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Wales

Name of Meeting
Knowledge, Research
and Information
Committee

Date of Meeting
05 March 2024

Agenda item:
5.1

Digital and Data Strategy Update February 2024				
Executive lead:		Iain Bell, Director of Public Health Data, Knowledge and Research, Knowledge Directorate		
Author:		Dafydd James, Head of Digital Experience and Services Fliss Bennee, Head of Data Louisa Nolan, Head of Data Science		
Approval/Scrutiny route:		Via BET		
Purpose				
The purpose of the paper is to provide a progress update on the implementation of the Digital and Data Strategy.				
Recommendation:				
APPROVE <input type="checkbox"/>	CONSIDER <input checked="" type="checkbox"/>	RECOMMEN D <input type="checkbox"/>	ADOP T <input type="checkbox"/>	ASSURANC E <input checked="" type="checkbox"/>
<p>The Committee is asked to:</p> <ul style="list-style-type: none"> Consider the paper and the Routemap that we have developed to deliver the digital and data strategy, and Receive Assurance that PHW is delivering the projects that it has committed to and is improving its use of digital, data and technology to deliver excellent public health services. 				
<p>Link to Public Health Wales Strategic Plan</p> <p>Public Health Wales has an agreed strategic plan, which has identified seven strategic priorities and well-being objectives.</p> <p>This report contributes to the following:</p>				
Strategic Priority/Well-being Objective		All Strategic Priorities/Well-being Objectives		
Summary impact analysis				

Equality and Health Impact Assessment	No Equality and Health Impact Assessment has been undertaken as a decision is not required by the Committee.
Risk and Assurance	<p>Cyber Security (which is included in the Digital and Data Strategy) has previously been identified as a risk on the Strategic Risk Register.</p> <p>There is a corporate risk associated with not using data well within PHW, which is being addressed by a number of actions in the Routemap and IMTP</p> <p>There is a risk associated with not having the right mix of skills to be able to use and deliver excellent digital and data services. This has been addressed by a programme of appointing people with new skills and providing training and development opportunities to existing team members.</p>
Health and Care Standards	The digital and data services are delivered across all H&C standards.
	All themes
Financial implications	The discoveries being undertaken at present are likely to require further funding in order to deliver replacement or new services. It is not yet clear what the amount of capital and revenue needed would be.
People implications	There are no current people implications

1. Purpose

This paper is being submitted to provide an update on the delivery of the Digital and Data Strategy.

2. Background

The [Public Health Wales Digital and Data Strategy](#) was published on our website on 4 October 2023. Our aim is to use the power of digital and data technology to protect and improve the health and well-being of people in Wales and to reduce health inequalities.

It is a strategy required by our financial standing orders and is also an enabler of the Public Health Wales Long-Term Strategy (2023-35). We created it openly, consulting with people across our own organisation, including this committee, as well as with other NHS partners and Welsh Government. We presented our key findings and new approach back to those groups to make sure that our developing themes reflected the needs of our users.

The strategy includes a more standardised approach to digital and data change within PHW, and the Business Executive Team has established a Design Authority to help ensure we have a more consistent digital and data approach, against agreed standards. The group itself is made up of members from each area of PHW, which ensures a shared understanding and joint accountability for our digital and data work programmes.

COVID impact

It is important for us to recognise the impact that COVID had on our digital work in public health. Technology and data were crucial throughout the pandemic; we built at a pace that was not sustainable. It revealed more about where we need to improve our digital and data resources for the future and that we have challenges with scalability and single points of failure.

Over the last two years we have made some headway in understanding our current state and how to build for the future. CSIMS, our cervical screening digital system, was released in September 2022. We have assessed our digital architecture, produced a Cyber Improvement Plan and commissioned a number of discover phases as a basis for building our digital and data estate. We need to continuously map out our architecture to help us plan for reducing our legacy systems and technical debt.

