felt they lacked space as they shared their space with family members. Some had made adjustments to their homes as a result.

**Access to Resources** - Most felt they had sufficient technology for WFH. However, some reported purchasing new equipment for WFH at a personal cost.

**Fulfilling Work Responsibilities** - Most felt they could fulfil their responsibilities whilst WFH. Some felt they were worked more efficiently and effectively at home. However, some reported struggling to fulfil responsibilities at home, and noted that certain consultations required in person work e.g. physical examinations, some mental health appointments.

## Ideal Working Model

**Blended Approach** - Strong preference for blended working going forward (83.5%), to benefit from the 'best of both worlds'.

"Part office, part home would be the best for work-life balance"  
(Physiotherapist, CTMUHB)

**The Importance of Choice** - There was a strong desire for increased choice and flexibility over where they work going forward, to allow individuals to design a working pattern that suits them.

## Impacts of Remote Working

**Learning to Take a Break** - Some noted the importance of taking breaks whilst WFH. However, many others (majority) said they had to learn to overcome feelings of guilt whilst taking breaks. "I have to take breaks between appointments, or I won't give patients my best attention." (Counsellor, ABUHB).

**Physical Health Impacts** - 51.9% experienced negative physical impacts included headaches, eye strain, back pain. Others reported positive physical effects of WFH as they had more time to exercise in their day.

**Sleep Patterns** - Some reported no impact of WFH upon their sleep. However, poorer sleep quality was reported by some due to less separation between home and work environment.

**Diet Behaviour** - There were mixed impacts of remote working upon diet choices, with some finding more time to cook nutritious meals at home, but some reporting to graze significantly more.

**Commuting and Travel** - Whilst some appreciated the saved time that they experienced by not having to commute (64.5%), others reported missing the reflective time that their traditional commute provided them. Significant time and monetary savings were reported when WFH, with benefits from clinicians and Health Boards. Environmental benefits were often noted.





# NHS Wales Video Consulting Service

Home Working Guide: Protecting Mental & Physical Health



# Gwasanaeth Ymgynghori Fideo GIG Cymru

Canllaw ar Weithio Gartref: Diogelu Iechyd Meddwl a Chorrfforol



## The Welsh Government & Home Working Aims 2021

Following changes in working patterns during the COVID-19 pandemic, the Government is aiming to support the long-term shift to home working for its workforce. The NHS Video Consulting Service has demonstrated that more than 30% of the workforce are now working from home.



## Tax Relief for Home Working

You may be able to claim tax relief for additional household costs if you have to work at home on a regular basis, either for all or part of the week. This includes if you have to work from home because of coronavirus (COVID-19).

[www.gov.uk/tax-relief-for-employees/working-at-home](http://www.gov.uk/tax-relief-for-employees/working-at-home)

## Benefits & Challenges of Home Working

- ✓ Improved work/life balance
- ✓ Less cost, travel, parking & carbon footprint
- ✓ Easier childcare arrangements
- ✓ Improved flexibility
- ✓ Sometimes less stress & anxiety
- ✗ Limited socialisation
- ✗ Difficulties separating work & life
- ✗ Difficulties in home working set up and obtaining devices

## Mental Health & Well-being

Important steps to get the best out of home working & protect your health and well-being.

### Maintain a positive work/life balance

- Stick to similar work patterns as you would at the workplace. Work similar hours, and take similar breaks.
- Look after your own well-being so you can continue to support your team and do your job to your best ability.

"Make sure to take regular breaks, get some fresh air and communicate with friends and colleagues throughout your day"

### Check in with colleagues regularly

- Have regular virtual or telephone check-ins with colleagues and chat about everyday matters as you would do in person.

### Establish new ways of working with your team

- Learn new ways to communicate and collaborate.
- Learn new ways how to support each other as a colleagues.

**BUT if you feel isolated or lonely, always reach out to your colleagues, friends or family and get the support you need.**

## Protect the Back, Neck & Shoulders

Since the COVID-19 pandemic, and an increase in home working patterns, spinal surgeons are reporting an increase in younger patients presenting with more back, neck and shoulder problems.

"Maintaining good posture with sufficient support for your spine is essential"

Spinal Surgeon  
Sashin Ahuja  
Cardiff & Vale UHB

## Preparing a Home Working Space



### Home Set up:

- Position devices appropriately so that neck, upper back and shoulders are not over strained.
- Avoid sitting in one place for too long to stop joints getting stiff.
- Keep a good posture whilst sitting.
- Invest in a good chair that supports your neck, back, shoulders and legs.
- Keep equipment at arm's length.
- Keep your feet firmly on the floor.
- Take regular breaks to move about and stretch.

### Recommendations:

- The use of 'sit and stand' desks can be used and have been found to be beneficial.



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@TECCYMRU



## Nodau Gweithio Gartref Llywodraeth Cymru 2021

Yn dilyn newidiadau mewn patrymau gwaith yn ystod y pandemig COVID-19, mae'r Llywodraeth yn anelu at gefnogi'r newid tymor hir i weithio gartref i'w gweithlu. Mae Gwasanaeth Ymgynghori Fideo'r GIG wedi dangos bod mwy na 30% o'r gweithlu bellach yn gweithio gartref.



## Rhyddhad Treth ar gyfer Gweithio Gartref

Efallai y gallwch hawlio rhyddhad treth ar gyfer costau cartref ychwanegol os oes rhaidd i chi weithio gartref yn rheolaidd, naill ai am yr wythnos gyfan neu ran ohoni. Mae hyn yn cynnwys os oes rhaidd i chi weithio gartref oherwydd coronafeirws (COVID-19).

