Digital Health and Care Wales provides the national technology and data transformation services needed by health and care professionals and the people of Wales.

Helping to achieve better health and well-being
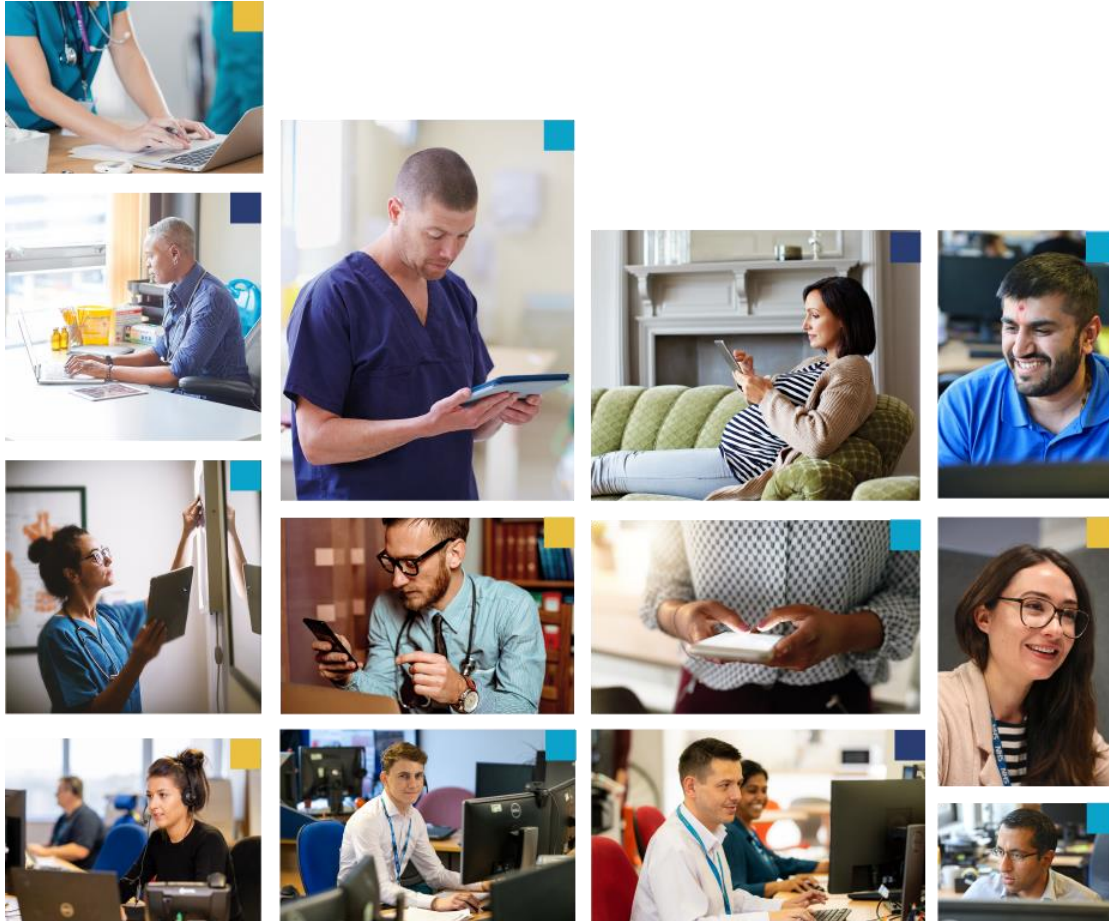
Professor Helen Thomas

CEO – Digital Health and Care Wales

1990 - 2000 — Finance - WGHA/Morriston NHS Trust/Swansea NHS Trust

2000 - 2003 — Information Manager - Bro Morgannwg NHS Trust

2003 - 2007 — Programme Manager/Head of IM&T Projects - Bro Morgannwg NHS Trust

2007 - 2017 — Head of Information/Assistant Director of Information - ABMU

2017 - 2019 — Director of Information - NHS Wales Informatics Service

2019 - 2021 — Interim Director - NHS Wales Informatics Service

2021 — CEO - Digital Health and Care Wales

GIG CYMRU NHS WALES | Iechyd a Gofal Digidol Cymru Digital Health and Care Wales

Digital Health and Care Wales

21st CENTURY FOUNDATIONS

of Digital Health and Care in NHS Wales

Digital Health and Care Wales

2003
Informing Healthcare Digital Strategy

one patient → one record

- To transform healthcare using information and IT

- Because *'the best outcome for individual patients cannot successfully be achieved, or subsequently audited, without an accurate and complete care record, accessible by the health and care professionals looking after them".* Jane Hutt, Health Minister

The birth of the Digital Health and Care Record → early adopter clinicians across NHS Wales

2010
NHS Wales Informatics Service

- A strategic national programme to deliver digital transformation within a national architecture

- Joining together:
  - Informing Healthcare Programme
  - Primary Care Informatics Programme
  - Health Solutions Wales
  - Business Services Centre IM&T
  - Corporate Health Information Programme

Transformation of data collection and sharing capabilities across geographic boundaries

2021
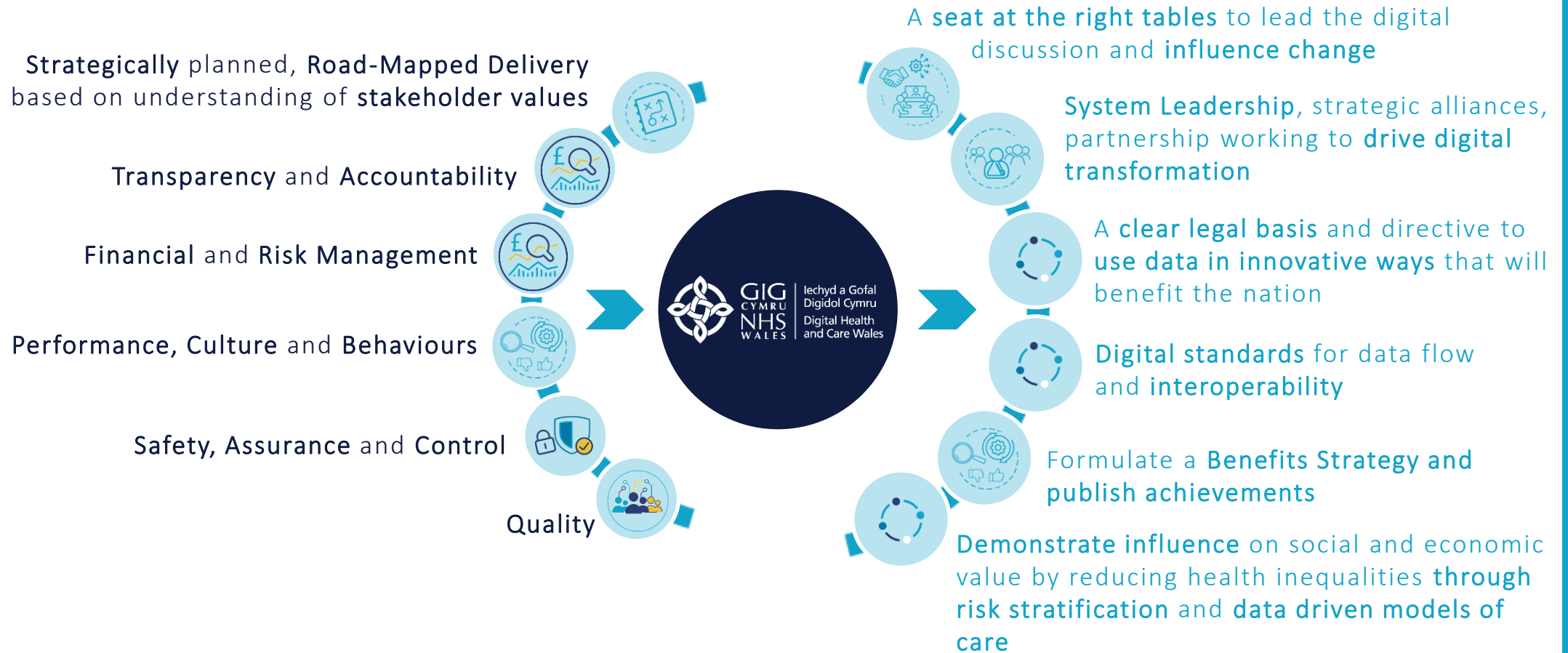Digital Health and Care Wales Special Health Authority

- Part of the NHS Wales family

- Providing System Leadership, Governance and accountability

- Digital Transformation at pace

- Trusted Delivery Partner

- Influence social and economic value in Wales

In Q1 2021/22 average unique Digital Health and Care Record clinical users → 28,173

Stronger Governance

Our Board will work with DHCW, our stakeholders throughout NHS Wales, the public sector and patients to develop strategy, exercise control, strong governance and transparency.

