Informed Health and Care

A Digital Health and Social Care Strategy for Wales

GIG
CYMRU
NHS
WALES

ADSS Cymru

Leading Social Services in Wales

Yn arwain Gwasanaethau
Cymdeithasol yng Nghymru

ADSS CYMRU

Contents

Ministerial Foreword

Improving access to information and introducing new ways of delivering care with digital technologies must be at the heart of our service plans and our vision for prudent healthcare.

While so many of us use digital technology at work or for shopping, banking, booking a holiday and keeping in touch with family and friends; health and care providers should also offer more interactive, personalised health and social services.

At a time of continued austerity, with increasing demand and unprecedented pressures on services, this strategy recognises the opportunities to support service efficiency, safety and quality by improving access to information and introducing new ways of delivering clinical services and care supported by modern information and digital technologies for a better informed and digitally-enabled future.

It is critical that the benefits of digital tools and online access to information are available to health and care professionals and those delivering our health and social care services in Wales as well as citizens. Patients, carers and health and care professionals should be able to make use of accurate information, safely, wherever and whenever it is needed.

People have told us they want to be well informed and supported to manage their own health; they want to be protected from harm and protect themselves from known harm; they want to be able to receive the right care as locally as possible and be able to contribute to making that care successful; they want to have timely access to services based on clinical need and be actively involved in decisions about their care.

We should be able to view our own information relating to our health and care to enable us to take care of ourselves and continue to live independently for as long as possible and to play an active role in decisions about the services, care and support we need.

Mark Drakeford AM
Minister for Health and Social Services

We should be using technology to deliver effective treatment and help professionals and patients work as partners, while ensuring that confidential and sensitive information is secure.

This strategy builds on the previous Informing Healthcare (IHC) strategy and national implementation programme that has delivered a national infrastructure and a strong technical platform.

The IHC programme was established by Welsh Government with the aim of providing a single integrated electronic patient record with data available when and where it is required.

In Wales, new technology has been adopted incrementally and with the consent of health professionals, avoiding the pitfalls of the large-scale technology change experienced in other countries. This approach has favoured the adoption of common, standardised services using modern web-based technology.

Clinical engagement has been important from the outset, with delivery driven by a commitment to learning from experience.

Listening to the needs of the service and service users has ensured new information services provide the necessary assurances around information governance, consent and patient safety.

As a result, Wales has a national technical platform to support the integration needed to transform services with national services, and common solutions making it easier for health and care professionals to work across boundaries and improve the continuity of care.

GPs in 'out of hours' services can access the electronic medical records held by the patient's GP. This service will shortly be made available in all unscheduled care settings, including Accident and Emergency, improving patient safety and allowing treatment to begin more quickly.

In our hospitals, health professionals can view information from a range of sources through a dedicated web service called the Welsh Clinical Portal. It streamlines the processes needed to support care centred

on the patient, including ordering tests, creating and viewing electronic documents (e.g. referrals and discharge summaries), and enabling pharmacists to maintain more accurate medications records.

We have benefited from a 'once for Wales' approach and will continue with this as a principle in working with our universities and industry partners, both nationally and internationally, to develop rapid, flexible and innovative digital solutions.

While this document sets the direction for the next five years, the ever-quickening pace of technological change and innovation means that it is not intended as a detailed blueprint for that period. Rather, it sets out our ambitions and expectations which will deliver real benefits and improved outcomes for people in Wales.

Mark Drakeford AM
Minister for Health and Social Services

What is this strategy about?

Digital technologies and online services have become part of the daily lives of many people in Wales. We can bank, shop, work, read, enjoy music and films, book holidays and stay in touch with friends and colleagues across the globe online, using PCs, tablets and mobile devices such as smartphones.

This strategy outlines how we will use technology and greater access to information to help improve the health and well-being of the people of Wales. It describes a Wales where citizens have more control of their health and social care, can access their information and interact with services online as easily as they do with other public sectors or other aspects of their lives, promoting equity between those that provide and those that use our services in line with prudent healthcare and sustainable social services.

It describes a Wales where health and social care professionals have access to the same digital tools in the workplace as they enjoy at home or would in other industries, so they are able to focus on delivering safe, high-quality, efficient care and plan for workforce and service change based on digitally-enabled approaches.

We want a future where staff, service users, patients and carers are empowered and better informed, where organisational boundaries are not a barrier to effective care, as information is available electronically and joined-up, and where innovation and improvement can flourish built on a solid technical infrastructure and a safe environment for those who work in or are served by health and care services in Wales.

Collaboration, planning and joint working across public services, with industry and academia, will be an important feature, ensuring that Wales can react quickly to the pace of digital change and identify ways in which best practice can be adopted to ensure the benefits are realised for the people of Wales.

Although the digital world continues to expand there will be people in Wales who may not wish to access information or engage with services, advice and support in the ways described in this strategy. In these circumstances people will be supported and will have alternative options to access services and information, enabling them to remain active participants in their health and well-being. Staff, too, may lack skills or the confidence currently to use technology or engage in service redesign and new ways of working using digital tools. Managing the cultural change and workforce development requirements aligned to this strategy will be a key focus for NHS organisations and local authorities.

Our vision

Information for you

People will be able to look after their own well-being and connect with health and social care more efficiently and effectively, with online access to information and their own records; undertaking a variety of health transactions directly, using technology, and using digital tools and apps to support self care, health monitoring and maintain independent living.
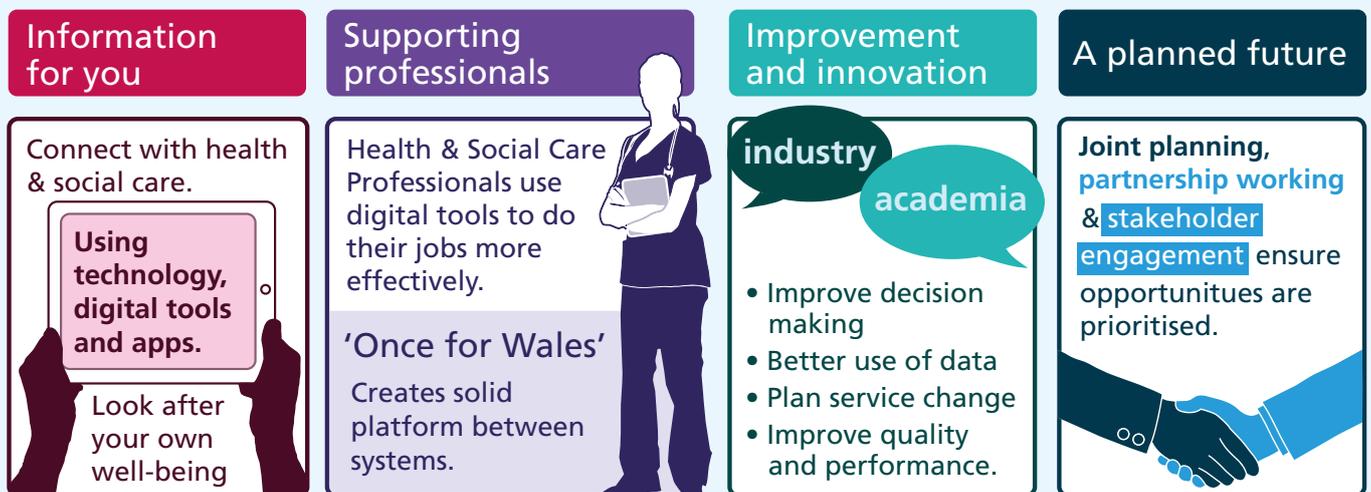
Supporting professionals

Health and social care professionals will use digital tools and have improved access to information to do their jobs more effectively with improvements in quality, safety and efficiency. A 'once for Wales' approach will create a solid platform for common standards and interoperability between systems and access to structured, electronic records in all care settings to join up and co-ordinate care for service users, patients and carers.

Improvement and innovation

The health and social care system in Wales will make better use of available data and information to improve decision making, plan service change and drive improvement in quality and performance. Collaboration across the whole system, and with partners in industry and academia, will ensure digital advances and innovation is harnessed and by opening up the 'once for Wales' technical platform allow greater flexibility and agility in the development of new services and applications.

A planned future

Digital health and social care will be a key enabler of transformed service in Wales. Joint planning, partnership working and stakeholder engagement at local, regional and national level will ensure that the opportunities and ambitions outlined in this strategy are prioritised, with planning guidance issued by Welsh Government in 2015.

Information for you

Connect with health & social care.

Using technology, digital tools and apps.