[www.gov.uk/tax-relief-for-employees/working-at-home](http://www.gov.uk/tax-relief-for-employees/working-at-home)

## Iechyd Meddwl a Lles

Camau pwysig i wneud y gorau o weithio gartref a diogelu eich iechyd a'ch lles.

### Cynnal cydwybysedd bywyd a gwaith cadarnhaol

- Ceisiwch gadw at y patrymau gwaith y bydddech yn eu gwneud yn y gweithle. Gweithiwch oriau tebyg, a chymryd seibiannau tebyg.

- Gofalwch am eich lles eich hun fel y gallwch barhau i gefnogi eich tim a gwneud eich gwaith hyd eithaf eich gallu.

### Siaradwch â'ch cydweithwyr yn rheolaidd

- Siaradwch mewn modd rhithwir neu dros y ffôn yn rheolaidd gyda'ch cydweithwyr am bethau pob dydd felly bydddech yn ei wneud yn y swyddfa.

### Dewch o hyd i ffyrdd newydd o weithio gyda'ch tim

- Dysgwch ffyrdd newydd o gyfathrebu a chydweithio.
- Dysgwch ffyrdd newydd o gefnogi eich gilydd fel cydweithwyr.

**OND os ydych chi'n teimlo'n ynysig neu'n unig, siaradwch â'ch cydweithwyr, eich ffrendiau neu'ch teulu i gael y cymorth sydd ei angen arnoch.**

## Diogelwch y Cefn, y Gwddf a'r Ysgwyddau

Ers pandemig COVID-19, a gyda mwy o bobl yn gweithio gartref, mae llawfeddygon yr asgwrn cefn yn adrodd cynnydd yn nifer y cleifion iau sydd â mwy o broblemau gyda'u cefn, eu gwddf a'u hysgwyddau.

"Gwnewch yn siŵr eich bod yn cymryd seibiannau rheolaidd, yn cael awyr lach ac yn cyfathrebu â ffrendiau a chydweithwyr drwy gydol eich diwrnod"

Y Seiciatrïdd Ymgynghoriol, yr Athro Alisa Ahuja, Bwrdd Iechyd Prifysgol Aneurin Bevan

"Mae cynnal ystum da gyda digon o gefnogaeth i'ch asgwrn cefn yn hanfodol"

Llawfeddyg yr Asgwrn Cefn, Sashin Ahuja, Bwrdd Iechyd Caerdydd a'r Fro

## Paratoi Man Gweithio Gartref



### Trefnu'r Man Gweithio:

- Gosodwch ddyfeisiau'n briodol fel na fydd y gwddf, pen y cefn na'r ysgwyddau dan bwysau.
- Dylech osgoi eistedd mewn un lle am gyfnod hir i atal y cymalau rhag mynd yn stiff.
- Cadwch ystum da wrth eistedd.
- Buddsoddwch mewn cadair dda sy'n gefnogi eich gwddf, eich cefn, eich ysgwyddau a'ch coesau.
- Cadwch yr offer o hyd braich.
- Cadwch eich traed yn gadarn ar y llawr.
- Cymwch seibiannau rheolaidd i symud o gwmpas ac ymestyn.

### Argymhellion:

- Ceilir defnyddio desgiau 'eistedd a sefyll' sy'n gallu bod yn fuddiol.



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@TECCYMRU

## Manteision a Heriau Gweithio Gartref

- ✓ Cydbwysedd bywyd gwaith gwell
- ✓ Llai o gost, teithio, parcio ac ôl troed carbon
- ✓ Trefniadau gofal plant haws
- ✓ Gwell hyblygrwydd
- ✓ Weithiau llai o straeu a gorbydder
- ✗ Llai o gymdeithasu
- ✗ Anawsterau gwahanu gwaith a bywyd
- ✗ Anawsterau o ran y gallu i weithio gartref a chael dyfeisiau

## Awgrymiadau Arbennig

- Ar ddiwrnodau gwaith, cynhaliwch drefn dda

- Gadewch eich gwely
- Cwisgwch
- Mwynhewch frecwastr iach

- Gwnewch restr o dasgau i'w gwneud bob dydd

- Gwnewch ymarfer corff yn rheolaidd e.e. mynd am dro bob dydd

- Cadwch mewn cysylltiad â chydweithwyr, ffrendiau ac aelodau'r teulu

- Peidiwch â defnyddio'r cyfryngau cymdeithasol am sbel a thawelwch ddiweddiariadau newyddion os ydych yn teimlo wedi'ch gorlethu

- Dilynwch ddelet iach a chytbwys ac osgowch oryfed (alcohol)



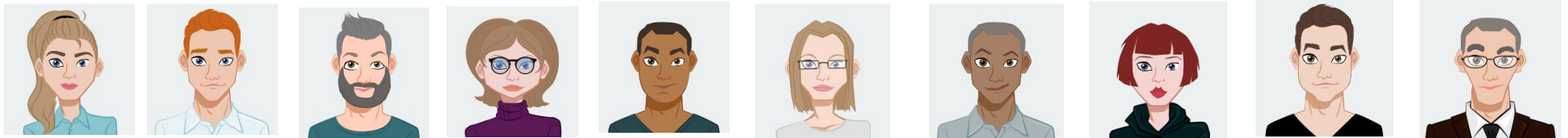
"Dylid cyfuno ystum da â man gweithio effeithlon"

Llawfeddyg yr Asgwrn Cefn, Sashin Ahuja, Bwrdd Iechyd Caerdydd a'r Fro



# Day In the Life Of Series (DILOS)

- To experience a 'day' of TEC participants first hand, to provide a real-life picture of their work life, and how TEC can have an impact.
- Type of ethnographic study where the researcher follows and observes a participant through a typical work day, to understand their everyday tasks, activities, and routines.
- Qualitative data is captured through participant observation and short informal discussions.
- Helps the researcher gain insight into the needs, behaviours, and goals of the participant.
- It's a collaborative research practice in which the researcher and participant generate insights together.
- Personas & case studies generated from the data.
- Aim to gather a series of 365 days from a wide mix of health and social care occupations (clinical and non-clinical) to understand TEC use and need across Wales.
- 45 completed – ranging from consultants, surgeons, GPs, nurses, therapists, receptionists, social care wardens and coordinators, support workers, managers, and so on.