DHCW Board will enable

- Strategically planned, Road-Mapped Delivery based on understanding of stakeholder values
- Transparency and Accountability
- Financial and Risk Management
- Performance, Culture and Behaviours
- Safety, Assurance and Control
- Quality

DHCW Stakeholders will benefit from

- A seat at the right tables to lead the digital discussion and influence change
- System Leadership, strategic alliances, partnership working to drive digital transformation
- A clear legal basis and directive to use data in innovative ways that will benefit the nation
- Digital standards for data flow and interoperability
- Formulate a Benefits Strategy and publish achievements
- Demonstrate influence on social and economic value by reducing health inequalities through risk stratification and data driven models of care

Key Board posts to be recruited – substantive Chair (Simon Jones) and 2 x Executive Directors

DHCW Portfolios and Services

a healthier WALES

DATA · PEOPLE · TECHNOLOGY · PROCESS

Public Health
- Test, Trace, Protect (including) ●
- Welsh Immunisation System ●
- Screening Services ●

Diagnostics
- Welsh Point of Care Testing ●
- Welsh Laboratory Information Management System ●
- Welsh Radiology Information System - Radiology Informatics Solution ●
- Welsh Imaging Archive Service ○

Value from Data
- PROMs and PREMs ●
- Value for Health ●
- Business Intelligence Dashboards ●

Medicines Management
- Electronic Transfer of Prescriptions (GP to Community Pharmacy) ○
- Hospital Pharmacy Stock Control ●
- E-prescribing ○

Digital Patient Empowerment
- Digital Services for Patients and the Public ○
- My Health Online ●
- NHS Wales Websites ●

Planned and Unscheduled Care
- Welsh Patient Administration System ●
- Welsh Clinical Communications Gateway ●
- Welsh Emergency Dept System ○
- Welsh Intensive Care Information System ○
- Welsh Patient Referral Service ●

Digital Healthcare Professional Empowerment
- Welsh Clinical Portal ●
- Electronic Test Requesting ●
- Cancer Informatics ○
- Welsh Nursing Care Record ●
- Diabetes Informatics ●
- Microsoft 365 ●
- e-Library for Health ●

Primary, Community and Mental Health
- GP Test Requesting ●
- GP Systems ●
- Dental E-referrals ●
- Child Health (CYPRiS) ●
- Choose Pharmacy ○
- Welsh Community Care Information System ●

Information Availability and Flow
- Integration Services ●
- Data Standards ●
- Digital Architecture ●
- Welsh Care Records Service ●
- Master Patient Index ●
- Welsh Results Reports Service ●

Sustainable Infrastructure
- Cloud ●
- Core Infrastructure ●
- Data Centre Transition Project ●

Protecting Patient Data
- National Intelligent Integrated Audit Solution ●
- Information Governance Toolkit for Wales ●
- Cyber Resilience Unit ●

KEY
○ Outlined Circles indicate 'In Readiness or Discovery'

6

Digital Health and Care Wales

Strategic Objectives

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Digital Health and Care Wales

Everyone in Wales should have longer, healthier and happier lives, able to remain active and independent, in their own homes, for as long as possible

A Healthier Wales

Big data analysis for better outcomes and Value Based Care

Expanding the content, availability and functionality of the digital health and care record to improve treatment quality

Delivering high quality digital services to support efficiencies and improvements in the care processes

Mobilising digital transformation, supporting joined-up consistent care

Developing the new digital organisation

VITAL CLINICAL INFORMATION – WHERE AND WHEN IT'S NEEDED

Welsh Patient Referral System
First six months of 2016 3,300 referrals quarter one 2021 88,443

E-test Requesting
Pathology live in 2017
COVID-19 live in 2020
Radiology live in 2020
Histopathology due in 2021
Electronic results alerts and electronic sign off acknowledgment for these tests

Welsh Clinical Portal and COVID Accelerated developments
Digital Outpatient form COVID deaths reporting mobility image viewing software WCP Mobile app

A SINGLE DIGITAL RECORD FOR EVERY PATIENT – CONNECTING HEALTH INFORMATION ACROSS WALES

Welsh Clinical Portal used in every health board, WAST clinical hubs, EMRTS, OOH services and primary care.
2015 – 8,000 users
August 2021 30,272 users

Welsh Clinical Portal mobile app
For information on the go
2-factor authentication
downloadable from apple and Android stores

Welsh Care Records Service documents
2017 – 8 million
2020 – 34 million
Results and Reports
2016 – 100 million
2020 – over 191 million
2021 – over 207 million

Digital Health and Care Wales

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WALES

Iechyd a Gofal
Digidol Cymru
Digital Health
and Care Wales

NEW DIGITAL SERVICES – TO GPS, PATIENTS, COMMUNITY PHARMACISTS AND DENTISTS

Welsh GP Record
summary record for 3.1 million people available in WCP
51,746 GP patient records viewed within WCP in August 2021

Choose Pharmacy Digital Platform
common ailments, emergency medications and contraception, medicines review, sore throat test and treat, flu jabs

My Health Online for GP appointments and repeat prescriptions

Dental e-referral system
to speed up referrals to specialist dental services

New **Digital services for GP practices,** remote access, e-referrals, text messaging GP2GP data transfers, managed desktop service, virtual consultations, test requests and results

GIG CYMRU NHS WALES | Iechyd a Gofal Digidol Cymru
Digital Health and Care Wales

A NATIONAL TECHNICAL PLATFORM AND INFRASTRUCTURE

A National Architecture
connecting hospitals, GPs, health centres, pharmacies, dentists and opticians

Data Centres & Cloud
the 'invisible backbone' of digital services
Hosting and managing NHS Wales patient data, backup disaster recovery, system performance

Cyber Security
Keeping patient information safe and secure and guarding against cybercrime

Cyber Resilience Unit
Networks & Information Systems (NIS) directive leads for the NHS Wales on behalf of the Welsh Government

Growing Pressures of Digital Take-up

Continued Growth in Infrastructure Requirements Anticipated - including internet bandwidth essential for Teams mobile working and internet sites, Service Desk requests, the spread towards extended hours and 7-day working, data capacity and storage with server racks and storage requirements increasing. Increasing cyber security requirement needs more staff to support and continually upgrade all services.
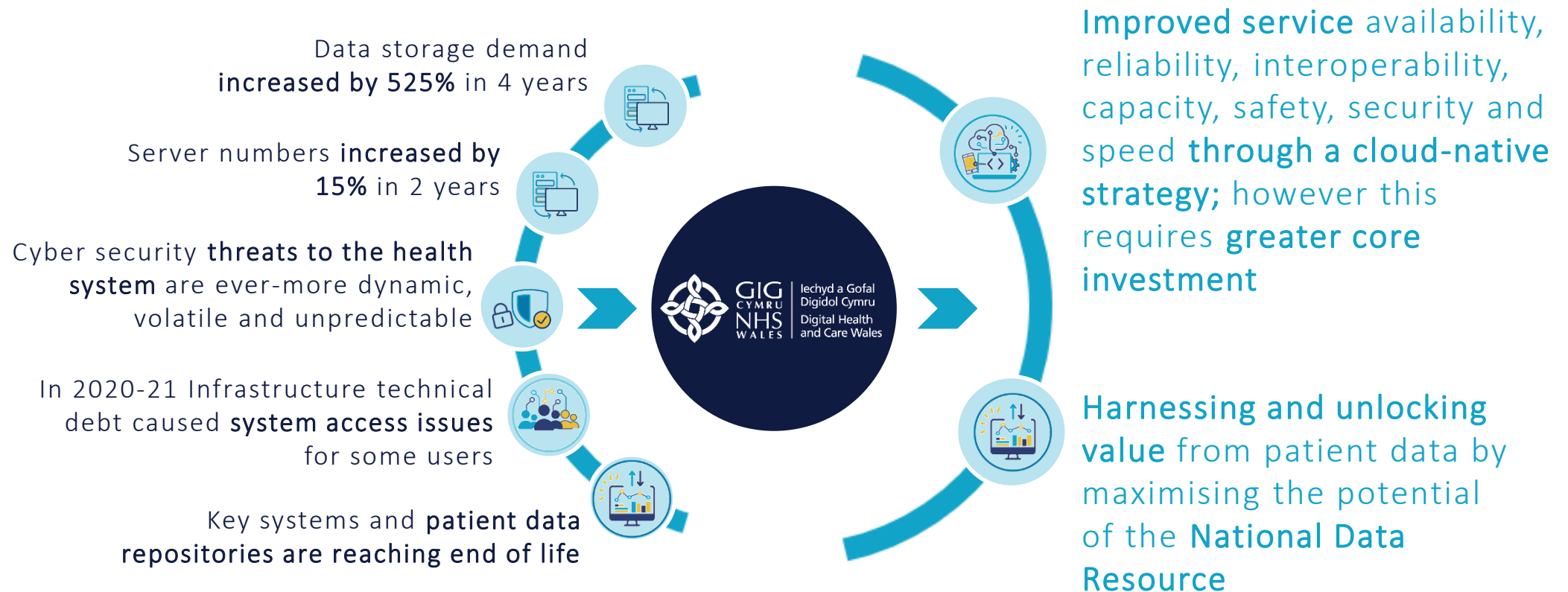
Internet bandwidth requirement was **1 Gbps** in March 2020