Look after your own well-being

Supporting professionals

Health & Social Care Professionals use digital tools to do their jobs more effectively.

'Once for Wales'

Creates solid platform between systems.

Improvement and innovation

industry

academia

- Improve decision making
- Better use of data
- Plan service change
- Improve quality and performance.

A planned future

Joint planning, partnership working & stakeholder engagement ensure opportunities are prioritised.

Introduction

Huge advances have occurred over recent years in our personal use and access to information, computing applications and online services. Significant opportunities now exist to improve the everyday experiences of both the public and our health and social care workforce in Wales.

This document sets out our ambition to build on the progress we have already made and transform how the people of Wales, our citizens and staff, embrace modern information technology and digital tools to deliver safer, more efficient and joined-up health and social care services to improve outcomes and experiences of patients and service users.

Building on the foundation we already have in Wales, such as our single public sector broadband network[i] and a national delivery organisation[ii], this strategy marks the next steps in our journey to provide the information and modern digital services which enable:

- People to manage their own well-being and connect with health and social care services more efficiently and effectively and have the best possible experiences when they need advice, support, treatment and care.

- Health and social care professionals to do their jobs and deliver safe, high – quality services.

- Planners and policy makers to shape services to meet the needs of current and future generations.

This strategy builds on the previous Informing Healthcare (IHC) strategy[iii], launched more than a decade ago, which has seen NHS organisations and the NHS Wales Informatics Service (NWIS) working collaboratively to develop and deliver all-Wales IT systems and services. The IHC strategy has enabled NHS Wales to make significant progress in establishing the key elements of the infrastructure and technical design (the way our systems are intended to work together) so we are well placed from a technical perspective to build on this to support future care transformation.

Services developments include:

- Welsh Clinical Portal, which is the main access point to information for hospital clinicians. It pulls together key information from the many systems used by hospitals, allowing the clinician to view a patient's record in one place and use a common system to perform various tasks e.g. requesting tests, reviewing results or creating a discharge advice letter.

- Welsh Imaging Archive Service, including PACS, picture archiving and communications service, a single solution for Wales supporting the transfer of digital X-rays, scans and images.

- Welsh Radiology Information System (or Radis), the all-Wales radiology management service used for patient scheduling, clinical reporting, resource allocation, management reporting, clinic and waiting times management.

- Welsh Results and Reports Service, which includes the Welsh Laboratory Information Management System, a modern integrated solution for the whole of Wales, allowing test results and investigation reports to be viewed wherever the patient receives care.

- Welsh General Practice Record (or individual health record), allowing out-of-hours and emergency services to see an electronic copy of the medical record held by the patient's GP.

- Welsh Clinical Communications Gateway, used to send electronic clinical communications from primary care to hospitals and other settings across Wales.

- Canisc, a computer system supporting the care of patients with cancer.

- National Directory email Exchange (Nadex), allowing staff to log on to systems and services regardless of where they access a computer, with a single up-to-date address book and an email address "for life" for as long as staff remain within NHS Wales. This also provides a unique identity for NHS staff which is used to authenticate users to national systems securely.

- Welsh Patient Administration System, "Myrddin", used in six out of seven health boards in Wales to manage patient scheduling.

- Master Patient Index which enables a patient to be uniquely identified and their identity cross referenced with records held in other systems.

- Welsh Demographic Service, the master source for the NHS number for each patient, holds the individual's demographic details.

- My Health Online (MHOL), the patient portal used by citizens to book GP appointments or request repeat prescriptions.

- All GP surgeries in Wales have next generation computer systems and are able to send electronic referrals to request out-patient appointments. They can also receive electronic discharges, improving efficiency and patient safety. The results of tests GPs have requested are sent electronically. GPs have a dedicated primary care support service managed by NWIS.

- Dentists and opticians also have access to the NHS Wales network allowing them to send electronic referrals for specialist care.

- In addition, Wales has procured the Welsh Community Care Information System (WCCIS) to support the delivery of integrated health and social care services. This will allow staff working in health and social care to use a single system and a shared electronic record of care.

Our future success will, however, require more than technology. It requires a major change in the way that health and social care services embrace the opportunities set out in this strategy and manage the transition to new, digitally-supported working practices which enable the sharing of information, integrate team working and place the individual at the centre of their care. Cultural change, knowledge and skills development across our health and social care workforce will be a key area of focus. Changing attitudes and behaviours of people in Wales to adopt healthy lifestyles and become active participants in their care will require information, motivation and willingness to embrace the digital opportunities set out in this strategy.
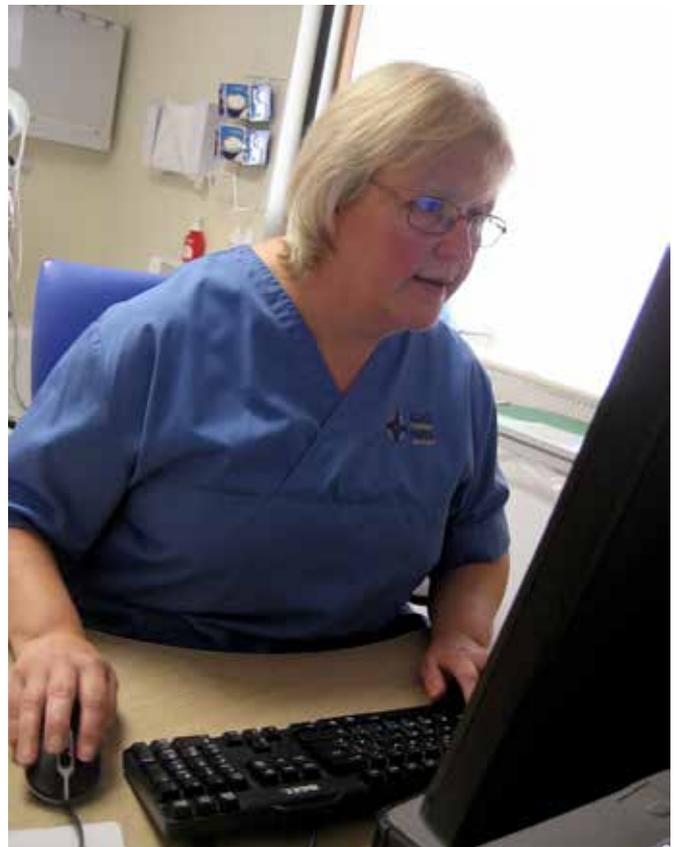
Staff Nurse
Accessing the Welsh Clinical Portal

NHS organisations, local authorities and NWIS will specifically need to make changes to ensure that:

- Leadership at all levels across health and social care is focused on ensuring the delivery of this strategy.

- Funding for technology and digital services is viewed by all organisations as an essential investment in building safer, sustainable, joined-up and more efficient services.

- Governance structures and planning processes, at local and national level, are fit for purpose to deliver this strategy in a flexible and evolving way.

- A new approach to stakeholder engagement is introduced to ensure people are at the centre of this strategy and have a voice in setting requirements, refreshing the strategic thinking and continuously co-designing our digital future.

- Workforce development is prioritised to ensure any skills gaps in the use of digital tools are addressed for the current and future workforce and cultural change is addressed to ensure new ways of working using technology and electronic records, are fully embraced by all staff.

This document sets the longer term ambitions and establishes key priorities for early action. It is not a detailed delivery plan but sets the direction for collaborative, whole-system planning by the NHS, local authorities, and other partners using the planning and partnership mechanisms that already exist, including local service boards, the three-year integrated service, workforce and financial plans produced by health boards and NHS trusts and the single integrated plans[iv] developed at local authority level.

Context and policy drivers

The triple aims of our health and social care system in Wales are to improve the health and well-being of the population, to continuously improve the quality of care we provide and to ensure we get the maximum value from the resources we have available.

Like other health and social care systems across the world, Wales is facing a protracted period of austerity, and with increasingly constrained budgets our focus is on delivering prudent healthcare[v] and sustainable social services[vi] ensuring our resources are used to maximum effect.

At the same time, demands being placed on the health and social care system are increasing. Our population in Wales is growing and ageing; more people are being diagnosed with one or more long-term health conditions, such as diabetes and dementia and older people increasingly have more complex needs[vii].

Wales is working to transform and join up services so citizens and health and social care staff experience services as a single entity irrespective of organisational boundaries with seamless integration across all services and care settings.

Our service vision focuses on greater prevention and health promotion, with local primary-care-led services supporting people to receive the majority of their care closer to home, maintaining and promoting independence and supporting people to stay active for as long as possible. Citizens, too, need to be active participants in their health and social care, working with professionals to identify goals and personalise the services they receive, to maximise the contribution they can make to their own health and well-being. Access to common information, shared records, greater use of technology and digital tools are key enablers of this vision for care transformation.