# 100% Remote Hiring: Solent Trust Study

On the back of the WFH study, TEC Cymru were approached by Solent NHS Trust to conduct an independent study.

- To evaluate a new working initiative – to improve NHS workforce/recruitment.
- The initiative was to recruit 100% Remote Consultant Psychiatrists, to conduct NHS work, but to do so remotely.
- Over 20 applicants, and three successfully recruited.
- New recruits from Pakistan, New York & Greece.

## **Evaluation/Outcomes**

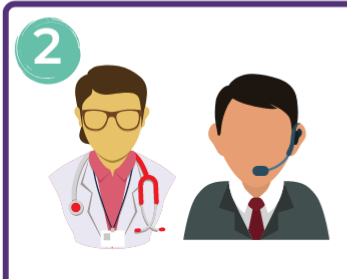
- Evaluation included a content analysis of all applications and a 6-month study of the new remote role – including mix of DILOs, observations and interviews.
- Study complete, and the report is written/delivered.
- Now developing a Toolkit and a How To Guide – ‘how to advertise, recruit and manage 100% remote working’.
- Joint presentation with Solent at the International Congress in Liverpool, July.
- On completion of toolkit/guide keen to explore embedding in Wales.

# Toolkit & Guide

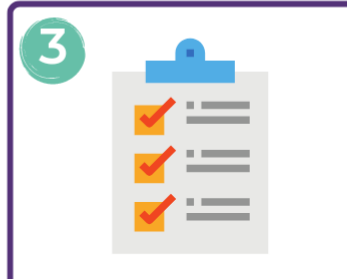
## Virtual NHS Worker Guide Sections



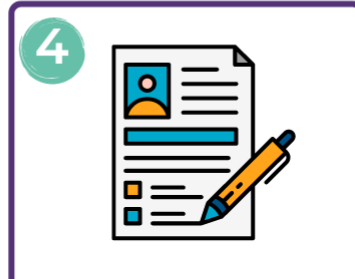
What is 100% Virtual NHS Working



Is Virtual Working suitable for an NHS service



How to get started with Virtually Recruiting



How to write a Virtual recruitment advertisement



Who needs to be involved in the recruitment process



What steps need to be taken to onboard a virtual worker



What steps need to be taken to manage a virtual worker



How to measure its success and impact on workforce and patients

# NHSX eConsult vs. eHub

- As part of a consortium, TEC Cymru are working with Swansea University and HTW on a NHSX funded project.
- The project is an AI study, comparing eConsult (manual method) and eHub (smart box method) for primary care triage.
- Independent evaluation, using QI and traditional research methods.
- Using a mix of quasi-experimental, time and motion, and observational methods, the 18-month study is rolled out across 23 GP practices in England.
- The study seeks to understand and compare eConsult and eHub on the use and value on the practices, efficacies on staff time and workforce impacts, cost effectiveness, and overall impact on patient triage.
- The study runs until February 2024.



# The Q-Connect Project in Wales

For one-year, we have been funded by The Health Foundation to explore the following:

**Connecting the Dots with Research, Evaluation & Improvement Approaches:  
Applying Quality Improvement Principles to the Missing Middle.**

We will work closely with the six sectors of stakeholders (as below) to **explore** the 'connection of dots' and **co-create** an 'improved process' of research, evaluation and innovation for Wales.



ACADEMIA



HEALTH



SOCIAL CARE



POLICY/FUNDERS



INDUSTRY



3RD SECTOR

# Public Opinion Study (POS)

During the pandemic, digital healthcare and TEC increased significantly. But despite best efforts, the difficulties of the pandemic, and its aftermath, created limitations in capturing in-person and representative data.

As a result, most of this TEC related data is bias, in that the data is usually captured via a digital means (e.g., online feedback), and completed by someone who has used digital (and therefore, probably likes it – big bias!).

As TEC Cymru have spent three years capturing and publishing this data, we are continuously hit with this criticism.

With the support of the Welsh Government and our policy leads, as well as health board & local authority approvals, we are now seeking to change this narrative.

# Posters & Flyers



**Fancy winning a £100  
One4All  
gift voucher?**



**To enter, simply scan the QR  
code and answer 6 NHS  
public opinion questions.**

Contact [TEC.Cymru@wales.nhs.uk](mailto:TEC.Cymru@wales.nhs.uk)  
for more information