2,000 servers in March 2019

Storage requirement in 2019-2020 was 150Tb

146,268 Service Requests received in 2019-2020

Internet bandwidth requirement rose to **9 Gbps** in March 2021; expected to rise again as workers return to workplaces *(800% increase)*

2,300 servers in March 2021 *(15% increase)*

240Tb by March 2021 *(60% increase);* forecast to be 300Tb by Mar 2022 *(100% increase)*

173,926 Service Requests received in 2020-21 *(~20% increase)*

All capacity metrics have increased significantly over the last 5 years; DHCW must find the means to service growth.

Digital Health and Care Wales

Infrastructure Technical Debt

The bedrock of the digital health system requires sustainable funding to reduce likelihood of system outages (and risk of patient harm) and to protect patient information.

Data storage demands will continue to outweigh capacity.

Data storage demand **increased by 525%** in 4 years

Server numbers **increased by 15%** in 2 years

Cyber security **threats to the health system** are ever-more dynamic, volatile and unpredictable

In 2020-21 Infrastructure technical debt caused **system access issues** for some users

Key systems and **patient data repositories are reaching end of life**

Improved service availability, reliability, interoperability, capacity, safety, security and speed **through a cloud-native strategy;** however this requires **greater core investment**

Harnessing and unlocking value from patient data by maximising the potential of the **National Data Resource**

The urgency of moving to a cloud-native strategy will continue to increase as DHCW develops into the system leader for Digital in NHS Wales, however it must be noted that this approach will not be cash-releasing until at least 75% of the estate is migrated and bedded-in.

NHS Wales Digital Finance Team

The digital engine room of NHS Wales Finance

Digital Health and Care Wales

GIG CYMRU NHS WALES | Iechyd a Gofal Digidol Cymru Digital Health and Care Wales

A **statutory** organisation with a budget of over £100m

Influencing digital priorities through benefits realisation and digital planning

Providing digital **insights** on spend and benefits

Leading national procurements such as Microsoft 365

Providing **evidence on Value for Money** for Health Boards and Trusts

Enabling transformation in finance through the application of Digital Toolkits

Research and development of new frameworks and techniques

THE DIGITAL LANDSCAPE IS FOREVER CHANGING AND EVOLVING : THIS IS AN OPPORTUNITY NOT JUST TO FOLLOW THE RULE BOOK, BUT TO WRITE IT : FANCY JOINING THE TEAM???

Developing the new Digital organisation

Our Organisational Development approach will strengthen DHCW by building on solid foundations to create a workforce fit for the future.

Digital Health and Care Wales

Develop **Vision and Values** that epitomise the **system leadership and collaboration** expectations of a digital organisation

Develop a **Culture and Behaviours Framework** based on inclusivity, diversity, equality and respect

Compassionate **Leadership Development Programme** to create role modeling, coaching and mentoring skills

Creating **a *quality* organisation** by aligning to recognised standards and embedding a quality approach to all that we do

A robust approach to **organisational learning** to drive continuous service improvement

Re-shaping of the organisation to support **agile working** and **a product based approach**, increasing **workforce capacity and capability**

Research and Innovation Strategy development.

DHCW Digital Strategy and Plan to articulate expectation, direction and certainty

Stakeholder Engagement Strategy and Plan to work together at fulfilling the ambitions of A Healthier Wales

Board, Senior Leadership and Organisational Development Plans to establish expectations and approach

Transparent and open approach to Organisational Performance through **monitoring, reporting and improving**
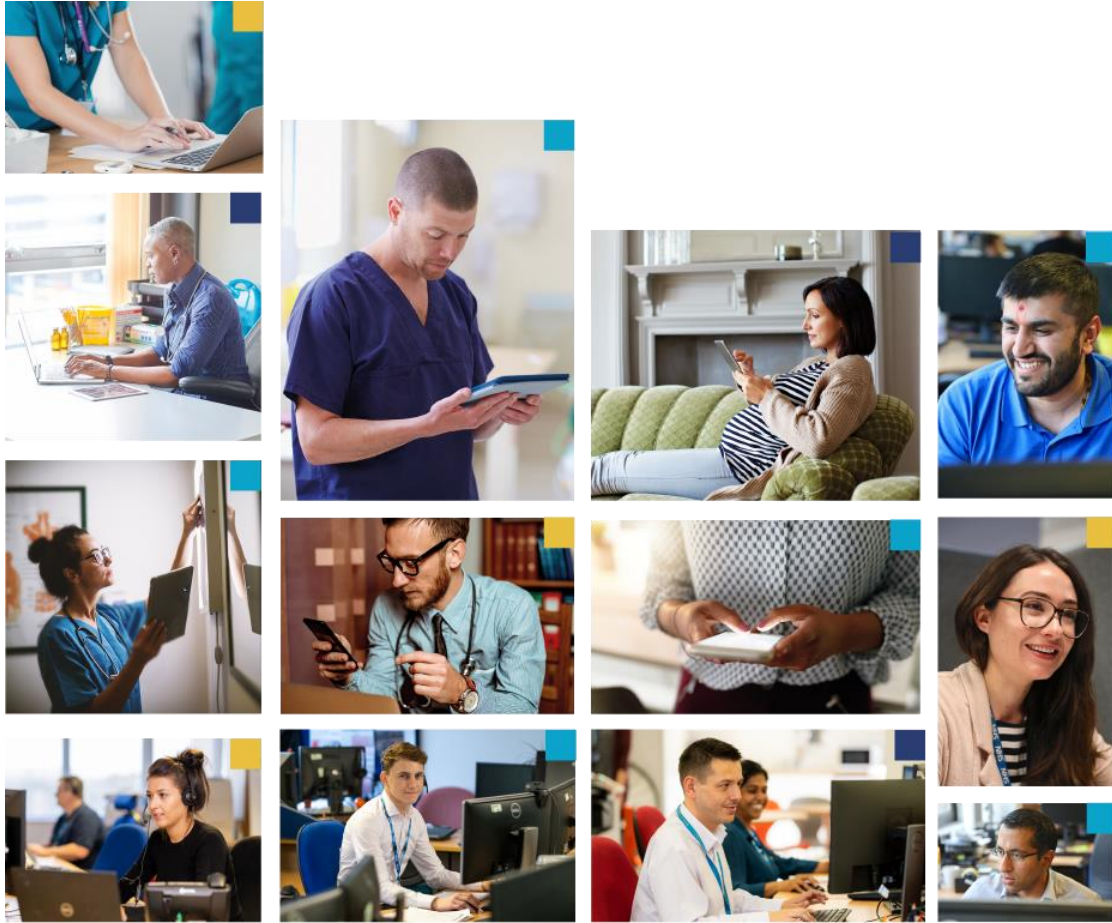
Longer-term **skills and recruitment planning** to keep pace with digital, cultural and technical requirements; links with WIDI and industry

Our leaders are emotionally intelligent and embrace change, enabling innovation, communication and continuous improvement to deliver the outcomes that our stakeholders value and want.