New opportunities

Discovery work to date has shown us that there are opportunities for rationalising the systems used across the different services. For example, our Screening system share several functions that could be delivered by reusable platforms, with parts of CSIMS used as a basis. Some of the functionality that we require in the future is likely to exist on the Digital Health and Care Wales (DHCW) Routemap, so there

will be opportunities to exploit national infrastructure. There are challenges with interoperability, as well as the transfer of data – so automation and common tooling can be utilised for minimising error and improving efficiency. New technology, such as cloud hosting and artificial intelligence (AI) will also have a role to play in our future.

3. Overview of the Digital and Data Strategy

To deliver the Public Health Wales long-term strategy we will need to make full use of the power of digital and data. Digital and data are changing rapidly, in the tools we use, the methods available, the way people interact with health and wellbeing service or find and use information, and these underpin every aspect of our strategy.

The Digital and Data Strategy tries to balance the needs of a lot of groups. To give a fair weight to each area, we chose three broad areas to frame our work.

Building on stronger foundations

We will strengthen each of the core areas that will be the foundation for digital and data transformation in Public Health Wales. Our foundations consist of focussing on people, both our staff and those that use our services, ensuring that our systems and data are safe and secure, having clear, documented information about our architecture, and that our approaches delivery quality.

Build in alignment

Our strategy does not exist in a vacuum. There is a wider Public Health Wales Long Term Strategy, and connected to that are the Wellbeing of Future Generations and the UN Sustainable development goals that aim to help meet the needs of the people in Wales and around the world. There must be recognised standards to our work, be they for design, interoperability or publishing statistics. We are also ensuring that our emerging Routemaps align with other national programmes and developing approaches that make our components reusable for a variety of services.

Build to make a difference

We can make a measurable difference to health and wellbeing through powerful, actionable data and analysis, and innovative, efficient digital tools and systems. Agile approaches enable us to retain a user focus and continuous improvement to our services, whilst utilising new ideas and approaches for technology as they emerge.

Within these three areas we will keep coming back to the **five principles** that the most people said were important:

- **People first** – our services start and end with people, because improving public health and wellbeing is at the heart of what we do.
- **Accessible, fair, and equal** – everyone who needs our services should be able to find and use them.

- **Open by default, secure by design** – in sharing what we can openly and transparently, we increase the value of our services and earn the trust of others.
- **Efficient** – we re-use what we can, we remove copies and make reusable components so we have fewer things to look after.
- **Focussed on the future** – we turn data into insights that we can use to make decisions.

4. Delivering against our Digital and Data Strategy

The aim of this section is to provide assurance that we are delivering against the key areas of the Digital and Data Strategy.

4.1 Building on stronger foundations

<p>User-centred design and Agile approaches</p> <p>We aim to have completed a suite of discoveries for our major systems – So far we have completed discoveries in Diabetic Eye Screening, for Registers, for Screening, for Web Estates, real-time suspected suicide surveillance and for Breast Test cohorting. Current discoveries are for a diabetes register, Microbiology narrative reporting and for Health Protection.</p> <p>We aim to build new professional families to recognise and quantify digital and data expertise (see section 6) - we are developing these job families with HEIW and DHCW.</p> <p>We aim to trial and adopt new methodologies for delivering digital products and services and we have begun trialling new approaches with our Lead Delivery Manager and the appointment of our first Principal Product Manager.</p>	In progress
<p>Cyber Improvement Plan</p> <p>Our progress to date was reported to the Audit and Corporate Governance Committee on the 29th January 2024. The plan is on track for delivery and the committee were assured by work completed to date.</p>	In progress
<p>Architecture Review</p> <p>We completed a project to identify documentation for each system that exists within our architecture, and to map the data flows within and across our organisational boundaries. The business as usual work of maintaining and modifying these documents is ongoing. The product has been passed to the new Lead Delivery Manager who is leading a project to improve our documentation practices.</p>	Completed
<p>Cloud migration</p> <p>We are currently undertaking two discoveries into opportunities for Cloud in PHW. The first follows on from the architecture project and is investigating what skills and infrastructure we need in order to move services we currently maintain into a cloud setting. The second is discussed in the building in alignment section.</p>	In progress