**Eisiau ennill tocyn  
anrheg One4All  
gwerth £100?**

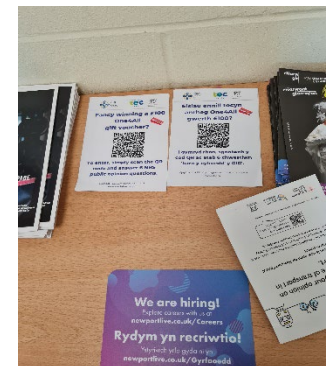
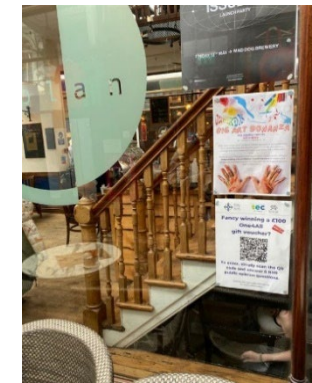
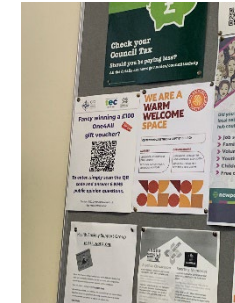


**I gymryd rhan, sganiwch y  
cod QR ac ateb 6 chwestiwn  
'barn y cyhoedd' y GIG.**

Cysylltwch â [TEC.Cymru@wales.nhs.uk](mailto:TEC.Cymru@wales.nhs.uk) am ragor o  
wybodaeth.



# Engagement Has Begun, and its Positive!







# Diolch Thank you

Cadwch mewn cyswllt...  
Stay in touch...



[teccymru@wales.nhs.uk](mailto:teccymru@wales.nhs.uk)



[digitalhealth.wales/teccymru](https://digitalhealth.wales/teccymru)



[@teccymru](https://twitter.com/teccymru)



[@teccymru](https://facebook.com/teccymru)



[TEC Cymru](https://linkedin.com/company/tec-cymru)



Arolwg Rhyngweithiol

# 1. Interactive Poll

What are the opportunities to integrate telehealth and telecare into service models and workforce planning in primary care?



# Cwestiynau Questions





Egwyl tŷ bach

# Comfort Break





**GIG**  
CYMRU  
**NHS**  
WALES

Addysg a Gwella Iechyd  
Cymru (AaGIC)  
Health Education and  
Improvement Wales (HEIW)



# Digital Health & AI in Primary Care: Reinforcement or Replacement?

Dr Keith Grimes  
24th April, 2023  
Human Factors at HCA

**CURIS+ICA**

# About me

**Digital Health & Clinical Product Consultant, Curistica**

**Clinical:** GP with 27 years experience of practice

**Technical:** ECCI, SCR, PCT / CCG

**Product:** Health Alert , EHS CCG , VR Doctors,  
Babylon






**Leadership:** Clinical Lead, Governing Body, Guild  
Director

**Academic:** EMMML Bayes, Honorary Lecturer Warwick





# What will we learn this afternoon?

-  What problems face Primary Care?
-  Are Digital Health & AI possible solutions?
-  The importance of Human Factors
-  What are the requirements for training & education?
-  How will this change the shape of the workforce?

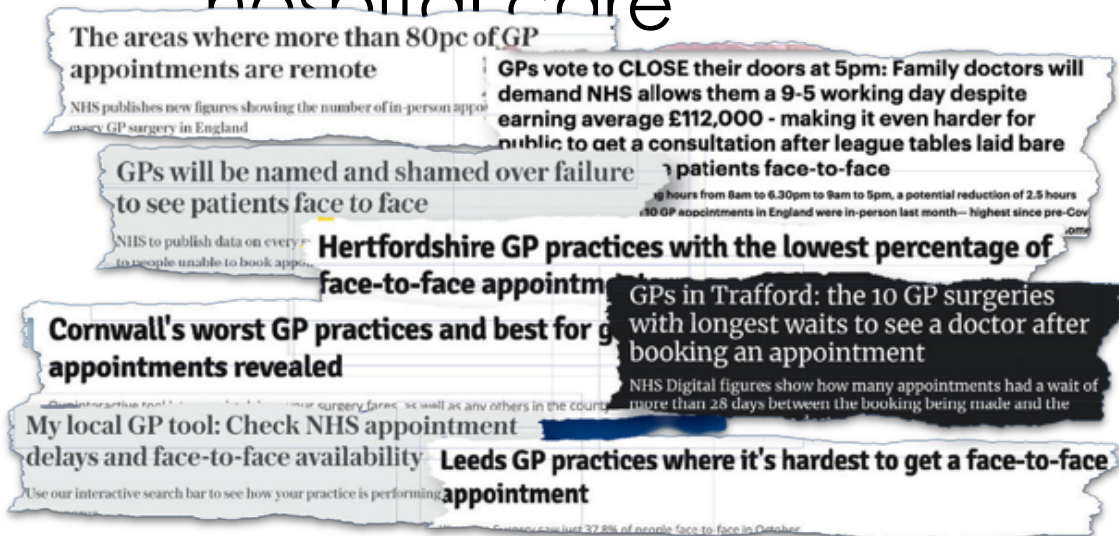
# The Problem: Demand and Supply

- Global Population - 8 Billion
- 50% can't get essential services
- Over 1 billion google queries/day
- Over 18 million HCP short by 2030
- UK more than 570k short by 2036



# The Problem: Primary Care under pressure

- GP numbers falling - 28'000 short by 2036
- Multiple reasons: retirement, resignation, burnout
- Increasing expectations of access (including to data)
- Demand has increased following pandemic
- Backlog of chronic disease management and hospital care



SO...despite GPs seeing more patients than ever before, patients struggle to get timely access

# What is Digital Health?

*“...digital products and services that are intended for use in the diagnosis, prevention, monitoring and treatment of a disease, condition or syndrome.*

*This encompasses a broad range of technologies: telemedicine, smartphone apps, wearable devices, software used in clinical settings (such as e-prescribing), point-of-care tests, and extended reality technologies (including virtual reality and augmented reality)”*

***The Topol Review: Preparing the healthcare workforce to deliver the digital future***

***HEE, Feb 2019 (p46)***

# What is Artificial Intelligence?

*“...the use of digital technologies to create **systems capable of performing tasks commonly thought to require human intelligence**. These can include algorithms using statistical techniques that find patterns in large amounts of data, or perform repetitive cognitive tasks using data, without the need for constant human oversight.”*

**Understanding healthcare workers' confidence in AI**  
**NHS AI Lab & Health Education England, May 2022**

# What is Artificial Intelligence?

*“Machines doing something that would usually require a human brain”*

***Me, since working with AI***

- Important because we have too few human brains to meet demand for healthcare.
- Think of it as a series of tools that each do a narrow task very well \*
- By combining these tools with skilled human operators, we can get substantially increased productivity & efficiency.