How digital transformation enables better health and care

Digital Health and Care Wales

GIG CYMRU NHS WALES | Iechyd a Gofal Digidol Cymru Digital Health and Care Wales

Dr Sharon Blackford: Consultant Dermatologist, Singleton Hospital, Swansea

Unnecessary referrals reduced by up to 5 a week in Singleton

Saves patients' time and reduces worry

In Q1 2020 there were 88,443 e-referrals in Wales

In 2016 the Welsh Patient Referral Service (WPRS) replaced the paper referral system – consultants can now grade or reply to referrals directly online rather than through the old paper service.

"We were dubious when we started – we thought it would take a lot longer than doing the ones on paper, but I'm convinced now it's a huge benefit for us, and for our patients".

Dermatology Consultants can make a diagnosis from photographs, which the GP can attach to the electronic referral.

"The big advantage for us is when the GPs attach clinical photos of rashes and lesions. Because dermatology is such a visual speciality, and they can attach digital photographs, we can often make a diagnosis, or suggest treatment straight from the photo, so sometimes reducing the patient needing to see us at all".

Direct communication with GPs is a feature that Dr Blackford finds particularly helpful – Dr Blackford can downgrade or upgrade a referral and send an explanation directly back to the GP.

"They know why, and they know instantly".

Dr Blackford can suggest that the GP prescribes a treatment before she sees the patient.

"In a number of cases when the patient comes along, whatever they came with has got better, so we can simply reassure them and discharge them back at the first visit, whereas before, we had to try that treatment and bring them back – so it cuts down on follow-ups".

With the combination of increased diagnosis from the image, giving treatment suggestions to GPs, and being able to redirect to more suitable departments, WPRS has enabled Dr Blackford to see fewer of the benign conditions that can be treated elsewhere.

""It means we can see more of the people we really need to see".

| 37% graded on referral day	41% Graded in 1-2 days	6% graded in over 6 days	7% graded in 5-6 days	9% graded in 3-4 days

Dermatology Referrals in Singleton Hospital using WPRS August 2021 → 78% of e-referrals graded within 2 days

Patient Recorded Outcome Measures — PROMs Dashboards

PURPOSE:

Questionnaires that have been designed and tested with patients and clinicians for specific diseases, or general health and quality of life. PROMs look for changes in people's health pre/post treatment and over time, to understand changes in their quality of life.

Citizen
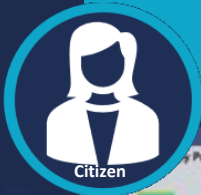
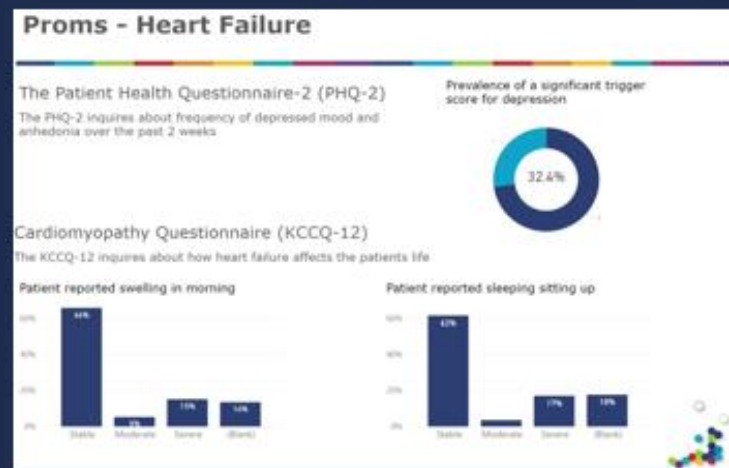- Standard information capture of **Patient Reported Outcome Measures** across Wales

- Standard fields, standard formats, comparing apples with apples

- Enriches data and feeds national dashboards as well as Value in Health insights

- Enables **Patient Reported Outcome Measures** data visualisation in WCP

- Research, evaluation, performance, resource utilisation, population health, variation, quality

- SAIL, CEDAR, Health Boards, NHS Collaborative, Health and Care professionals, Patients
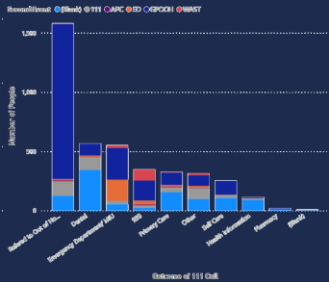
Digital Health and Care Wales

PROMs PATHWAYS → GENERIC : KNEE : FOOT & ANKLE : HIP : SHOULDER : ELBOW : HAND : E-N-T : OPHTHALMOLOGY : DERMATOLOGY : CANCER : CARDIAC

PURPOSE:

To create a full picture of one person's unscheduled care journey by identifying and linking their electronic records at each health and care 'touch-point'.

WAST Data

111 Calls — Patient level dataset containing details of calls to NHS Wales 111 service. Data received from Welsh Ambulance Services Trust

GP Out of Hours calls — Patent level dataset containing details of calls to GP Out of Hours service. Data received from Welsh Ambulance Services Trust

Welsh Ambulance Incidents — Patient level dataset containing details of emergency ambulance calls. Data received from Welsh Ambulance Services Trust
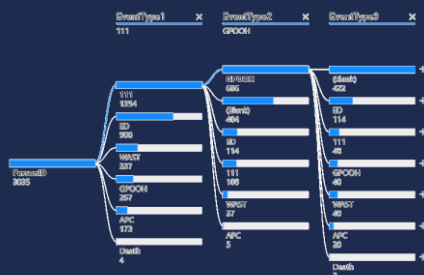
Hospital Data

Mortality Data — Patient level dataset containing death registrations for Wales and England

ED Dataset — Captures attendances at Emergency Departments and Minor Injuries Units at Welsh hospitals

Hospital Admissions — Captures admissions at hospitals in Wales

Citizen

Digital Health and Care Wales

HOW DO PATIENTS MOVE THROUGH UNSCHEDULED CARE? : HOW MANY PATIENTS TAKE UNEXPECTED PATHS? : WHERE ARE THE POTENTIAL AREAS FOR IMPROVEMENT?

National Data Resource Programme

GIG CYMRU NHS WALES | Iechyd a Gofal Digidol Cymru Digital Health and Care Wales

Digital Health and Care Wales

Where is all the health care data coming from?

Genomic Sequencing
Medical Imaging
Health Records
Payor Records
Medical Devices
Smartphones
Wearables
Search Engine Data
Pharmaceutical Research

Big Data in Health Care
Generates Exabytes of Data

2,314 Exabytes in 2020

153 Exabytes in 2013

Source: "Harnessing the Power of Data in Health."

BIG DATA

How can we make it happen?

PRESCRIPTIVE ANALYTICS

What will happen?
PREDICTIVE ANALYTICS

Why did it happen?
DIAGNOSTIC ANALYTICS

What happened?
DESCRIPTIVE ANALYTICS

Data Architecture Components

- Data Pipelines
- Cloud Storage
- APIs
- AI & ML Models
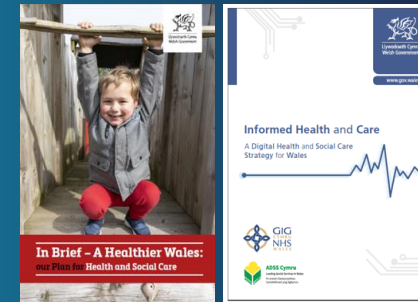- Data Streaming
- Kubernetes
- Cloud Computing
- Real-time Analytics

Quadruple Aim:

Improve population health and well-being

Better quality and more accessible health and social are services

Higher value health and social care

A motivated and sustainable health and social care workforce

In Brief – A Healthier Wales: our Plan for Health and Social Care

Informed Health and Care
A Digital Health and Social Care Strategy for Wales

The 4 principles of prudent healthcare

Public and professionals are EQUAL PARTNERS through CO-PRODUCTION

CARE FOR those with the greatest health need FIRST

Do only WHAT IS NEEDED and do NO HARM

Reduce INAPPROPRIATE VARIATION through EVIDENCE-BASED approaches

For further information visit www.prudenthealthcare.org.uk

BEING DATA-DRIVEN: INTEGRATION

An open platform for health: standards and interoperability

GIG CYMRU NHS WALES

Llywodraeth Cymru Welsh Government

Gofal Cymdeithasol Cymru Social Care Wales

DHEW Digital Health Ecosystem Wales

NDR Adnodd Data Cenedlaethol National Data Resource

IMPROVING THE WAY DATA IS COLLECTED, SHARED AND USED ACROSS HEALTH AND CARE ORGANISATIONS IN WALES : DRIVING FORWARD INTEROPERABILITY

Digital Health and Care Record

GIG CYMRU NHS WALES
Iechyd a Gofal Digidol Cymru
Digital Health and Care Wales

Digital health and Care Record objective:

"Accessing a content-rich care environment, agnostic of Health Board and geographic boundaries by expanding the content, availability and functionality oof the Digital Health and Care Record to be the front-door for real-time access to person-specific health and care data."