Beta for Breast Screening Cohort selection The replacement for NHS England's NHAIS (National Health Application and Infrastructure Services), which has reached its end of life and is being withdrawn, has moved from Alpha and into Beta. The module, which is currently in a User Acceptance Testing phase, utilises new approaches as well as some componentry from the Cervical Screening system. A full testing plan has been produced, and the business and service owners have agreed dates for deciding approval to begin cutover to the module and authority to deploy.	In progress
Newborn infant Screening Newborn infant screening digital services missed their transition to CyPRIS when COVID began. PHW has been working with DHCW to try to move the services to a new platform before they can consider what sort of approach would better meet their needs. The proposed work package has been agreed and will continue into the 2024-25 FY.	In progress

4.2 Building in alignment

Alignment with national programmes There are several national programmes that we need to account for in our planning and delivery, including the Radiology imaging programme "RISP", the Laboratory digital service programme "LIMS 2" and others. The National Data Resource is also significant but has been discussed in more depth in 4.3.	In progress
Health Protection Digital Services Discovery The current digital service for Health Protection was not able to scale up appropriately to meet the needs of Wales during the COVID Pandemic. Welsh Government has committed to funding the discovery for Health Protection, which is now underway after a successful open competition. In order to ensure all needs are met, PHW has included members of Welsh Government and DHCW from the outset as well as at weekly governance points. The potential size of the alpha/beta/go live coming out of this discovery may mean that the project will be shared at the new "national digital portfolio group", once that has been created.	Discovery in progress, bidding for the alpha stage not yet underway.
Development of PHW accessibility standards Lack of web accessibility guidance in our organisation resulted in problems with accessibility compliance across our web-estate and publications. Working within a cross-organisation group we prepared a basic accessibility guidance which is an introduction to content standards and quality assurance mechanisms we're working on in collaboration with the web team. As an interim we're providing bespoke accessibility advice and guidance. Soon we hope to provide tools for self-service with an option to discuss difficult cases in the cross-organisation accessibility chat. On the development side we're working on the design system with components developed with accessible by design approach.	Basic guidance completed. Design system development in progress.

Adoption of code of practice for statistics The Code of Practice for Statistics sets the standards that producers of official statistics should commit to. We believe that complying with the Code gives people confidence that our published statistics are high quality and are produced by people and an organisation that is trustworthy. We have introduced a requirement to adhere to the Code to all of our digital publications of data.	Adopted
Adoption of HL7 FHIR standard for sharing data The Welsh Technical Standards Board agreed that the HL7 FHIR standard should be the Welsh national standard for exchanging healthcare data between systems. This was supported by the Welsh Government, and a Health Circular was sent to all NHS Wales bodies requiring that new systems should use the FHIR standard, and existing systems should move towards the standard in line with natural maintenance and upgrading pathways. This approach was agreed by DDDA.	Adopted
Service Standards We have adopted the 12 Service Standards outlined by the Centre for Digital Public Services in Wales, which include accessibility and Welsh language standards. Together with various teams across the PHW, our Principal Service Designer is leading work on best practices which will help us to meet Service Standards.	Adopted

4.3 Building to make a difference

Creating a Digital Routemap Alignment with Long term strategy and other NHS Wales organisations – see section 5.	Completed
DESW GP referrals The Diabetic Eye Screening Wales (DESW) programme alpha recommendations have been carried forwards to beta. As well as reading in from scans automatically, the teams have identified a stretch goal to benefit primary care staff as well. Practice nurses who refer newly diagnosed diabetic patients currently use the referral form in a variety of ways, from printing the empty form and writing on it, to typing details from the demographics screen in the GP practice, then printing, scanning in the print and finally emailing the scan to PHW. By creating a secure webform, associated with the NHS login, we can reduce effort and error on the GP practice side. User Acceptance Testing (UAT) phase depends on the Breast Cohort Beta implementation timelines to ensure that appropriate focus is given to digital and data teams to participate in testing.	In progress, ready for UAT
Website Transformation Following the completion of the discovery phase, a transformation programme is underway to redesign the PHW website. Commercial partners are supporting work on developing a vision for the web estate and taking forward the discovery	In progress