To help make the transition to a more social model of health and social care, the Welsh Government is bringing forward legislation to support better health and well-being in all parts of Wales. The Social Services and Well-being (Wales) Act 2014[viii] places duties on the NHS and local authorities to improve services, to plan services jointly and work together and with the public to promote well-being and give people a greater voice in and control over their care. The Well-being of Future Generations (Wales) Act 2015[ix] sets ambitious, long-term goals to reflect the Wales we want to see, both now and in the future. It sets out our ambitions for a prosperous, resilient, sustainable, healthier, more equal Wales with cohesive communities, a vibrant culture and thriving Welsh language. This strategy embraces the direction set by these areas of legislation and will provide strategic direction for the development of technology-enabled services to support the delivery of our service vision.

More than just words[x] is the Welsh Government's strategic framework for Welsh language services in health and social care. This strategy recognises many people can only, or prefer to, communicate and participate in their care as equal partners through the medium of Welsh. Our IT systems need to be developed and implemented to record the language skills of staff and the language preferences of patients and to support frontline staff to provide services for people who speak Welsh. It will be important to adequately plan for bilingualism in the implementation of new systems and digital services so the needs of service users and staff who speak Welsh are met. The Welsh Language Commissioner has produced a document[xi] with advice on Welsh language considerations for technology, website and software development which will be followed as part of strategy implementation.

This strategy is set against a background of evidence[xii] suggesting that people in Wales, in line with the rest of Europe, are embracing the benefits of digital and online services. Forecasts indicate that connected digital devices will become ever-more pervasive, driven by global trends such as wearable technology and the 'internet of things'.[xiii] However, it is essential that the health and social care system and its staff also recognise the needs of people who are digitally excluded and those citizens are equally supported and enabled to access services and support.

The 4 principles of prudent healthcare

Re-modelling the relationship between user and provider 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

Information for you

People in Wales will:

- View their information through online access to their records, supporting them to make better decisions about their health and care and take more control of their well-being, in line with principles of prudent healthcare and sustainable social services.

- Add to their information and their records, feeding in details they may have gathered from other sources, such as apps and wearable devices, where considered appropriate, to play an active part in developing and improving the quality of the information held about them and their health and well-being.

- Routinely use digital apps, wearable devices and other online resources to be well-informed and active participants in their care, able to make informed decisions and lifestyle choices to maintain their well-being.

- Connect online with health and care services in the same way they do with other aspects of their life. They will be able to book appointments online, order repeat prescriptions and use the internet, email and video conferencing to connect with clinicians and care professionals in a way that suits them, potentially reducing delays and costs to the service and service users.

- Use digitally-enabled services routinely to monitor long-term conditions and daily tasks to support independent living for those individuals and families where this is required.

Accessing your information and contributing to your care

Citizens will have access to their health and care records. Wales is committed to providing citizens with online access to their information held in the GP practice electronic system by April 2017[xiv].

Many services still rely on paper records but where information is held digitally it will become possible for citizens to view this information, for example, letters and other correspondence, current medication and test results, subject always to appropriate considerations regarding security and confidentiality.

The public will have confidence that their data is held securely and always shared appropriately to support their direct care. Additionally, we want citizens to take responsibility for other uses of their personal information and have the opportunity to choose what they share and with whom, including family members and their carers, if this is what they want to happen.

People will have the opportunity to contribute to their records if they wish and where it is appropriate for them to do so. Individuals will be encouraged to update their care plan with personal goals and achievements, to record their requirements or preferences for use of the Welsh language or any sensory loss that might affect their care provision, as well as any protected characteristics, such as ethnicity or religion, they feel it will be important for their care provider to know. There will also be opportunities to feedback their experiences, through online satisfaction surveys, and report outcomes of their care.

> Rhodri, aged 68, uses Welsh as his first language and has started having short-term memory difficulties. He wants to communicate with health and social care professionals using Welsh and logs onto the national patients' online portal to register this requirement. The next time he visits the clinic the receptionist is able to see this information and respond to his requirements.

Some people are already creating their own personal health and care record using digital tools, such as responsive websites and apps. These records are owned, controlled and

Enabling active participation

People in Wales will have the information, advice and support they need, and in a format that they understand, to motivate them to take action to maintain, improve and protect their own health and well-being and be active participants in their care.

They will use digital technologies and self-management support to become more knowledgeable about their condition, to take responsibility for their health, to self care and actively contribute to the design and delivery of their care plans. People will use digital channels, such as social media and apps, to share their knowledge and experiences and, if desired, engage with a wider social network.

David is a 40-year-old who has recently been diagnosed with Type 2 diabetes. He receives good support from his GP and specialist nurse but wants to understand more about how others control and manage their diabetes. He joins an accredited online diabetes network where he is able to share experiences, gain advice and improve understanding of his condition.

maintained by the individual and they can choose to share the information with their health and care professional or others as they wish. People will increasingly be able to capture health and well-being data easily via apps on their smart-phones and tablets or wearable devices to routinely monitor blood pressure, heart rate or blood sugar levels, for example. This rich source of personalised health and lifestyle data will become more prominent in future and citizens will be able to share relevant data, if they wish, with their doctor, therapist, specialist nurse or social care worker. Health and care records will be enabled to receive this personalised information and to use it automatically to trigger alerts and support clinical decisions and care management.

People and carers will access the information they need from trusted and reliable sources via a range of technologies and will have confidence that the trusted information sources they use will be kept up to date, with the latest evidence and best practice, and will be co-designed by patients, carers and service users in conjunction with professionals and voluntary organisations.

People will be supported and 'coached' by health and social care professionals to maximise their understanding and knowledge, enabling them to set realistic goals and change their health and lifestyle behaviours. There is growing evidence[xv] that proactive citizens, who engage with professionals and the evidence base about their condition in a co-production approach to their health and well-being enjoy better outcomes with lower costs to the health and care systems.

Alan has problems with back pain and has been unemployed for some time. Recently he has been feeling depressed and anxious. As part of Alan's treatment plan he uses an online cognitive behavioural therapy programme to help him identify and change unhelpful ways of thinking. He is also keeping in touch with his specialist GP via video-conferencing to validate diagnosis, plan treatment and monitor his condition during and after treatment.

People will communicate and interact more easily with their health and social care professionals, via e-mail, texting, audio and video conferencing for instance, and other service providers via websites and social media, if it is more convenient and appropriate for them to do so. They will also be able to use telephone information and advice services to get reliable information and personalised advice or be signposted to the most appropriate service via interactive online directories of both national and local services available in their community.

Aled was concerned about his friend Cerys who was feeling low and not eating well or looking after herself properly. Cerys is the main carer for her mother, who is in hospital and is terminally ill. Aled used his mobile phone to look up Infoengine[1] – an online directory of voluntary and community services for mid and west Wales. He found details of Powys Carers Service and passed on the details to Cerys so she could gain personal support for her as a carer while her mother's illness progressed.

People will also be able to undertake routine transactions such as booking appointments or ordering repeat prescriptions. The potential to deliver better, faster services at lower cost will be fully exploited across health and social care and all public services in Wales in the future.

Reminders and alerts about personal health and care will be sent digitally, including medication or exercise reminders, appointment alerts and updates on where people are in their care pathway, or progress against their agreed care plan.

Although the digital world continues to expand there will be people in Wales who are unable or do not wish to access information or engage with services, advice and support in the ways described above. In these circumstances people will be able to access alternative, more traditional methods for enabling their active participation.

## Using technology to support independence and promote well-being

Supporting older people or those with long-term conditions, mental health conditions or other disabilities, to remain active and independent is a priority not only for citizens but for their families, carers and the wider health and social care system.

Technology can support the delivery of many services at or close to someone's home and can also assist in improving their quality of life at home and while they are in hospital. Free public wi-fi is now being installed in many public buildings including hospitals.

"My name is Gareth. I am 44 years old and on the 15th of September 2003 I was diagnosed with Motor Neurone Disease (MND). Over the past 12 years it has slowly robbed me of most things that most of us take for granted. I can no longer walk, dress or feed myself and about five years ago I lost the ability to make intelligible conversation, I now communicate through a special computer, although my two fabulous kids can still translate my babble.