Available **across NHS Wales**, the digital patient record is the manifestation of the vision set by Jane Hutt with the Informing Healthcare Strategy in in 2003

Making it easier for **health and care professionals to collaborate** and access vital information about patients they are treating

Sharing, delivering and displaying patient information from a number of sources with a single log-on, even if that information is **spread across geographic boundaries**

Up to date and accurate clinical records **enabling better, safer care** for patients

Designed by Welsh health professionals working with software experts to ensure that it meets the needs of NHS Wales

Porthol Clinigol Cymru
Welsh Clinical Portal

Digital Health and Care Record

Q4 2020

| 28,173 Unique Users of WCP | 138,687 Hospital views of GP Records in WCP | 67,568 Hospital to Hospital Referrals in WCP | 44,628 MTeD Hospital Discharges in WCP |

VISIBILITY OF THE CARE RECORD FROM ANY LOCATION, WHEN IT IS NEEDED

Welsh Nursing Care Record

Jean White – Chief Nursing Officer, Welsh Government

"We all know that it is essential that we keep accurate patient records, not only to help assess, plan, deliver and evaluate care, but as a legal requirement.

Unfortunately the practice of keeping these essential records in paper form as become a burden and is taking front line staff away from care activities.

I am therefore delighted to see this national project of work to help improve the way we record and share information by embracing the opportunities that digitisation of records offers."

Digital Health and Care Wales

GIG CYMRU NHS WALES

e-nursing

Nursing Times Awards 2020 — 30 YEAR ANNIVERSARY

GIG CYMRU NHS WALES — Iechyd a Gofal Digidol Cymru | Digital Health and Care Wales

- Transforming nursing documentation by standardising forms and making them digital

- Work to develop the needs and scope of the Welsh Nursing Care Record has been undertaken with nurses, by nurses, for nurses

- Using the same standardised nursing language to reduce duplication and give back time to care for patients

- Nurses will complete assessments at the patient bedside on tablet computers or other hand-held devices

- Reporting capabilities will help to meet auditing needs and reporting requirements

- Data captured and held centrally, and used to drive improvements and learning across NHS Wales organisations

- The Welsh Nursing Care Record won the Nursing Times Award 2020 for Technology and Data in Nursing

SEAMLESS CARE : REDUCED DUPLICATION : IMPROVED PATIENT OUTCOMES : MORE TIME TO CARE : CENTRAL STORAGE OF DATA FOR BETTE SHARING AND INSIGHTS

Welsh Community Care Information System

System Wybodaeth Gofal Cymunedol Cymru — Welsh Community Care Information System

A Healthier Wales (2018)

"Our vision is that everyone in Wales should have longer healthier and happier lives, able to remain active and independent, in their own homes, for as long as possible.

There will be a whole system approach to health and social care, in which services are only one element of supporting people to have better health and wellbeing throughout their whole lives."

A single national system sharing information securely between health and social care services

Used by community health, mental health and social services, social workers and therapists to record care provided

Access and record information 'on the go' using mobile devices such as tablets and smart phones

Share or transfer cases across regional and organisational boundaries

BETTER CONSISTENCY OF CARE : ACCESS TO INFORMATION : SUPPORTS CARE IN THE COMMUNITY : REDUCE UNNECESSARY HOSPITAL STAYS : REDUCE PRINTED PAPERWORK

GIG CYMRU NHS WALES — Iechyd a Gofal Digidol Cymru Digital Health and Care Wales

Digital Health and Care Wales

Welsh Immunisation System

Welsh Immunisation System

Welsh Government (2021)

"A safe and effective vaccine will offer individual protection from Covid-19. It will also offer greater protection for our loves ones and communities."

Built using the technology DHCW had already designed and deployed for the Children's and Young Person's Information System (CYPrIS)

Rapidly deployed to record appointments and delivery of vaccinations to the people of Wales

WIS Web rolled out to all GP Surgeries in Wales for recording of vaccinations

WIS Core rolled out to all practices for appointment booking and administration

Rolled-out to all community vaccination centres

VACCINE BOOKING : VACCINE ADMINISTRATION : VACCINE APPOINTMENTS : ALL-WALES PLATFORM : HELPED TO KEEP WALES AT THE FOREFRONT OF COVID-19 VACCINATIONS

Digital Health and Care Wales

Welsh Hospital Pharmacy

Stock Management System

The new pharmacy Stock Control robot system was procured in only six months

Live in sixteen sites across Cardiff & Vale, Aneurin Bevan, Hywel Dda, Cwm Taf Morgannwg and Hywel Dda

Provides efficiencies and consistent ways of working across hospitals

Improving the accuracy of computerised dispensing and medicines stock management

Expected to be fully rolled-out in 2021

Replacing 30-year old legacy 'green screen' stock control system

Contributing to safer and more consistent patient care

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Digital Health and Care Wales

NATIONAL STANDARDISATION : BETTER PERFORMANCE : GREATER RELIABILITY : IMPROVED DATA CLARITY AND REPORTING : SHAPING FUTURE SERVICES : COMPLIANCE WITH GOVERNANCE

Choose Pharmacy

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Digital Health and Care Wales

Support for Community Pharmacies (2019)

"Our aim is to make community pharmacies the first port of call for many patients. Whether it is for coughs, colds, earache, hay fever, conjunctivitis or head lice, over 700 community pharmacies in Wales are providing free advice and treatment without the need for a prescription and without having to make an appointment with a GP."

Provides accessible advice and support at a time and place convenient to local communities

Pharmacists utilise digital templates with appropriate levels of patient data, which help to guide them through a patient consultation

Frees up GPs' time to deal with more urgent patient care, making better use of public services

Helps to ensure that patients take antibiotics only when they are truly needed

Exemplars of innovation; attracting interest from other countries

Award winning - MediWales Innovation Awards 2017, Best of Clinical Pharmacy Awards 2018 Antibiotic Guardian Awards 2019

WINNER ANTIBIOTIC GUARDIAN AWARDS 2019

AUGUST 2021: COMMON AILMENTS CONSULTATIONS → 8.4K : DISCHARGE MEDICINES REVIEWS → 1.2K : EMERGENCY MEDICINE CONSULTATIONS → 5K

COMMON AILMENTS : E-SUMMARIES : SORE THROAT TEST AND TREAT : DISCHARGE MEDICINES REVIEW : EMERGENCY PRESCRIPTIONS : FLU VACCINATIONS : EMERGENCY CONTRACEPTION

DHCW Data Centre

Upgrade & Transition Programme

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Digital Health and Care Wales

DHCW Annual Plan (2021)

"We are relocating from one of our main data centres – some systems being located in the cloud and some into our new data centre. This will provide us with state of the art infrastructure to move forward with, as well as significant transformation opportunities."

Mobilising Digital Transformation

Migrated workloads from aging infrastructure prior to decommission

Increased **infrastructure capacity** to support the hosted systems and increasing data demand from end-users in NHS Wales

Implemented new processes and **cloud management technologies** to enable more **optimised** digital deployment and management

54 Cloud migrations have completed and services are **successfully operating** from a Microsoft Azure platform

81 services transitioned to the new data centre

HIGH-QUALITY NATIONAL INFRASTRUCTURE : SUSTAINABILITY : CLOUD COMPUTING : AVAILABILITY : RELIABILITY : SAFETY : SECURITY : SPEED : AGILITY : FLEXIBILITY

New GP System Supplier Contract

Three GP IT suppliers have been awarded onto a new Framework Agreement to supply IT systems and services for Primary Care in Wales.