recommendations. Other workstreams include governance and standards, content, and technical systems.	
National Data Resource The National Data Resource (NDR) programme is the largest “All Wales” project in NHS Wales and we need to be intelligent customers as well as providers of data. Since the NDR has chosen Google Cloud Platform (GCP) as its technology, whereas the current PHW cloud estate is limited to Microsoft Azure, we have decided to investigate the potential for us to use each platform. We have limited experience of deploying to any cloud environment, and so we are using our NDR funding money this year to do a series of pilot projects to see if the NDR can deliver what we need. At the same time, we are working with a partner to understand what our needs are and how we can safely utilise cloud technologies for the hosting and processing of data.	In progress
Health Equity Framework alpha The Health Equity tool alpha was successful, with a positive response from the user base. The team showed the comparisons of old and new designs and had worked closely and successfully with their partners. Delivering the updated tool would increase efficiency for staff across Wales by significantly reducing the time taken to do assessment and would also increase collaboration and lead to improved outcomes for adults with learning disabilities by enabling much earlier action to address inequalities. The opportunity to analyse the results of the service anonymously would also simplify use of the evidence for service planning and policy making. The alpha met the service standards, and the DDDA recommended the project seek funding to go through beta to live delivery in the next financial year.	Completed alpha, bidding for beta in progress
Registers Discovery The RTSSS Discovery was successful in providing additional insight into the RTSSS service, systems and processes, as well as exploring external sources and automation viability. The alpha has since then focussed on developing a configurable pipeline; drafting a formal change request process; and prototyping a standardised interface for accessing data that is repeatable and scalable. Both Register and RTSSS Discovery recommendations highlighted the need for a Product Management function that would develop and support a registers framework, align and standardise data ingestion and access across all registers that will evolve with end user needs. The role of Principal Product Manager has now been filled and will commence in March 2024.	RTSSS discovery completed and alpha in progress
Diabetes Register Discovery There are questions currently underway associated with our understanding of and treatment of diabetes and pre-diabetes in Wales. The data discovery aims to find out what data are needed about diabetes by different user groups, what data PHW already has access to and where the data flows to and across within the	In progress

PHW estate. The diabetes register discovery aims to answer the question “do we need a diabetes register in Wales” by answering the questions – what do users need to do for people with diabetes and what should a register look like. We should then be able to see if the service and data needs that are not being met at the moment would be met by the introduction of a diabetes register. We also hope to identify which, if any, of the current projects in flight are the most likely candidates for such a register.	
Microbiology - Robotic process automation discovery The Microbiology service delivers narrative along with its results for urine samples to encourage appropriate use of the service with samples, particularly from older patients, in primary and secondary care settings. The process of adding narrative to negative samples has already been shown to reduce unnecessary sampling and has been recognised for its excellence by the Bevan Commission. It was agreed to be an excellent candidate for a technique called “robotic process automation.” The DDDA agreed that a discovery should be completed to understand the wider user needs in this case and allocated the work a high priority. The User-Centred Design team will work with Microbiology team to deliver the discovery in Q4 2023/24.	In progress

5. Building a Digital and Data Routemap

Our teams have been mapping out the products and services which we expect will need development over the next three years. The Routemap will help relate the digital and data strategy to our milestones in the IMTP and clarify areas for future investment.

The key streams of work moving forward are:

- Data, analysis, registers and cloud
- Systems development:
 - a. Screening
 - b. Health Protection
 - c. Health Improvement
- Cyber Improvement
- Automation and AI
- Infrastructure and tools

A more detailed draft Routemap is provided in *Appendix 1*, which provides a longer term forward look of priorities.

6. Building a team for delivery

To help deliver the Digital and Data Strategy, Public Health Wales has invested in new staff and defined new roles and professions for our digital and data services. Partnering with external suppliers has not only helped us define the roles and skills that we need, but also scale up our work to deliver at pace.