Communication is always difficult for me and I guess that staff working in hospitals may not have much experience with MND. In late October 2014 I was admitted to hospital and not having access to my computer or the internet made communication very difficult and frustrating. It may seem a little thing to most people but no internet access was a real pain. But it is not just about the internet, it is how I keep in contact with my family and friends via social networking sites. It would have also helped the long periods of boredom; I am a strong believer that keeping the mind positive and occupied aids physical health and well-being.

Although I do not want to come back in to hospital for obvious reasons, knowing that there is now free wi-fi will make a huge difference to me, it will basically mean I will be able to communicate effectively with the people that I need to, both inside of hospital and out."
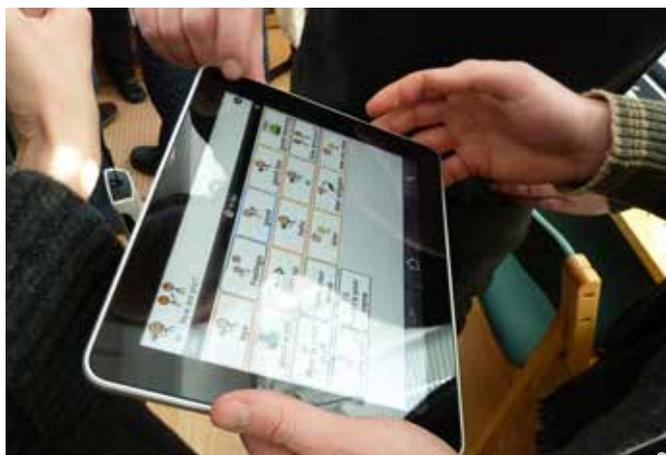
Smart technologies and assistive living technologies use sensors and devices in people's homes to monitor and help maintain independent living for as long as someone wishes. These technologies can help manage the physical environment, such as closing curtains, opening doors and managing their heating and security. They can help in preventing social isolation, by allowing people to chat to friends and family through their digital televisions, for example, and support those with dementia by providing automated memory stimulations.

Mavis is aged 72 and has early onset dementia. She lives on her own and is generally coping well, but has gradually become more forgetful. Recently, her son Graham was called by a neighbour after Mavis left a tap running in the bathroom and flood water began seeping into the flat below. On a few occasions he found she had left the fridge door open for so long food had to be thrown away.

Sensors have now been fitted to her fridge door and the bathroom taps. If the fridge is left open it triggers an alarm to remind Mavis to shut the door. It also sends a message to Graham's mobile phone. In the bathroom an automatic sensor now turns the tap off automatically.

Graham has also installed an automatic calendar next to his mother's bed so it shows the date and time and whether it is morning or evening to help prevent disorientation.

Technology-enabled health and care services, such as telehealth and telecare are used to remotely monitor in-home and mobile sensors and devices to help ensure people remain safe and are able to better manage their situation and/or conditions. These schemes can help maintain confidence and provide reassurance not only for the citizen themselves but also their families, carers and their health and care workers.
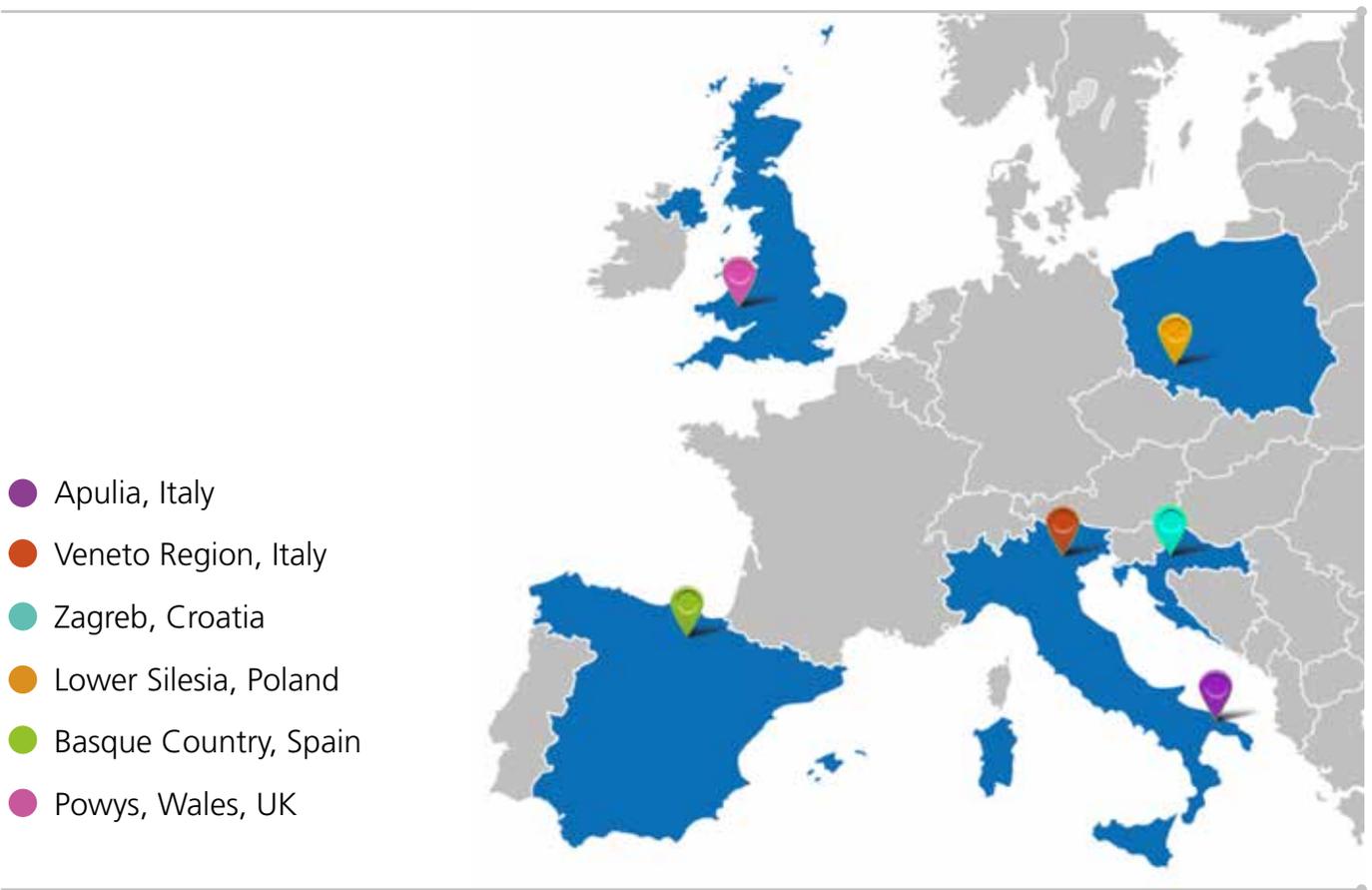
Although these services are used in Wales they are not being adopted as widely as possible or being deployed at scale. We will promote, expand and embed technology-enabled services in the redesign of health and care services, ensuring these connected technologies are a routine care option and we will measure the extent to which they are used. Greater use of these technology-enabled services as part of core service design will also generate key data on service provision and people's home care needs.

People can expect to be supported by ever-increasing digital facilities enabling them to receive services directly via technology such as video consultations, secure messaging services and direct online support. These services can be accessed in the home or at GP surgeries or other appropriate public buildings, such as libraries or even post offices and shops. Such digital and online services can reduce travel times for both staff and citizens (particularly important in the very rural areas of Wales) and avoid the disruption of unnecessary visits to see health and social care professionals.

Bronwen has multiple sclerosis and needs to attend her regular clinic at Morriston Hospital, which is around a two-hour drive from her home. Instead of getting into a car for a long uncomfortable journey, she goes to her GP to have blood taken and then sits down at home and logs onto a video portal using her computer tablet to 'attend' the video clinic. She talks directly to the specialist nurse who is able to monitor her condition and check that her injection sites are tolerating treatment well.

Powys is one of six regions in Europe taking part in the Care Well Project, which looks at how technology can support integrated care for frail older people. In Powys 100 patients are taking part in the project, which is exploring how mobile devices can enable community workers to share health and social care information in a live environment across community services. This is supported through wide access to a local directory of services and improved communication links between hospital doctors and GPs.

A second part of the project will introduce remote tele-monitoring and patient access to education materials to improve patients' health literacy and self-care. The Health Board's video consultation approach will be enhanced to include consultations with patients in their own home.