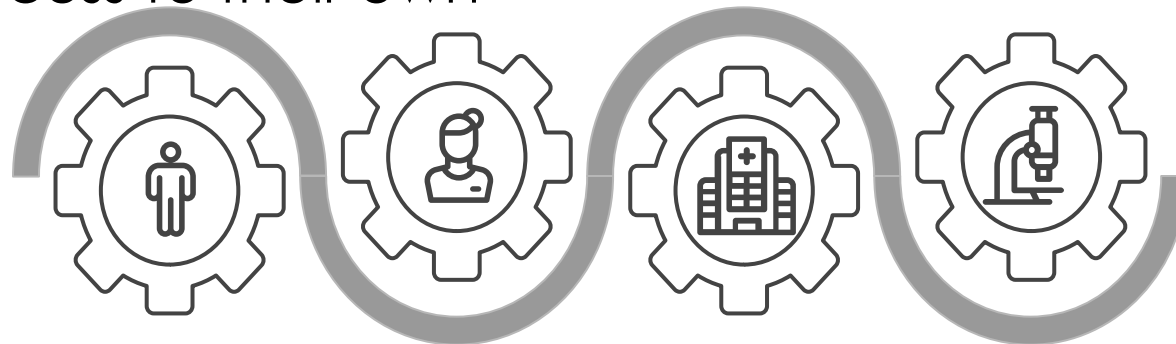
# How could AI & Digital Health help?

- For the Patient

- Help improve self-care
- Remote care & Asynchronous care
- Make the right care choices
- Make prevention easier
- Track and plan interventions
- Offer novel diagnostic approaches
- Digital Therapeutics
- Greater access to their own data

- For the Practice

- Integrated health records
- Automating documentation
- Clinical Decision support
- Data collection / curation
- Improved staff utilisation
- Improved population health
- Logistics



# What are Human Factors?

Human factors in technology refer to the **study and understanding of the interaction between humans and technology.**

It is an interdisciplinary field that considers how the design of systems, tools, and devices can be optimized to match human cognitive, physical, and psychological capabilities.

The goal of human factors is to enhance user experience, efficiency, safety, and overall performance while reducing errors and unwanted consequences.



# What are the factors in the context of Healthcare?

We need to ensure that Digital Health Technologies and AI are designed to meet the needs of healthcare providers, patients, and other stakeholders.

Some main considerations when addressing human factors:

- Ethical Consideration
- Usability
- Accessibility
- Trust & Transparency
- Safety & Error Management
- Workflow integration
- Privacy and Security
- Training and education

# Ethical Considerations

- Ethical considerations should be taken into account when designing and deploying Digital Health & AI-driven healthcare systems.
  - This involves ensuring that innovations do not perpetuate or exacerbate existing biases or disparities and that they are used in ways that respect patients' rights, values, and autonomy.
- 
- |                   |                      |
|-------------------|----------------------|
| • Fairness        | • Transparency       |
| • Justice         | • Explainability     |
| • Beneficence     | • Accountability     |
| • Non-maleficence | • Privacy & Security |
| • Autonomy.       | • Inclusivity        |

# Usability

- Digital Health & AI-driven healthcare systems should be designed with the user in mind.
- Interfaces should be intuitive and easy to navigate.
- It should be accessible to users with varying levels of technical expertise.
- This involves considering the layout, design, and functionality of the system to minimise errors and promote efficient use.





# Accessibility

- Digital Health & AI-driven healthcare systems should be accessible to a diverse range of users including people with disabilities or different cultural backgrounds.
- This includes considerations such as:
  - Language
  - User interface design
  - Compatibility with assistive technologies.



# Trust & Transparency

- Building trust in Digital Health & AI-driven healthcare systems is crucial for their adoption and integration into clinical practice.
- This involves designing systems that are:
  - Transparent
  - Explainable
  - Accountable
- In this way users can understand how decisions are made and recommendations provided.



# Safety & Error Management

- Ensuring that Digital Health & AI-driven systems prioritise patient safety is essential.
- This includes designing systems with robust error management.
- Introduce mechanisms to minimise risks and potential harm to patients.



# Workflow integration

- Digital Health & AI-driven systems should be designed to seamlessly integrate into existing healthcare workflows
  - Minimise disruptions.
  - Maximise efficiency.
- This may involve customising solutions to fit specific clinical environments or processes.
- Be prepared for new workflows to emerge!





# Privacy and Security

Digital Health & AI-driven systems should adhere to strict privacy and security standards to protect patient data and maintain confidentiality.

This involves:

- Implementing secure data storage and access controls
- Utilising encryption methods
- Complying with relevant regulations and industry standards.



