PHW Digital and Data Strategy

Knowledge, Research and Information Committee

24th February 2023

GIG CYMRU NHS WALES | Iechyd Cyhoeddus Cymru Public Health Wales

Developing the strategy

Inputs

- Sessions with: KRIC, Business Executive Team and teams throughout PHW
- PHW long term strategy
- Welsh Government strategy and standards
- Business Design Authority

What do we mean by Digital and Data?

It's much more than IT systems and clinical insights

Digital

- Applying the culture, practices, processes & technologies of the Internet-era to respond to people's raised expectations.

Data

- Better use of the data held by PHW and beyond to maximise the impact on health and wellbeing outcomes in Wales within strong legal and ethical framework

Digital

Our digital principles

2022-23 workshops with BET, Digital and KDR divisions, wider Public Health Wales and other users

- **People first**: digital services start and end with people – people and their needs are at the heart of what we do.
- **Accessible, fair and equal**: Everyone who needs our services can find and use them. We design our services so that nothing about a person's needs is a barrier to them using our services.
- **Open by default**: in sharing openly and transparently, we increase the value of our services and earn the trust of others.
- **Efficient**: we re-use what we can and decommission duplicates. We use Agile methods to assure the quality of our assumptions before we implement.
- **People focussed**: digital services are run by people – we appreciate and value the people who build and run our services.

The three core areas for digital

Build on solid foundations

- don’t add new floors on shaky foundations

Build in alignment

- deliver the long-term strategy

Better public health through digital solutions

- exploit digital to increase our impact

Build on solid foundations

Technical Debt: risk and cost-to-fix increases on older systems – patient safety, cyber-security and confidentiality particularly

Legacy: every organisation needs to manage legacy replacement, upgrades, patches – this decommissioning takes time and people

Skills: Continuous professional development is crucial in digital and data professions, keeping the digital and wider workforce on top of latest technology and the needs and expectations of our users

Standards and inter-operability: Each organisation has the right to choose its systems, but a responsibility to ensure they can talk to each other without risking safety

Build on strong foundations

Cyber Security spotlight

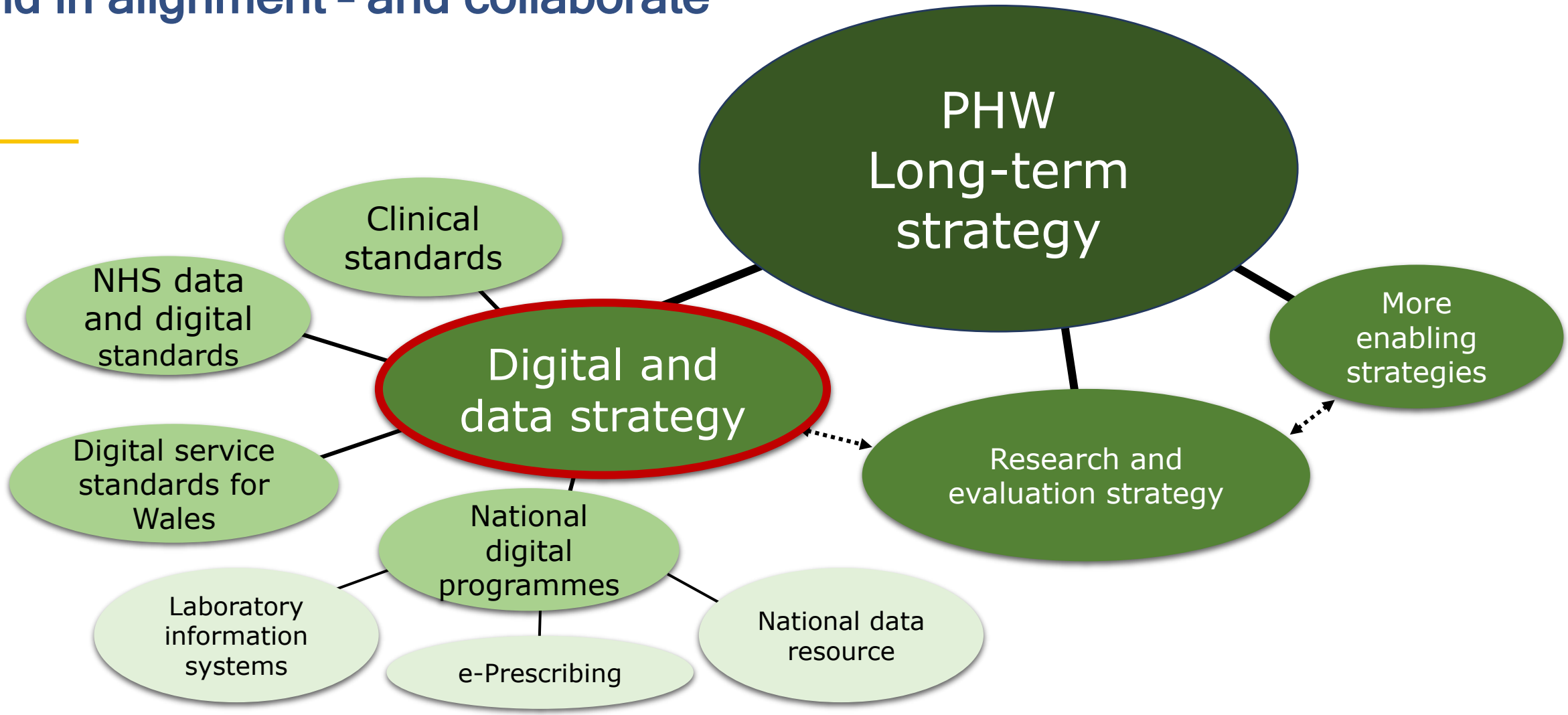
Where are we now?