- Apulia, Italy
- Veneto Region, Italy
- Zagreb, Croatia
- Lower Silesia, Poland
- Basque Country, Spain
- Powys, Wales, UK

Our priorities for early action[2]

- Building on our experience of delivering My Health Online[xvi] and Add to Your Life[xvii] we will develop an online citizens' portal[3] where, by 2017, people will be able to view, confirm and edit their details. The first phase will include the ability for people to:

    o View information held within GP systems

    o Update their key contact details and information

    o View letters related to their care

    o Carry out self-health assessments, satisfaction surveys and report their experiences and outcomes of the care services they have received

This is in addition to the ability to book GP appointments online and order repeat prescriptions, already available through My Health Online.

Later phases of the citizens' portal will include:

    o Viewing medication information

    o Viewing test results

    o Viewing which health and social care professionals have accessed health and care records

    o Viewing information held in hospital, community and social care systems such as outpatient appointments, notifications and other correspondence

    o Sharing relevant health and well-being information collected by the individual with their health and social care professionals via the citizens' portal

- We will publish and make available trusted online sources of information for people to use, which have been co-produced by service users and patients themselves engaging with health and social care professionals and third sector organisations.

- People attending all large healthcare settings, such as acute and community hospitals will have access to free public wi-fi.

- People should, where appropriate, expect to be able to use video-calling services for virtual appointments and consultations across health and care services.

Supporting professionals

Staff working in health and social care services in Wales will:

- Capture information electronically at the point of care delivery, in a structured format so it can be used to provide a common information base and integrated records across all health and social care settings.

- Use information and electronic care records to collaborate fully with citizens, ensuring options and decisions are co-produced and care is co-ordinated and joined-up around the personalised needs of the individual service user, patient and their carer.

- Use technology routinely in all care settings to support them to do their jobs effectively, with online decision support, electronic records and automated ways of working, to improve quality and safety and reduce risk.

- Be encouraged and supported to use digital tools that are available to those working in other sectors: email, internet and video conferencing.

- Use data and information to understand the outcomes they are achieving, to support research and carry out audit, learn from incidents and drive improvements in performance.

- Adopt a 'digital first' philosophy when designing and delivering new services, to promote mobile, flexible, digitally-enabled service and workforce models.

- Be skilled to work well within a digitally-enabled environment.

Electronic records and access to information

The NHS and local authorities in Wales have made some progress towards supporting staff with electronic systems, applications and tools to capture and share information at the point of care delivery and to support integrated working across all professionals and settings. GPs and social care have made good progress in moving to electronic as opposed to paper-based records and processes. More work is needed, however, in hospital and community care settings to transform largely unstructured paper records into complete, shareable and meaningful electronic records across all specialties, professions and disciplines and to integrate them with general practice, community, and social care records. The Welsh care records service will support the provision, management and co-ordination of care across health and social care in Wales with a central repository of e-forms and documents from national and local systems.

John is a paramedic and answers the 999 emergency call from Mrs Davies. In order to find out as much information as he can about her condition, and make the best clinical assessment, he has her permission to access her GP record, which is available to him online through the Welsh General Practice. He finds out that she has been diagnosed with coronary heart disease and has been prescribed anti-coagulants. John relays all relevant information to his paramedic colleague Sarah who is on her way to see Mrs Davies.

Like all ambulance crews in Wales, Sarah uses a digital pen to capture information about what is happening to Mrs Davies and completes the patient's paper care record in the ambulance. As she writes, important information is captured on the pen in an encrypted format and saved digitally. She leaves a paper copy of the written form with the patient and the nurse when they arrive at the emergency department.

Sarah places the pen in a docking station and the information captured about the patient is transferred securely to the ambulance service clinical audit system. It is also available for onward transmission to other care professionals who may need to

have it to support Mrs Davies' subsequent care. This not only saves significant time for Sarah on her busy shift but also improves the speed of reporting, making it easier to monitor the quality of clinical care being delivered by ambulance staff and sharing valuable information with those other health professionals who need it.

In the future, all emergency ambulance staff will use a tablet device which will allow them to call up the patient's summary health record at the scene. Key information such as diabetes, allergies, recent prescriptions, medical history and support from family and friends will help paramedics make key decisions on the best care for each patient, and whether they need to be admitted to hospital, remain at home or access other services in their local community.

Simplicity of data capture is critically important. Staff working in busy, often pressurised, hospital environments, or remotely in community settings and people's homes, need to be able to access, collect, validate and transmit data easily and quickly using mobile devices such as smartphones, tablets and other data-entry approaches such as voice recognition.

Staff must be able to capture information once at the point of care and make it available to others involved in that person's care. This will avoid unnecessary duplication for staff in repeating data capture processes and also stop people being asked unnecessarily for the same demographic details and other information on numerous occasions, unless this is for clinical safety and effectiveness reasons.

Information in the electronic record must be collected, recorded and stored in a way which allows it to be used and shared accurately and consistently without any risk of loss or change in meaning. This requires national standards for the content and structure of the record. Standardisation of the record structure and of the content will be essential to joining up the care record entries and providing staff with an integrated information base to ensure safe, high-

Paramedic using a Digipen in an ambulance

quality care. Clinical, professional and technical standards are needed to ensure that the meaning of the data is shared between the various systems in use (see National Standards page 24).

Joint working between the NHS and local authorities in Wales is advancing at pace and the Welsh Community Care Information System (WCCIS) has recently been procured. This will allow staff working in health and social care to use a single system and a shared electronic record of care for individual citizens. Implementation started in May 2015 and has the potential to revolutionise service delivery, enabling consistent working practices to be embedded across the health and care workforce and providing seamless care for citizens. The Wales Accord on the Sharing of Personal Information (WASPI)[xviii] will be utilised to support joint record keeping and different service providers accessing patient and service user information safely and securely.

Delyth, aged 84, lives alone and has mobility and breathing difficulties. She is well supported by her GP, specialist nurse and hospital consultant. They have asked social services to review her care package as she is having difficulty in making meals for herself and is becoming frail. Her senior care worker discusses the options with Delyth and using her mobile device logs onto the WCCIS and requests a meals-on-wheels service for Delyth.

Thomas is a 58-year old diagnosed with mouth cancer. Information about his care and multi-disciplinary team assessments are recorded electronically on the WCCIS. As soon as Thomas is admitted to hospital for surgery the multi-disciplinary team managing his care receive a digital notification that he has been admitted. On discharge his follow-up treatment and care, including occupational therapy, is co-ordinated via the WCCIS avoiding duplication and ensuring joined-up, high-quality service and experience for Thomas.

Focus on quality and safety – 'do no harm'

Delivering safe, high-quality services is dependent on many factors, but especially the quality of the data recorded, how it is communicated and shared between various departments, professionals and other staff.

In order to provide safe, high-quality services health and social care professionals must have:

- Access to an up-to-date record of care for their patient or service user. It must be accessible wherever and whenever it is needed in the hospital, the community, GP surgery, or in the home and focused on the individual not the disease, service or organisation where the care is being delivered.

- Reliable and timely access to the latest and most relevant evidence-based information. Staff will be able to view this information at the point of care so that they can discuss and share it with their patient or service user.

- Access to aggregated data and information about their practice and the outcomes being delivered for service users and patients to be able to review performance, undertake research and audit, evaluate service delivery, improve quality, drive adherence to standards and adoption of best practice.

Mrs Evans, 71, was discharged from hospital last week. While in hospital the doctors and pharmacists used the *Welsh Clinical Portal* to create an electronic discharge advice letter for her. On the day of her discharge this advice letter was sent electronically to her GP practice, using the *Welsh Clinical Communications Gateway*. The discharge advice letter recorded details of her medicines on discharge and the changes that were made to her medicines during her stay in hospital.

Yesterday, Mrs Evans visited a community pharmacy in her home town. The pharmacist used the *choose pharmacy* application to find Mrs Evan's details and view her electronic discharge advice letter. The medicines information from the discharge advice letter was copied across automatically to the discharge medicines review form in the *choose pharmacy* system and the pharmacist was able to compare and review the medicines the GP had prescribed with the medicines information from the hospital's discharge advice letter.

Now that Mrs Evans has registered at the pharmacy for discharge medicines reviews, her pharmacy will be notified automatically in future if she is discharged from a hospital ward using the *Welsh Clinical Portal*. The pharmacy can then contact Mrs Evans and check whether she would like another discharge medicines review.

By using digital tools to support workflow, care-planning and decision-making, health and social care professionals will be supported to do the right things, for the right patient, at the right time in their pathway, to deliver the highest standards of evidenced-based care and prevent avoidable harm. They will be alerted routinely when variation from agreed pathways or evidence-based protocols occur to ensure their overriding focus remains on improving outcomes, reducing errors, eradicating avoidable harm, and learning from incidents and near misses.