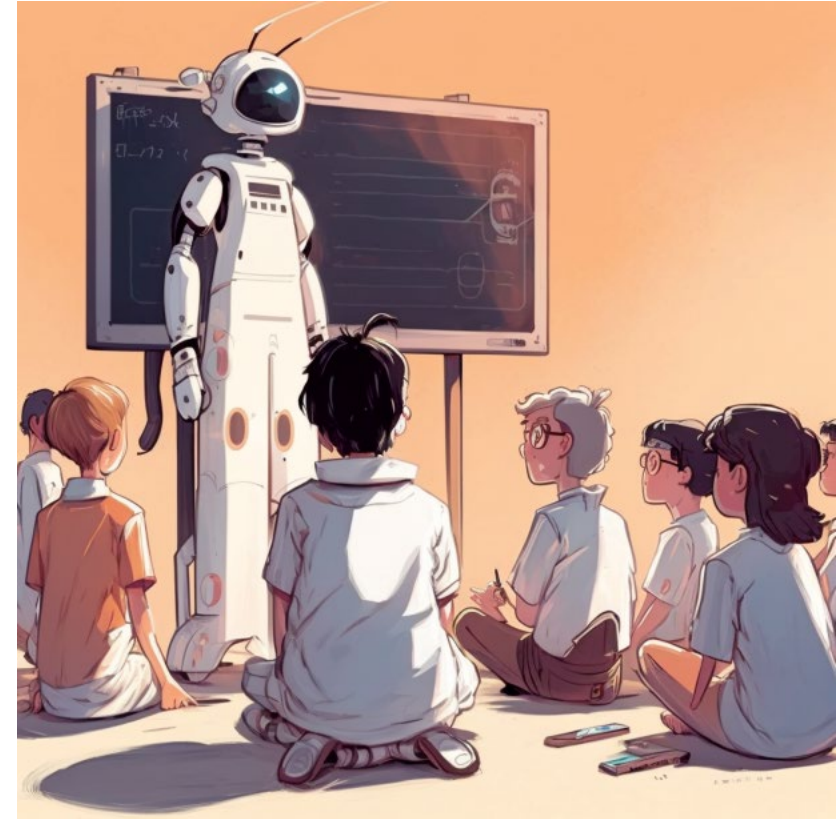


# Training and education

Healthcare providers need proper training and education to effectively use Digital Health & AI-driven systems.

This includes:

- Understanding the capabilities and limitations of the technology
- Ethical and legal implications.



# Preparing the healthcare workforce to deliver the digital future.

*(aka The Topol Review)*

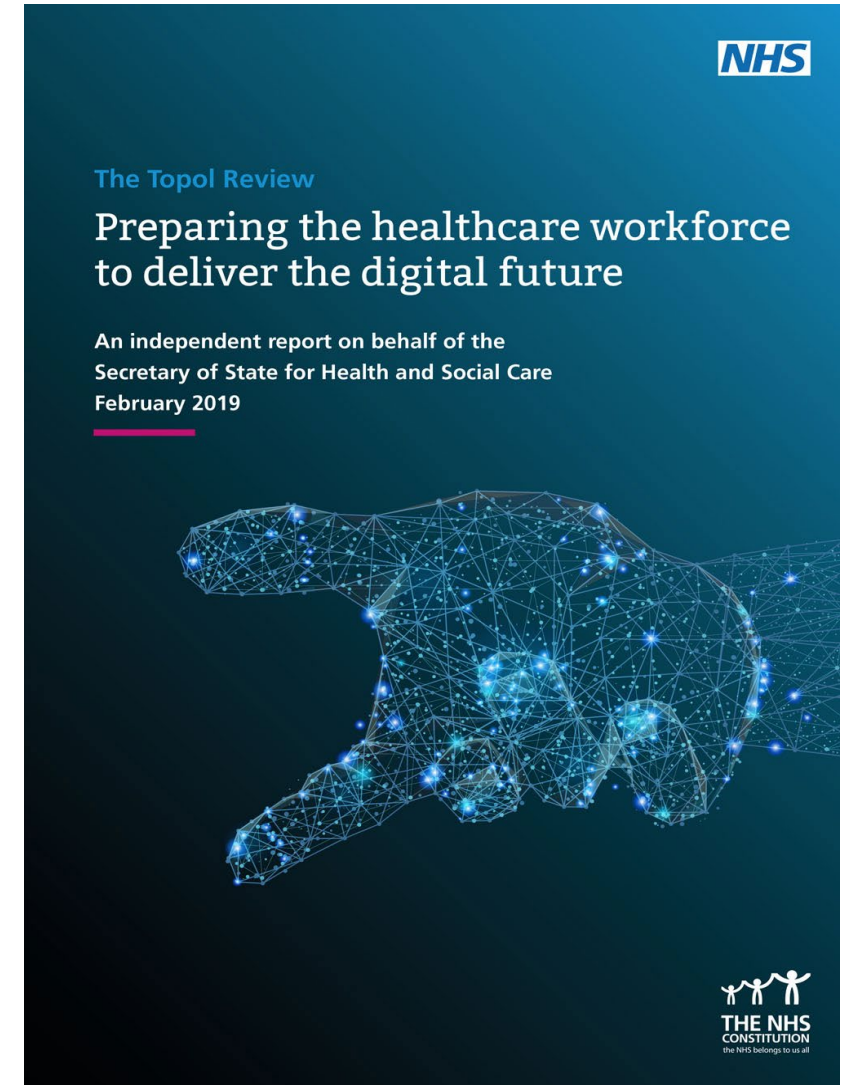
Led by Dr Eric Topol, Cardiologist, Geneticist, Founder & Director of Scripps Translational Science Institute

- How are technological developments likely to change the roles and functions of clinical staff in all professions over the next two decades?
- What are the implications of these changes for the skills required?
- What does this mean for the selection, curricula, education, training and development of current and future NHS staff?