Digital Health and Care Wales have appointed Cegedim Healthcare Systems, EMIS Health and The Phoenix Partnership as the new GP System suppliers

The new five year Framework Agreement is available to all GP practices in Wales as their current GP IT arrangements expire

The fully compliant procurement procedure supported by DHCW was led by the GMS IM&T Board and involved GPs, GP Practice Managers, Health Board Directors of Primary Care and the DHCW Primary Care Team

Delivering the next generation of frontline IT systems to Welsh GP practices

INFORMATION : SHARING : SUPPORT : COMMUNITY CARE : MONITOR

NHS Wales Cyber Resilience Unit

GIG CYMRU NHS WALES | Iechyd a Gofal Digidol Cymru Digital Health and Care Wales

Through our Cyber Security expertise, DHCW is acting on behalf of Welsh Government to support roll-out of the NIS Directive throughout NHS Wales

Designated authority for operating the NIS Regulations on behalf of Welsh Ministers

Oversight of NIS assessments and resulting action plans across NHS Wales

Operating support and advice for those completing the NIS reporting framework set by Welsh Ministers

Supporting operators of essential services across NHS Wales in identifying and reporting a NIS incident

Reporting on the status of the NHS Wales cyber posture against the NIS Regulations to Welsh Ministers ad Competent Authority

The Cyber Resilience Unit is now operational in DHCW, with external governance and reporting to Welsh Government

Network and Information Systems Regulations (2018)

"The EU Directive on Security of Network and Information Systems (the NIS Directive), provides legal measures to protect essential services and infrastructure by improving the security of their Network and Information Systems. These were adopted by UK government in May 2018, seeking to ensure that 'essential services' have adequate data and Cyber security measures in place".

CYBER SECURITY PROTECTION OF DATA AND INFORMATION FOR ESSENTIAL NHS WALES SERVICES
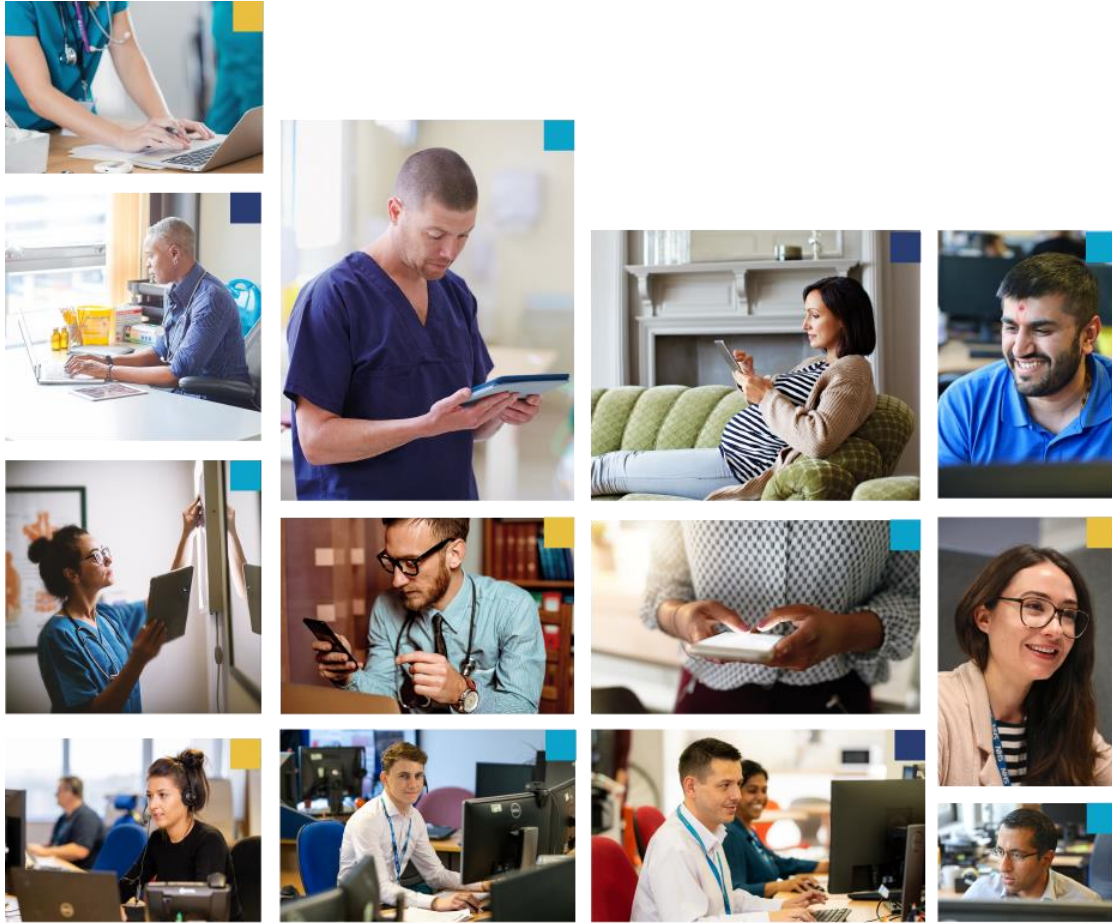
The digital future of NHS Wales

Technology doesn't stand still

Partnership Reset and Recovery

Priority Approach

Supporting Reset and Recovery

Further embedding and maximising the benefits of core systems, combined with supporting colleagues on the take-up of digital services, are key facilitators of Reset and Recovery

Enabling Clinicians to **work remotely and maximise benefits** from existing solutions

Ensure **availability** and **support the take-up** of essential digital services

Innovate and expedite the development of **different ways of working**

Enhance **clinical processes** and increase **joined-up care**

Expedite **increased value from data**

Enhancements to the **WCP and WPAS** will help support **weekend and out of hours clinic** options, to **reduce waiting lists** and enable remote results sign-off.

Key priorities include **Cancer, Nursing Documentation, Mental Health data, WCCIS Assessment Forms, Patient Platform, ePrescribing, Endoscopy,** completing **WPAS** roll-out, **GMS**

Reducing the need for outpatient appointments through better dialogue between Primary and Secondary Care. Further **GP Cluster working**. **Eye Care** Integration.

Shortened waiting times through digitising clinical processes (e.g. diagnostics vetting), and **joined-up care** from **roll-out of MTeD**.

Building on the dashboards and data streams in the **Covid-19 data hub** and other systems, and maximising the potential of the **National Data Resource**.

Our Business Change team will continue to support staff on the ground and through online training resources

Risks and Opportunities

Recognising and exploiting areas of risk and opportunity for digital transformation in health and care.

Risks

DHCW requires **a clear legal basis and directive to utilise data** in the health care system

A **sustainable infrastructure model** delivering high availability, reliability and capacity to support growing expectations

An **open and interoperable architecture** model needs to be achieved at pace

Increasing **Cyber threats**, especially **ransomware**

Recruiting and retaining the right people in the right roles and adapting workforce to a modern and responsive digital organisation

Achieving and maintaining a **sustainable financial position** is imperative for the delivery of safe, secure, accessible, and reliable digital healthcare services and products in Wales

Opportunities

Greater collaboration with NHS Wales Organisations; **strategic alignment** with stakeholders

Optimising take-up and usage of digital assets already available to NHS Wales organisations

Applying the Covid-19 **product based approach to national systems** more widely on modern infrastructure
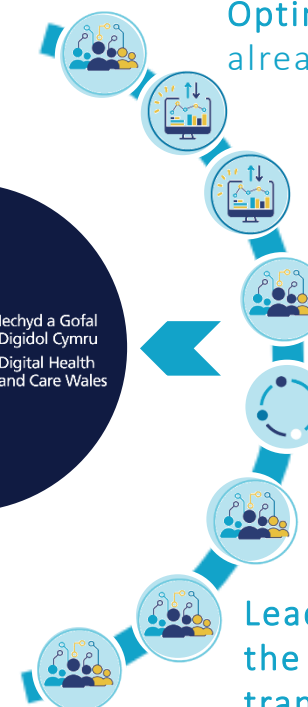
Collective, **collaborative decision making and prioritisation**

Reinforcing the need for **data standards to improve quality**

Ensuring that **governance supports pace of delivery**

Leading discussion throughout NHS Wales on the role of digital in underpinning transformation and reset /recovery

Maximising partnerships and networks in a **global arena**

Balancing current organisational state with our future ambitions and opportunities

Digital Services for Patients and the Public

VISION:

Establish a core platform of digital services, developed by multiple parties and forming a best of breed product approach working in an innovative, efficient and safe fashion.