Supporting service change

A 'digital first' philosophy will be adopted when designing and delivering new service and workforce models. Staff will be supported to modernise their working practices by embracing new digital opportunities including delivering service directly via technology such as virtual consultations. By automating routine processes staff will improve their productivity, delays will reduce, duplication and waste will be avoided and lower operating costs will result.

A 'photograph is worth a thousand words'

GPs in Cardiff and Vale are able to send digital photographs of skin conditions directly to a secure website for consultant dermatologists to view. In most cases the consultants can advise the GP on diagnosis and management of the skin condition without seeing the patient directly.

In 2013-2014, 65% of GP practices utilised the service and more than 4,500 tele-dermatology consultations were conducted. In 98% of cases a diagnosis was successfully made from the submitted image and 70% of patients were then treated by their own GP following the advice received.

Patients are delighted to receive a rapid diagnosis and specialist advice and, in most cases, local treatment, instead of waiting to be seen in a dermatology clinic. It saves patients unnecessary outpatient appointments and ensures that patients who need to be seen by a dermatologist are given suitable priority.

Tele-dermatology is also helping to educate GPs because they receive rapid advice after referring the patient and it allows dermatologists to make more efficient use of their time. Tele-dermatology is a good example of prudent healthcare – enabling diagnosis and treatment of skin diseases closer to home.

Workforce development

Changes to acute hospital services, the move of more care closer to home, and the integration of health and social care all signal changes to the current working arrangements for our health and social care workforce. Staff will need greater flexibility, to work across the traditional organisational boundaries of health and social care and to undertake new roles working in community settings and in integrated health and social care teams. Technology and shared records, as outlined previously, have a critical role in enabling this service and workforce transformation, but technology on its own will not deliver the change. There needs to be equal investment and attention paid to education, training and development of the workforce and cultural change to support staff in making this transition.

The increasing use of technology in range and scope will require both development of the technical workforce that supports and maintains informatics systems and services and support of the general health and social care workforce, who face significant changes to their current working practices as paper is replaced by digital solutions.

Many people working in health and social care will feel confident to adopt new ways of working and to use technology, however, others will not. We must make technology simple and intuitive to use and invest in learning labs and other ways to engage staff fully in the design of new systems. Training and development programmes for current staff and our higher education programmes for health and social care professionals in training must be reviewed now to ensure digital knowledge, skills and awareness are incorporated in courses and any skills deficits are being addressed.

All staff will be supported to understand their role and responsibilities in relation to confidentiality and information governance, and carrying out their roles using technology and digital services. A shift in resource will be required, from staff supporting paper-based working to new processes and work practices

Pathologist checking results on the Welsh Laboratory Information Management System (LIMS)

to support staff to use technology effectively as it is rolled out. Greater investment is needed to bring together business process analysis with data and technology requirements to ensure the benefits of new digitally-enabled working practices are realised.

We know from current workforce plans that there are recognised shortages in some specialist informatics and technical skills in Wales. New approaches to working with industry and academia to fill these gaps will be explored, for example 'coding academies'. Data analysis skills are also in demand and short supply. Opportunities exist for greater collaboration in delivering data analysis, to pool our resources and build capacity and capability within and across organisations, sharing learning and standardising the tools and platforms used (see Health and social care information, knowledge and service intelligence page 23).

NHS organisations and local authorities with partners, such as the Workforce Education Development Services (WEDs) and higher education providers, will develop integrated workforce development plans to address the workforce implications of the strategy.

Our priorities for early action

- From this year, health boards and local authorities will plan jointly how services need to be redesigned and how new working practices will be introduced across unified health and social care teams supported by the integrated Welsh Community Care Information System (WCCIS). This is a critical step in supporting local community health, mental health and social care teams to work seamlessly together with citizens, their carers and families. WCCIS will allow information to be collected electronically, co-ordinated and shared appropriately across community and other care settings, including emergency departments, and with other care professionals, including GPs.

- During this year a national audit tool is being introduced, ensuring information governance rules are followed and information is shared only with appropriate professionals. This will allow greater sharing of information between primary, community and secondary care and across health and social care.

- Staff working in hospital emergency departments will have a new clinical information system to support efficient working practices and reduce reliance on paper. Implementation of this all Wales system started in 2015.

- By 2016, the Welsh Clinical Portal will be extended to provide a shared view of individuals' digitally-held care record, accessible across the boundaries of organisations and care settings, viewable whenever and wherever it is needed to support safe, effective care.

- Hospital staff will access a patient pathway visualisation and flow management system which delivers:
  - Bedside and mobile real-time data capture
  - eForms – including standardised assessment forms
  - eWorkflow – dynamic forms that can be completed by all those involved in a patient's care pathway

The benefits include a real-time view of hospital bed and flow pressures and the source of publicly available, real-time data on the hospitals status. The development of this system will be prioritised from the 2016/17 integrated planning round.

- From 2015, a new radiology image-sharing system will be implemented to give clinicians secure digital access to images, irrespective of the organisation from where the investigation originated.

- From 2015, the use of national demographic services will be widened to ensure all new relevant systems across health and care are using the service to access and maintain up-to-date demographic information about citizens.

- Electronic medicines management, decision support and care-planning tools to support workflow and patient safety will be prioritised in 2016/17 delivery plans. A new programme board will be established to lead on this work and begin the procurement of a hospital pharmacy and ePrescribing system for Wales.

Improvement and innovation

We will:

- Focus on making better use of national data sources and local information to support informed decision making and improve service planning, population health, research and development.

- Build a more 'open' technical platform to allow greater flexibility in the development of new applications based on clear national standards, system interoperability and maintaining the partnership approach which has been a driving feature of our success so far.

- Engage with stakeholders in refreshing our plans and co-designing our digital future: frontline staff, citizens, third sector organisations, industry and university partners, nationally and internationally, to provide a new approach to harnessing innovation, learning from what works elsewhere and adopting these solutions in an agile, rapid and responsive way to realise the benefits and achieve better outcomes for the people of Wales.
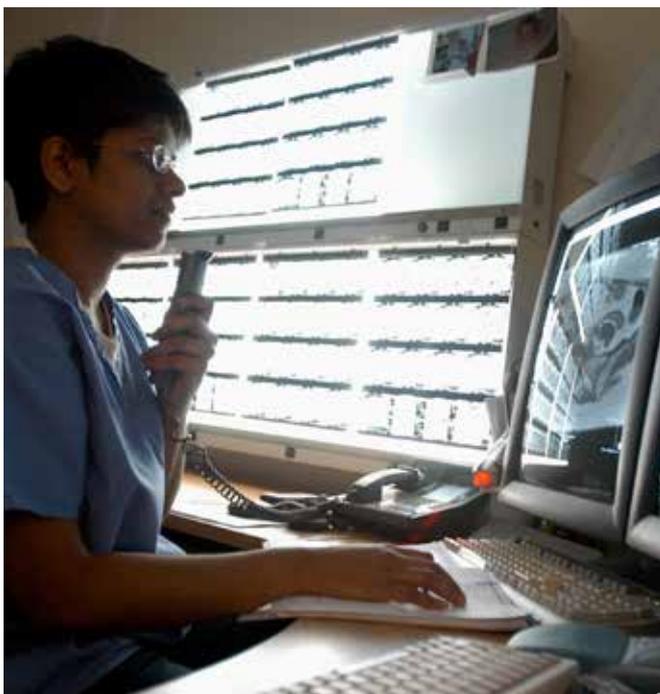
Health and social care information, knowledge and service intelligence

The NHS and local authorities in Wales need to use population-level data and information to jointly plan services, make informed decisions and identify opportunities for joint commissioning and pooled resource to achieve best value. They also need to use data to benchmark outcomes and performance, to learn from national and international comparisons and drive improvements.

Health and social care professionals need to be able to access data easily and quickly to understand their practice, performance and outcomes, to carry out audit, undertake research and learn from incidents and near-misses.

The public also need to have better access to data and information about how the system is performing to gain assurance about standards and the quality of the care being delivered, so they can make informed decisions about accessing services.

Wales has made progress in adding value to the data currently held in local operational systems with, for example, NWIS, the Public Health Observatory[xix] and the secure anonymised information linkage[xx] (SAIL) databank working together to publish mortality, control of infection and other data routinely to provide transparency for the public. More needs to be done to realise the combined potential of these services to create Wales-wide service intelligence capacity and capability.