- External attacks are increasing - 21 million individual attacks on the NHS in England and Wales per month
- Internal risks are increasing - Legacy systems and technical debt having significant impact on our ability to deliver safely
- Our current resourcing model is not allowing recruitment and retention of key professionals
- Human error and fragmented, manual processes lead to significant data breaches
- We may be letting our experience of internal breaches of security limit the opportunities for partnerships with the wider NHS and suppliers

How do we improve?

- The cyber assessment framework (CAF) is a key document that helps us manage our risks
- Our digital and data security standards and governance are key in both projects and operations
- Develop alternative models for investing in our resources and skills for cyber security – consider a security operations centre (SOC)
- Get better at trusting the integrity of certified partners and their systems
- Some non-security areas can improve security - Clear separation between "test" and "live"

Build in alignment – and collaborate



Build in alignment

- Ensuring our developments deliver the Long-Term Strategy will align our work programmes
- Designing our services to interact with others is key to alignment and will enable us to meet lots of PHW priorities
- We mustn't lock away our data through closed development or procurement methods
- Ensuring we know what we have by keeping up-to-date documents of our systems, architecture, governance and access
- We must use standards or develop them wherever possible

Better Public Health through digital solutions

- Modernise our web presence
  - Rationalise estate and build around user journeys
  - Write for the web and monitor impact of our publications
  - Stay abreast of the changing social media landscape
- Understand the opportunities for keeping people healthy at home
  - Wearable technology
  - Remote monitoring (from telehealth to digital ward)
  - Mobile technology opportunities e.g. phones for eye screening
- Artificial Intelligence
  - Efficiency and risk profiling

Data

Right data, right place right time for the decisions that need to be made

- Our digital principles also apply to how we build data systems that work
- The data needs for delivering screening services are hugely different to those of academics and so we must put users at the heart of the data usage system
- Building on common standards and inter-operability as standard
- Shift from majority of time collecting and reporting data to majority of time spent analysing data to improve outcomes

Our data principles
BET September 2021

- Outcome focused: users and public health improvement at heart of system
- Efficient: minimise burden on patients and the system; collect once and re-use many times
- Open by default, secure by design
- Minimise data flows, maximise data utilisation
- Turning data into actionable insight, through analysis, context and narrative

The core building blocks for our data journey

- Unlock our own data – standards and inter-operability
- Shift to a whole person-focus on our data on service users
- Ease the collection burden and improve timeliness
- National Data Resource and PHW fully inter-operable
- Link beyond health data
- Better use of big data
- Rationalise the number of tools used for reporting and analysis
- Governance that facilitates data sharing for approved uses

But the digital under-pinning is key

Done right, so data makes a difference:

- Automate production where we can, people focus on adding value
- Be secure by design, but not inaccessible
- Reduce the burden on manual data collection and provision

Data science and analysis
Where we want to be (1)

- What we do
  - Data making a difference -> actionable insight: decision-making, prioritisation, prediction
  - Statistical and analytical publications which meet the needs of a range of users -> increased reach
  - Context, narrative and story-telling
  - Visualisation with impact
  - More timely publications
  - Automation
  - Responsive to change
  - Curiosity and innovation

Data science and analysis
Where we want to be (2)

- Skills and capacity
  - Data science and analytical competency framework and career pathways, standardise expectations for recruitment and progression
  - Recognised and valued professions
  - Language is meaningful outside the NHS to bring in new skills
- Standards and good practice
  - Embed good practice and CoP for Official Statistics across PHW – as a professional requirement
  - Head(s) of Profession to oversee PHW analytical and data science functions
  - Data has metadata and documentation aligned with good practice
  - Data is accessible for approved purposes

Data science and analysis

How we get there

- Professionalise data science and analytics in PHW, and develop learning paths to support this
- Establish the publication standards working group and data science community to drive skills, knowledge sharing, innovation and standards
- Use the data science community to drive knowledge sharing, curiosity, resource sharing etc to develop skills, standards and the art of the possible
- Greater use of existing development programmes like ONS' Data Science Graduate Programme, and data science and analytics apprentices, to bring in new talent
- Be more outward-looking - learn from others outside NHS Wales
- Be more open – with peers, professionals, users for feedback and input, through Agile approach
- Data standards, governance etc in place to facilitate access for approved purposes

And through this we will change our public facing services for data and analysis

- Our public presence for data and analysis is brand and abbreviation-driven both current and legacy
  - Observatory
  - Research and Evaluation
  - Health Intelligence
  - Registers
    - CARIS (Childhood Anomalies)
    - WCISU (Cancer)
    - RTSSS (real-time suspected suicides)
    - CDR (Child Death Review
  - Communicable disease
  - WHOCC
- Our users want
  - Common standards for similar analytical outputs
  - Better links across similar topic areas eg data, analysis, evidence reviews and research on tobacco all easily accessible
  - More timely data
  - More insights

The core workstreams that will enable progress against digital and data strategy

- Discovery work
  - Digital route-map for **screening services,** ability to build from common functionality
  - **Single disease registry** work, to assess best approach to collection and storage of data to efficiently deliver these services, explore Tarian case management system
  - Our **web estate** work, to improve impact through our public-facing digital presence
  - We will have documented our current **digital architecture**
- Efficiency workstreams
  - Reduce the number of different licenses we have for products doing the same thing
  - Develop an automation agenda within PHW
- Skills and standards
  - Professionalise data, digital, analytical and technology roles
  - Embed good practice and industry standards across PHW

Next steps

- Use the workstreams to drive out core data gaps
- Discuss strategy further with digital colleagues/Welsh Government
- Develop route-map further