Most importantly, all service offerings sit on top of this common platform which needs to define both technical and clinical information interoperability standards, as well as providing identity management, access and a degree of control over the citizen experience.

OBJECTIVES:

- Use transformational digital services to increase people's involvement in the management of their health and well-being to engender more positive health outcomes for the people of Wales.

- Open up channels to capture and share information relating to people's health and wellbeing

- Provide information sharing under clear models for consent, data provenance, and audit including controlled proxy access and accountability for actions based on available information at a given point in time.

Digital Health and Care Wales

A Healthier Wales (2018)

"Our ambition is […] to provide an online digital platform for citizens, to give people greater control and enable them to become more active participants in their own health and well-being."

"Develop an open platform approach to digital innovation, through publishing national standards for how software and technologies work together, and how extremal partners can work with the national digital platform and national data resource."

DATA & SERVICE/APPLICATION INTEROPERABILITY : ACCESS TO RESOURCES : INFORMATION GOVERNANCE : IDENTITY MANAGEMENT : GATEWAY APPLICATION : USER EXPERIENCE & CONTROL

Cancer Informatics Programme

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Digital Health and Care Wales

The quality statement for cancer (2021)

'The cancer patient record is delivered on a modern and resilient IT platform that enables greater integration of care and provides the relevant data to guide service development.'

'Cancer services are measured and held accountable using metrics that reflect the quality of patient care and its outcomes.'

'Close cooperation with national diagnostic programmes and networks enables improved access to diagnostic investigation

Improving access to cancer information and new ways of delivering cancer services and care

Developing Cancer information as part of the single patient record is enhanced by existing components of the single patient record

Replacing CANISC and putting cancer informatics onto a safer and more technologically resilient footing for the future

Systemic Anti-Cancer Therapy ePrescribing to ensure that chemotherapy records are accessible to healthcare professionals when and where needed

Ability for NHS Wales to participate in Welsh Government commissioned national audits

Improved national cancer data standards datasets – effective, efficient and timely world-class cancer health information

Exploiting opportunities for 'Big Data' and further development of an infrastructure to support intelligence through the National Data Resource

AUGUST 2021 : CANCER CASE NOTE SUMMARIES → 5K CREATED - 26K VIEWED : OUTPATIENT CONTINUATION SHEET → 101 CREATED - 365 VIEWED

ACCESS TO CLINICAL INFORMATION – NATIONAL – 24/7 : ALERTS & NOTIFICATIONS : REFERRAL TRACKING: SINGLE SIGN-ON : LINKED IDENTITY RECORDS: IMPROVED AUDIT : IMPROVED CODING

Welsh Intensive Care Information System

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Digital Health and Care Wales

WICIS
SYSTEM WYBODAETH
GOFAL DWYS CYMRU
WELSH INTENSIVE CARE
INFORMATION SYSTEM

A new digital solution to **replace all paper charts and hand-written observations** of vital life signs

Roll-out to begin in the new **Grange University Hospital** Intensive Care Unit in Aneurin Bevan – the first of 14 critical care units in Wales

Collection of **real-time information automatically** from monitoring devices, pumps and respiratory equipment

Providing front-line staff with a **quick and clear overview of a patient's status** and therapy plans at all times

With over 10,000 patients admitted to critical care in Wales every year, a digital system will help to **reduce the burden on front line staff**

Fully **integrated to NHS Wales digital system** for sharing of information when and where it is needed

Darparu **Uned Gofal Dwys Ddigidol**

Delivering a **Digital Intensive Care Unit**

Digital Health and Care Wales

RECORD PATIENT ASSESSMENTS : MANAGE PRESCRIPTIONS & DRUG ADMINISTRATION : VITAL SIGNS AND FLUID BALANCE : ACUITY SCORES : SUPPORT INFECTION CONTROL : DAILY CARE PLANS

Welsh Emergency Department System

Creating a core dataset and understanding of activity and flow through Emergency Departments

Resources mapped to the model and forecast against activities

Enhanced measurement and identification of opportunities for digitalisation

Improving the clinical and operational information available

Improving the ability to record structured clinical data and re use that data for better operational management, audit and planning purposes

Supporting an efficient integrated patient pathway through the emergency department

Emergency Department live patient tracking and triage status

Digital Health and Care Wales

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SAFER : MORE INFORMED : EFFICIENT, EFFECTIVE AND SAFER DATA CAPTURE : STANDARDISED : DATA ANALYSIS : INSIGHTS

Electronic Prescribing

A digital service for the issue and receipt of prescriptions, eradicating paper from the prescription process

Prescriptions will be sent electronically from the authorising prescriber directly to the pharmacy for fulfilment

Electronic drug charts in hospitals to simplify administration of medicines

Working in partnership with the National Data Resource programme to implement a central medicines repository

Working in partnership with the Digital Services for Patients and the Public (DSPP) Programme to provide improved medicines information for patients

Ordering of repeat prescriptions and recording of when medications have been taken (through the DSPP app)

Removing the purchase and long-term storage costs of paper prescriptions from the prescribing process

Data shared with clinicians across Wales so that it can be used where and when it is needed for better care; anonymised data available for secondary uses

Eluned Morgan MS, Minister for Health and Social Services (2021)

"Through ePrescribing we can improve and digitise the way patients, clinicians and pharmacists access and manage the provision of medicines across the health system. This will include: patients' access to medicines, prescribing of medication by clinicians, the assurance and dispensing of prescriptions by pharmacists, and the auditing and pricing of medicines by monitoring authorities"

Digital Health and Care Wales

ELECTRONIC PRESCRIPTIONS → ELECTRONIC SIGNATURES : DIGITALLY INCLUSIVE → COMPLIMENTING CURRENT WAYS THAT PATIENTS ACCESS SERVICES :

Laboratory Information Network Cymru

Programme for Pathology

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The Laboratory Information Network Cymru (LINC) contract will be awarded in October 2021 → the system is required to be fully rolled-out across NHS Wales by June 2025.

Fewer repeat tests will reduce costs and improve patient safety

Reduced processing time for test requests will release workforce time, providing additional capacity to meet growing demand

Reduced error rates will lead to improved clinical safety

An end-to-end managed service and better business intelligence will result in better management of service support and improved response time

Improved turnaround times will enable optimisation of diagnostics on single cancer pathway, contributing to 62-day target and improving patient outcomes

Patient results will be easier to compare with standardised reference ranges across laboratories

Welsh Government Pathology Statement of Intent (2019)

"Central to our ambition is the recognition that effective diagnostic services are essential to both the prevention and management of disease. Improvements in diagnostic services can help transform the patient pathway and patient experience and lead to better patient outcomes, improved benefits for NHS Wales and support economic development."

Digital Health and Care Wales

COST SAVING : EFFICIENT : SAFER : BETTER WORKFLOW : IMPROVED TURNAROUND TIMES : COMPARISON OF PATIENT RESULTS : DATA ANALYTICS : PATHOLOGY MODERNISATION

Radiology Informatics System Procurement

To achieve the vision of a seamless end to end electronic solution that enables the radiology service to deliver a high quality, safe and timely clinical imaging service for the patients of Wales.

Digital Health and Care Wales

An end-to-end modern radiology solution which includes Picture Archiving Service and Radiology Information Management.

Patient Dose Monitoring System to support statutory obligations for patient radiation protection and optimisation.