A greater collaborative approach across health and social care is required to make best use of limited resources, pooling our capacity and capability in data analysis, building a common platform and using common intelligence tools with shared learning. A health and social care information, knowledge and intelligence system in the future must encompass the whole span of health and care data, to eventually include data from independent contractors in primary

care, such as pharmacists and optometrists, and the voluntary and independent sectors. Closer working with all partners, particularly our universities, who have significant skills, knowledge and experience to offer in managing large-scale data and undertaking research, will be critical.

The growing trend in using technology and collecting personalised data means we are seeing an explosion in the scale and variety of available health and well-being data. Wales needs to be ready and proactive in deploying the technical platforms and a service intelligence approach to be able to store, process and exploit this 'big data' and link it to other health and social care data sets, such as financial and workforce data, to develop a truly informed system.

Our staff, both clinical and non-clinical professionals, specialist informatics staff and others, will have to develop new skills and gain experience of managing and using this large volume of dynamic data which will be subject to robust confidentiality and information governance rules.

National Standards

The data used for the intelligence purposes described above will have been derived from the information collected as part of the routine care processes and the many transactions and interactions which happen between health and social care staff, service users and patients everyday.

These data have to be captured in a structured form using national definitions and national standards for data and system interoperability. These national standards must be uniformly adopted and used consistently to ensure the data can be safely shared, analysed and used without risk of loss or change in meaning.

Robust governance and infrastructure needs to be in place at a national level to drive this critical agenda. Wales will continue to work closely with UK and international organisations to determine the standards for the structure and content of the care record.

National approach to harnessing innovation

The principle of working together across Wales to deliver collective solutions is well established and will continue. We will maintain a national technical architecture (the national technology platform that defines the communication networks, security, hardware and software used across NHS Wales) which ensures information can be shared across organisations and a variety of systems and software can link seamlessly.

Where there are core requirements in the national platform, we will promote resilience and efficiency by using common systems on a 'once for Wales' basis. We will invest in development and support partnerships with key suppliers to continuously improve the quality, resilience and pervasiveness of these core systems and to drive down the cost of provision; working increasingly across the wider public sector in line with the recommendations of the *Commission on Public Services Governance and Delivery*[xxi].

There are many benefits to taking this common approach, including greater standardisation and minimising complexity. This will enable us to develop an open platform, which will allow more rapid development and deployment of new and innovative applications, responding directly to the needs and expectations of users, both citizens and staff.

There are modern technologies and devices, such as handheld computer tablets, available which will be used to improve the everyday experiences of citizens and staff. These will allow us to add to and view the care record data held in health and social care systems in a variety of ways without having to change the underlying 'once for Wales' national design.

We will work with innovators, entrepreneurs and suppliers from various sectors to accelerate the development and deployment of applications and services which people find easy to use. We will develop the concept of a more

formal way of collaborating through a digital health network or 'health ecosystem'[xxii] as a way to accelerate this.

We will also seek to drive access to and adoption of future technologies and innovation, including linking and scaling up best practice. We will review the current approach to innovation labs, offering easy access to test facilities, with a particular emphasis on smaller, fast-growing businesses and spin-out companies.

A guiding principle will be that the user experience is key to driving more rapid adoption and uptake of new software products, so we will also facilitate user engagement throughout development. We will increase engagement in local communities to support digital literacy and participation.

The move to more open and transparent systems, agile software development and uptake of new devices, such as computer tablets, requires information, governance and developer skills beyond the current capacity and capability of NHS and local authorities. We will therefore work with universities and other partners to establish and scale up 'coding academies' and other institutions focused on skills development.

We will increase our involvement in and use of European and other international research and innovation funding programmes to support and enrich our approach, building on existing and new partnerships with European health and care organisations.

Our priorities for early action

- In 2016 we will establish a programme board with a clear remit to develop the route map to better exploit national and operational data sources and maximise data analysis skills and services available across health and social care.

- In 2016 we will develop a strategy for a digital health collaboration network or 'ecosystem' which will support skills development, promote access to core systems for partners and set out a clear deployment pathway for new products.

- In 2016 we will publish a set of technical standards and a software development toolkit to open up the national platform, to support training and to allow an accredited network of partners to develop applications and solutions. A new applications strategy will be produced to ensure apps designed can be delivered and deployed quickly.

- In 2016 we will produce a technical strategy which will modernise and standardise the infrastructure across health and social care in Wales – to support collaborative working with other public sector bodies and enable open networks and services. It will include the introduction of single sign-on for staff working in clinical environments who rely on multiple systems to carry out their duties. This will enable staff to use their own devices, where appropriate, and support mobile working. We will also explore the opportunities of 'cloud' computing to support more efficient and cost-effective digital services.

A planned future

The *Social Services and Well-being (Wales) Act 2014* and The *Well-being of Future Generations (Wales) Act 2015* place a statutory responsibility on the NHS and local authorities to plan services jointly. These planning and partnership mechanisms across the health and social care sector will be used to develop and implement delivery plans to operationalise this strategy. Plans will also take account of the developing approach to a public sector digital strategy to ensure consistent approaches, standards and interoperability to provide seamless public service delivery in the future for the people of Wales.

Digital health and social care (DHSC) delivery plans

The delivery plans will require a consistent, incremental approach which accelerates the benefits of having a national 'once for Wales' infrastructure whilst supporting local development and implementation of planned and agreed solutions to allow agile and responsive approaches to digitally-enabled service improvement and workforce change.

NHS and local authorities will agree three-year rolling local DHSC delivery plans in response to this strategy. These plans will align and underpin NHS organisations' three-year integrated medium term plans, and will be linked to the wider local planning and partnership processes, including the single integrated plans developed at local authority level.A priority for the DHSC joint planning and implementation in the initial years of taking forward the strategy will be the roll-out of the Welsh Community Care Information System (WCCIS).

The local DHSC delivery plans will reflect the requirements of the national programme, joint planning priorities, service user and citizen requirements, resource plans and proposals to develop and remodel the workforce and redesign services within and across health board boundaries.

The local DHSC delivery plans may also be reviewed by local service boards so all partner agencies can consider opportunities for shared approaches and priorities.

Delivery of this strategy will continue to require national co-ordination, oversight and an all-Wales collaborative approach to planning and delivery.

NHS organisations in Wales will continue to work with NWIS on the all-Wales infrastructure requirements and will collaborate to develop a three-year national digital health and social care delivery plan which aligns with the locally defined DHSC plans and identifies those elements which can best be delivered on an all-Wales basis.

Annual planning guidance issued by Welsh Government to support the integrated planning cycle for health and care organisations in Wales will be updated to reflect the new requirements for local and national DHSC delivery plans in 2016/17.

Investment

The three-year integrated planning process being embedded across the NHS and local government provides the opportunity for a more comprehensive approach to agreeing investment priorities for technology and digitally-enabled service change.

Our vision for digital health and social care set out in this strategy is not optional. Funding for technology and digital service change must be reflected as a priority in future plans and be viewed by all organisations as an essential investment in building safe, sustainable, integrated, more efficient services and crucial for delivering high-quality outcomes and user experiences for citizens.

NHS organisations will set out their investment requirements for technology and digitally-enabled service change through the development of a set of strategic outline programmes (SoPs). These will take a five-year view of investment requirements and align allocations from revenue, discretionary capital and other local funding sources, to establish a clear resource requirement for consideration within the all-Wales capital programme process.

New and innovative approaches to funding, including European and international sources of finance, will also be fully explored.

Next steps

Welsh Government expects NHS organisations and local authorities to:

- Embrace the vision, ambitions and opportunities set out in this strategy.

- Use the local and national planning processes and partnership arrangements that already exist to develop joint delivery plans.

- Engage with all stakeholders, particularly local people, service users and staff, to understand requirements and needs for information and digital solutions.

- Develop three-year, rolling local digital health and social care (DHSC) delivery plans to underpin service change and new workforce models to transform local services.

- Agree and align the delivery of local DHSC plans with the national delivery plan developed collectively and in collaboration with NWIS.

- Ensure the DHSC delivery plans, locally and nationally, address the priorities for early actions identified in this strategy.

Welsh Government will:

- Revise the national planning guidance to reflect the requirements for local and national DHSC delivery plans aligned to the all Wales capital programme.

- Ensure that prudent healthcare principles are embedded in the delivery approach to digital health and care across the whole system.

- Continue to work proactively with UK and international standards bodies and review governance and infrastructure arrangements for adopting national standards in Wales.

- Continue to build partnerships and harness opportunities from close working with European health and social care systems including greater involvement and use of research and innovation funding programmes.