# Recommendations

- Focus on education and training, with a culture of continuous learning
- Develop a diverse and inclusive workforce, with Interdisciplinary collaboration
- Develop new career paths
- Embrace patient-centric care
- Implement technology in a way that is ethical, evidence-based, and secure
- Measure outcomes and share best practices
- Foster leadership and change management skills
- Support digital health innovation



# Health Education England & NHS AI Lab

Report followed Topol Recommendations

Report One (May '22)

**Understanding healthcare workers' confidence in AI**



Report Two (Oct '22)

**Developing healthcare workers confidence in AI**



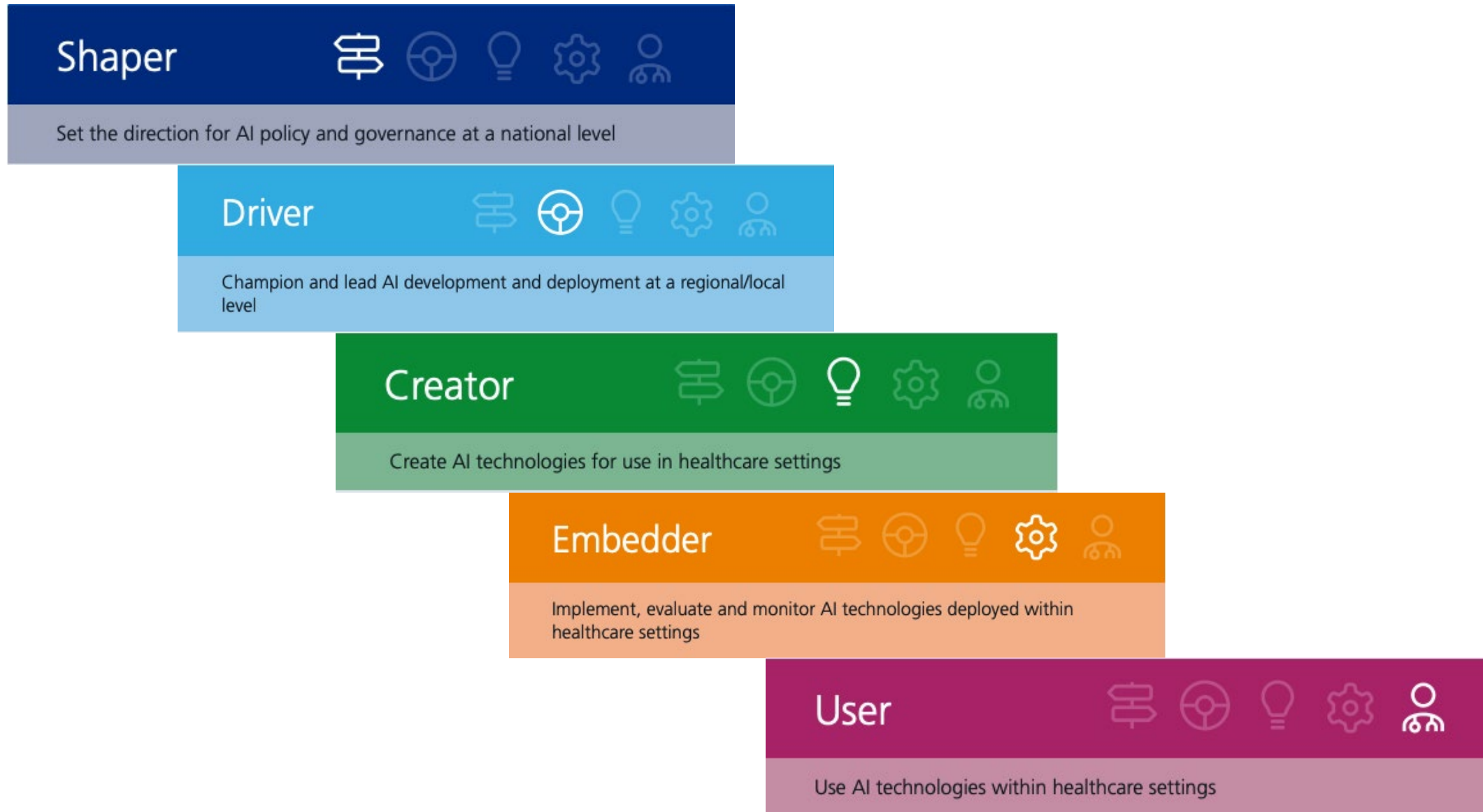
Authors:

*Dr Mike Nix, George Onisiforou, Dr Annabelle Painter*





# The Five Archetypes







# Foundation AI Education: Awareness & Familiarity

- AI Literacy
- Governance
  - Regulation & Standards
  - Evaluation & Validation
  - Guidelines
  - Liability
- Implementation
  - Strategy & Culture
  - Technical Implementation
- Clinical Use
  - AI model & product design
  - Cognitive Bias
  - Interface with patients



# How did we do it at Babylon?

Babylon Clinical AI Fellowship - Creators / Embedders

- Fundamentals of AI & Digital Health
- Data Science / Statistics
- Product Management
- Digital Ethics
- Safety, Regulation, Information Governance
- Business Studies
- User Experience
- Digital Health Governance

# How will this affect the workforce?

- Increased multi-professional team working, with tooling and data access increasing capabilities.
- Increased patient self care and empowerment.
- Preserve 'traditional' methods to help ensure coverage
- New roles will emerge:
  - Care coordinators, Assistive Technology Support Workers, Digital Clinicians, Data Scientists
- New ways of working, so new skills and knowledge needed.
- We will need to be ready for continual change



# What did we cover this afternoon?

- ✓ What problems face Primary Care?
- ✓ Are Digital Health & AI possible solutions?
- ✓ The importance of Human Factors
- ✓ What are the requirements for training & education?
- ✓ How will this change the shape of the workforce?