- **User Centred Design** team has been formed to support the delivery of discovery work, conduct research into user needs, establish standards for service design and accessibility and gather insight from different functions. They are in high demand and have therefore temporarily scaled up their user research function.
- A new Lead **Delivery** Manager is leading the software development function for the Digital Services division and building Agile approaches and processes across professions.
- **Product Management** roles have been recruited for parts of the organisation, such as for the website and disease registers. Product management is now recognised as a key digital profession for digital and data.
- We have recruited to new leadership roles in **Cyber Security** and expanded the infrastructure team to improve our digital resilience and cyber posture.
- An emergent **Data Science** function has been building new data products and bringing together practitioners in a Data Science and Analysis community of practice.
- A new Principal **Data Engineer** has been appointed to lead the delivery of automation initiatives and explore opportunities for optimising data workflows.

Both established and new professions are now being recognised as part of our future Digital and Data capability framework. As PHW are developing new job families, we are also offering more training and partnering with suppliers to develop skills for emerging areas such as Architecture and Cloud. Additionally, programmes for leadership and management are being offered to staff by our People and OD division.

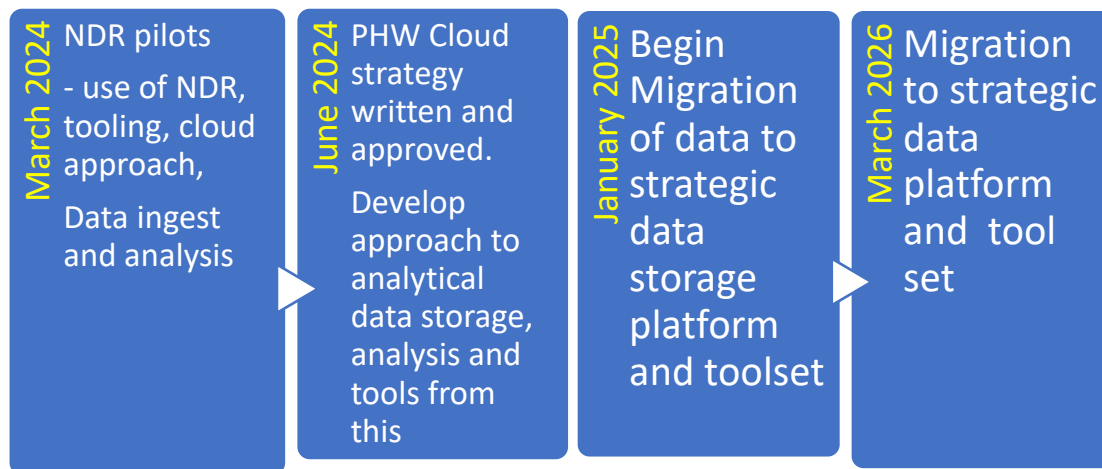
7. Recommendation

The Committee is asked to:

- **Consider** the paper and the Routemap that we have developed to deliver the digital and data strategy, and
- **Receive Assurance** that PHW is delivering the projects that it has committed to and is improving its use of digital, data and technology to deliver excellent public health services.

Appendix 1: Digital and Data Routemap

Data, analysis and cloud



Digital Systems Development

By March 2024

Breast Cohort Selection and DESW Automation

June 2024

Newborn Screening Re-platforming

Route-map with DHCW for opportunity from DSPP and other national initiatives

October 2024

RISP delivery in Public Health Wales; future of ICNET decision

October 2025

LIMS2 delivery

March 2026

Health Protection MVP delivered and Breast SIMS system

March 2027

Bowel SIMS system

Lung cancer screening system

Automation and AI

March 2024

Real-time Suicide Surveillance Automation implemented

Discovery work on automation with Microbiology completed

June 2024

End-to-end process mapping of cancer and other statistics

Automation routemap completed and agreed

December 2024

Automate identified opportunities in statistics processes

AI policies and procedures in place

March 2027

Lung cancer screening developed with AI embedded

Infrastructure, staffing and tooling

June 2024

Agree a single code hub and collaboration platform

Documentation library

Persona and discovery library in place

October 2024

Implement the tool for code and collaboration

Agree analytical toolset

2025

Digital and data capability framework and job families.

2025/26

Training in strategic toolset

Ongoing

Laptop and capital replacement programme