- Work with the NHS, local government and other partners to develop a strategy for a digital health ecosystem in Wales.
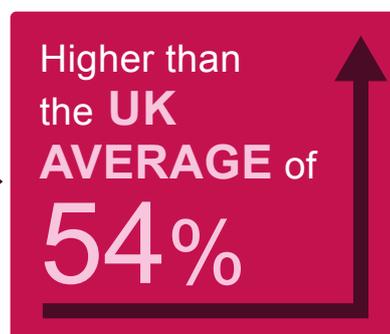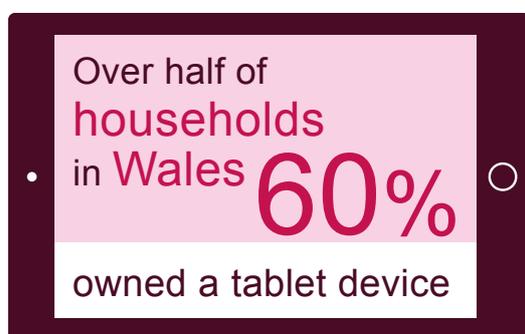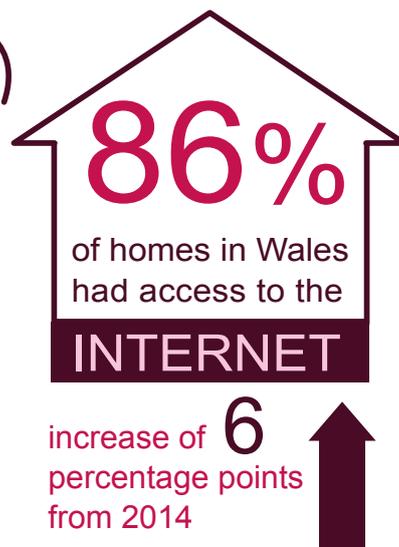
At the start of 2015

59% of adults in **WALES** have online acces through a mobile phone

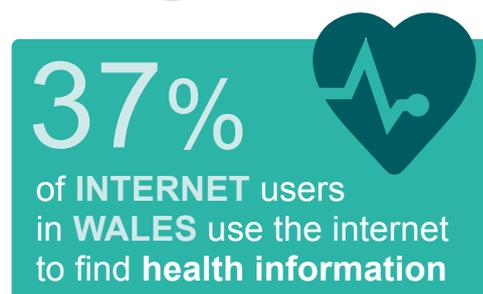Proportion of people accessing the **INTERNET EXCLUSIVELY** through mobile phones or smartphones remains at **8%**

figure highest in WALES across the devolved nations
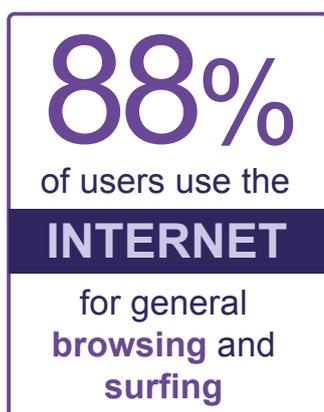
86% of homes in Wales had access to the **INTERNET**

increase of **6** percentage points from 2014

Over half of households in Wales **60%** owned a tablet device

Higher than the **UK AVERAGE** of **54%**

Internet usage

Popular uses of the internet in Wales:

88% of users use the **INTERNET** for general **browsing** and **surfing**

68% use social networking sites

76% send and receive **email**

57% use online banking

65% £ purchase **goods** and **services**

53% TV / video viewing

37% of **INTERNET** users in **WALES** use the internet to find **health information**

Ofcom: Communications Market Report: Wales (August 2015)

WG24851
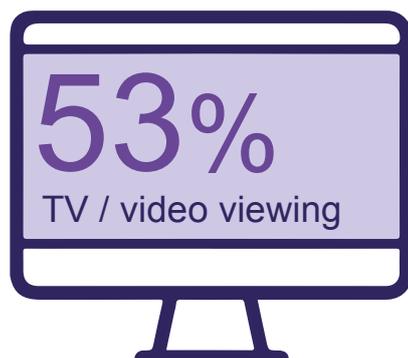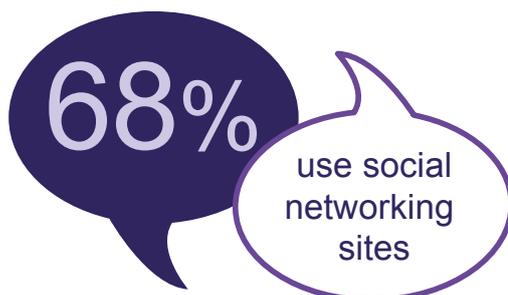
References

i   Public Sector Broadband Aggregation (PSBA)
http://www.psba.org.uk/index.aspx

ii   NHS Wales Informatics Services (NWIS)
http://www.wales.nhs.uk/nwis/home

iii   Welsh Assembly Government (2002) Informing health care strategy
http://www.wales.nhs.uk/sitesplus/documents/956/ihc_a5-e.pdf

iv   Welsh Government (2012) Shared purpose – shared delivery
Guidance on integrating partnerships and plans
http://gov.wales/topics/improvingservices/publications/sharedpurpdel/?lang=en

v   Welsh Government (2014) Making prudent health care happen
http://www.prudenthealthcare.org.uk/
http://www.prudenthealthcare.org.uk/it/
http://www.prudenthealthcare.org.uk/information-technology/

vi   Welsh Assembly Government (2011)
Sustainable social services for Wales: A framework for action
http://gov.wales/topics/health/publications/socialcare/guidance1/
services/%3bjsessionid=2E5C9D228DF20BFDBC7EDB08172BD3BF?lang=en

vii   Welsh Government 2015. Welsh Health Survey 2014
http://wales.gov.uk/statistics-and-research/welsh-health-survey/?lang=en

viii National Assembly for Wales (2014) Social Services and Well-being (Wales) Act 2014
http://gov.wales/topics/health/socialcare/act/?lang=en http://www.legislation.gov.uk/
anaw/2014/4/pdfs/anaw_20140004_en.pdf

ix   National Assembly for Wales (2015) The Well-being of Future Generations (Wales) Act 2015
http://www.legislation.gov.uk/anaw/2015/2/contents/enacted

x   Welsh Government (2012) More than just words: strategic framework for Welsh language
services in health, social services and social care
http://gov.wales/topics/health/publications/health/guidance/words/?lang=en

xi   Welsh Language Commissioner (2015) Technology, websites and software:
Welsh language considerations
http://www.comisiynyddygymraeg.cymru/English/infrastructure/Pages/Technology,-Websites-
and-Software-Welsh-Language-Considerations-.aspx

xii   Ofcom (2015) Communications market report: Wales (August 2015)
http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-
reports/cmr15/

xiii Wikipedia [No date] Definition of ' Internet of things'
http://en.wikipedia.org/wiki/Internet_of_Things

xiv   Welsh Government (2015) Our plan for primary care services in Wales up to 2018
http://gov.wales/docs/dhss/publications/150218primaryen.pdf

xv   Patient Information Forum (2013) Making the case for information: the evidence for investing
in high quality information for patients and the public
http://www.pifonline.org.uk/topics-index/planning/business-case-for-informationlevers/

xvi   NHS Wales Informatics Service My Health Online
http://www.wales.nhs.uk/nwis/page/52549

xvii Public Health Wales and NHS Wales Informatics Service (2015) Add to Your Life
https://addtoyourlife.wales.nhs.uk/question.cfm

xviii Wales Accord on the Sharing of Personal Information (WASPI)
http://www.waspi.org/

xix   Public Health Wales Observatory
http://www.wales.nhs.uk/sitesplus/922/home

xx   Swansea University Secure Anonymised Information Linkage (SAIL) Databank
http://www.saildatabank.com/

xxi   Welsh Government (2014) Commission for Public Service Governance and Delivery:
full report and appendices January 2014
http://gov.wales/topics/improvingservices/public-service-governance-and-delivery/?lang=en

xxii European Connected Health Alliance Ecosystem benefits
http://www.echalliance.com/ecosystems/about-ecosystems/

Footnotes

1   Infoengine was developed in partnership with the voluntary sector and provides information
on a range of voluntary, community and public services which can help to improve people's
health and well-being and enables

2   Through out the document dates are indicative as implementation is subject to joint planning,
the development of agreed digital health and social care delivery plans and business case
approval.

3   This work programme will be aligned and integrated with the work already underway by the
Social Services Improvement Agency (SSIA) on the 'Dewis' citizens' portal.

Infographic

Ofcom: Communications Market Report: Wales (August 2015)