# Do you have any questions?



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Arolwg Rhyngweithiol

## 2. Interactive Poll

What are the opportunities that digital advancement offers for Primary Care?





# Cwestiynau Questions



# What's coming over the hill – a roadmap for Primary Care

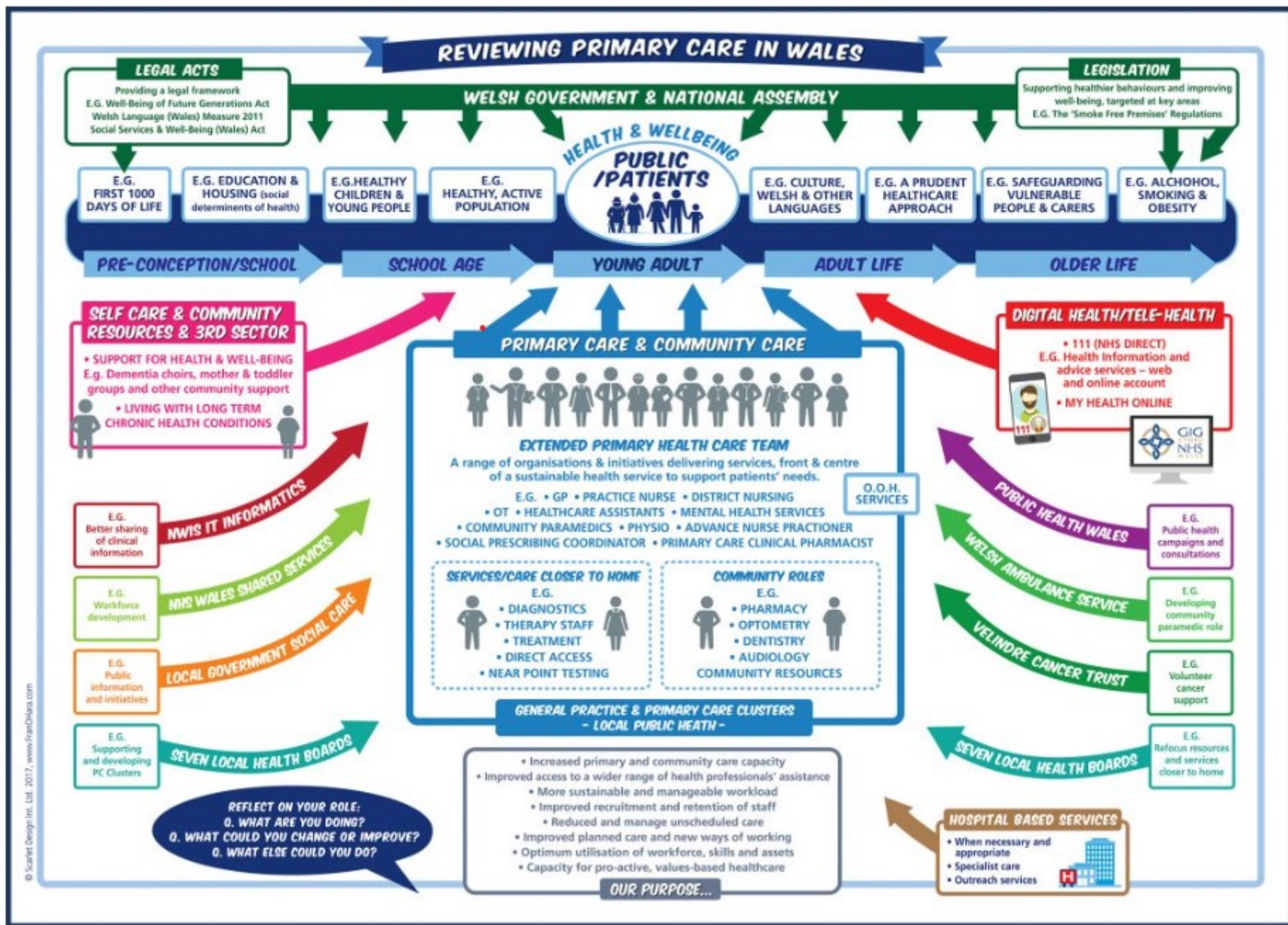
Sam Hall  
Director Primary, Community & Mental Health Digital

- Digital Health & Care Wales
- New role, new Directorate, new focus
- So what happens now?





...2017



# Challenges

- Aging population
- Independent living
- Funding
- People
- Joining up the data
- Understanding the end user outcomes
- Friction in the system

# Opportunities

- Strategic Programme for Primary Care
- 'Further Faster'
- NHS Wales App
- People
- National Digital Design
- Talking to people
  - Citizens/patients
  - Health and care professionals
- Technology
  - Tech Enabled Care
  - Chronic condition management
  - A new strategy



# Any questions?



GIG  
CYMRU  
NHS  
WALES

Iechyd a Gofal  
Digidol Cymru  
Digital Health  
and Care Wales

# Diolch – thank you.





# Cwestiynau Questions





GIG  
CYMRU  
NHS  
WALES

Addysg a Gwellu Iechyd  
Cymru (AaGIC)  
Health Education and  
Improvement Wales (HEIW)

*Sylwadau Clo*

**Closing Remarks**