Electronic requesting and results acknowledgement

Facility for storage of other disciplines, e.g. Cardiology

Improved patient safety, with electronic audit trail from request to results acknowledgement

Supporting efficient and effective Multi Disciplinary Meetings across Health Board boundaries – streamlining patient care

Streamlined and reduced training requirements for system use

IMPROVED IMAGING WORKFLOW : TIMELY DELIVERY OF SERVICE : CROSS-STIE AND HEALTH BOARD REPORTING : IMPROVED DATA QUALITY AND ANALYTICS

Digital is an enabler of change

IN SUMMARY

More intelligent and better use of data to deliver value for health, and create better outcomes for patients

Patients, public and service users can use new technologies to help them manage their own care, and live independently

Integration between health and social care breaks down barriers and makes its easier to deliver care in the home and the community

Increased capacity makes it possible to create new ways of working and service provision e.g. virtual outpatient appointments

Digital Health and Care Wales
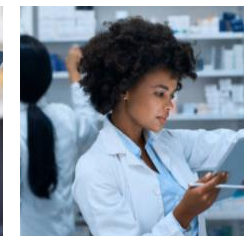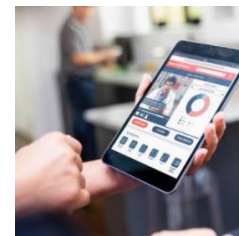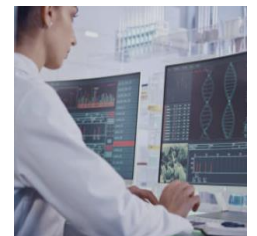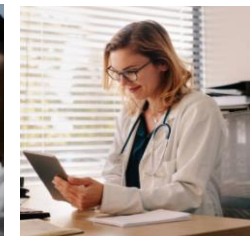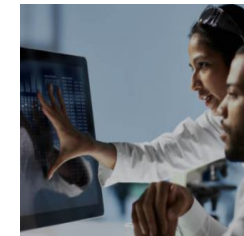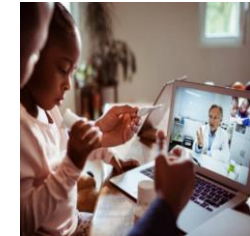
WORKING TOGETHER AS A TRUSTED DELIVERY PARTNER

PROACTIVE ALIGNMENT OF ACHIEVABLE NATIONAL DIGITAL HEALTH AND CARE TRANSFORMATION FOR THE BENEFIT OF PATIENTS, STAFF AND NHS WALES ORGANISATIONS.

Digital Health and Care Wales

- **Joint strategic planning** and review of national digital initiatives and implementations

- **Open and proactive dialogue** on prioritisation of projects and their implementation time lines across all frameworks of delivery set by Welsh Government and NHS Wales

- **Agreement of key activities** involving strategic use of digital health technologies to support system and service improvement

- **Understanding of local drivers** for change and opportunities to work together

- **Understand dependencies** on fundamental digital services, e.g. cyber security, client devices and infrastructure

- **Coordinated progress** via national governance structures

- Ensure that structures and processes are in place to **support a collaborative approach** to national system delivery and implementation

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Digital Health and Care Wales

ALL GPs CAN NOW WORK REMOTELY

ENHANCING CLINICIAN /PATIENT CONTACT: SUPPORTING WELSH VIDEO CONSULTATION SERVICE

ENHANCED MOBILE SERVICES BY CONNECTING MORE GP DEVICES TO THE NHS WALES NETWORK

ACCELERATED ROLL-OUT OF WCP MOBILE ENABLES BETTER REAL TIME CARE OF HOSPITAL PATIENTS

OUTPATIENT CONTINUATION SHEET IN WCP EXPEDITES ELEMENTS OF OUTPATIENT MODERNISATION

FOLLOW-UP NOT BOOKED LIST FUNCTIONALITY IN WCP REDUCES RISK WHILST WAITING APPOINTMENT

INPATIENT JOURNAL FUNCTIONALITY IN WCP DIGITISES THE INPATIENT RECORD FOR BETTER CARE

GP ACCESS TO WELSH CLINICAL PORTAL

AD-HOC OUTPATIENT REVIEW ENABLES DIGITAL OUTPATIENT CONSULTATIONS

VIRTUAL CLINICAL FUNCTIONALITY IN WPAS SUPPORTS OUTPATIENT MODERNISATION

WALES DIGITAL CONTACT TRACING PLATFORM

RADIOLOGY IMAGES SHARED ACROSS WALES THROUGH PACS MOBILITY

COVID-19 DATA HUB RAPIDLY DEVELOPED TO SUPPORT KEY DECISION MAKERS

COVID-19 APP INTEGRATION

COVID-19 VACCINE PASS

PRIMARY/ COMMUNITY CARE

SECONDARY CARE

SIGNIFICANT CHANGES TO INJECTABLE MEDICINES GUIDE SUPPORT CLINICIANS AND PHARMACISTS

SHIELDING PATIENT LIST IN PLACE TO SUPPORT HEALTH BOARDS AND GPs

DIGITAL PATHOLOGY TEST REQUESTING

PATIENT MORTALITY FORM IN WCP TO CAPTURE COVID-19 HOSPITAL DEATHS IN REAL-TIME

DATA ENHANCEMENTS TO SUPPORT HOSPITAL ADMISSION ACTIVITY

COVID-19 TESTING DIGITAL PLATFORM

TTP & VACCINE

RADIOLOGY SIGNIFICANT FINDING IN WCP REDUCES RISK OF HARM TO PATIENTS

SEE ON SYMPTOM AND PATIENT INITIATED FOLLOW-UP KEY WG AIMS IN WPAS

MAKING DATA AVAILABLE TO COMMUNITY SERVICES ON SHIELDING PATIENTS

ESCALATION TOOLS TO SUPPORT HEALTH BOARD IDENTIFY EMERGING PRESSURES

DATA

INCREASED INFORMATION GOVERNANCE WORKLOAD TO ASSURE COVID-19 WORK

ROLL-OUT OF MICROSOFT 365 AND TEAMS TO NHS STAFF ACROSS WALES

ELECTRONIC RADIOLOGY REQUESTING REMOVES PAPER AND INCREASES SPEED

WLIMS MODIFIED TO ENABLE TESTS FROM FIELD HOSPITALS

CLUSTER HUBS AND PRACTICE BUDDIES for GP CLUSTERS

DAILY SITREP REPORTING ESTABLISHED WITH WELSH GOVERNMENT

MULTI FACTOR AUTHENTICATION TO ENABLE BETTER SECURE MOBILE WORKING

WALES IMMUNISATION SYSTEM

AUDIT+ FLU MODULE TO SUPPORT PREPARATION FOR COVID-19 VACCINATION

DELIVERY OF OVER 7,000 VPN TOKENS TO KEEP NHS WALES WORKING

INFRA-STRUCTURE

PUBLIC HEALTH WALES SURVEILLANCE ENHANCEMENTS TO MONITOR OUTBREAKS OF COVID-19

CYBER & IG

INCREASED CYBER SECURITY CONTROLS TO ENABLE DEPLOYMENT OF NEW SERVICES

INCREASED NETWORK AND INFRASTRUCTURE RESILIENCE

CHANGING THE WAY WE COMMUNICATE THROUGH MICROSOFT 365 AND TEAMS

- **British Computer Society:** 'best place to work in IT in the UK'

- **Nursing Times Award:** 'Technology and Data in Nursing' – Welsh Nursing Care Record

- **MediWales Awards:** 'Digital Impact' – WCP Mobile App.

- **Welsh GO awards and National GO Awards:** 'Covid-19 Outstanding Response – NHS and Healthcare Organisations' – DHCW Commercial Services team.
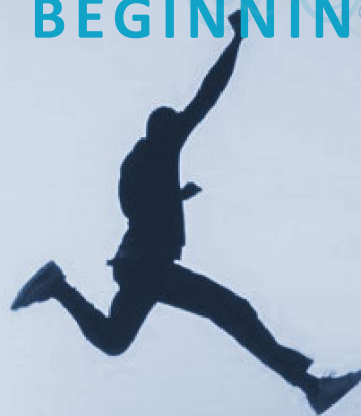
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AN AWARD WINNING ORGANISATION

NEW ORGANISATION, NEW BEGINNINGS…

GIG
CYMRU
NHS
WALES

Iechyd a Gofal
Digidol Cymru
Digital Health
and Care Wales

In *The Pandemic Is a Portal*, Indian author Arundhati Roy writes:

"Historically, pandemics have forced humans to break with the past and imagine their world anew. This one is no different. It is a portal, a gateway between one world and the next."

◎ Digital at the forefront of transformational thinking

◎ Data sharing – benefits understood and obstacles overcome

◎ Flexible and innovative workforce approaches

◎ Working in partnership