NATIONAL INFORMATION BOARD

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Personalised Health and Care 2020

WORK STREAM 1.1 ROADMAP
Enable me to make the right health and care choices
Providing patients and the public with digital access to health and care information and transactions

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Final Version

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1 CONTEXT

1.1 Vision

Digital technology has the power to transform the health and care system by providing citizens with the control and convenience that they have come to expect in other areas of their lives and, in doing so, improve quality of service whilst at the same time reduce cost.

In 'Personalised Health and Care 2020', we launched our strategic intent. We stated that:

- Citizens will have a single point of access that they can go to carry out all transactions – "NHS.UK";
- Patients will have access to and be able to write into their online medical records;
- We will create a digital channel for 111 which is integrated to NHS.uk;
- "NHS.UK" will be customisable to reflect local needs;
- We will test use of a personalised, mobile care record for parents of new-borns;
- We will test use of a personalised, mobile care record for people at 'end of life';
- We will pilot individual digital care accounts;
- We will consider the impact of digital developments on inclusion and equity across the care system.

We have worked with a range of organisations through workshops, conversations, literature reviews and surveys to test the validity of our assertions and prioritised those initiatives where, over the next five years, we feel that technology can have the greatest impact on patient care, citizen experience and cost reduction. We have tested this vision with citizens and patients through a mixture of focus groups, existing online forums and special interest groups. Engagement across with citizens and patients, clinicians and the wider the health and care sector will continue so that we can constantly ensure the right services are delivered to meet citizen and patient need.

The proposals in this roadmap have been developed in the context of the emerging integration of health and social care and the development of new models of care outlined in the NHS Five Year Forward View. They consider the separation of governance and funding between health and social care and seek to ensure that local authorities, national and local NHS, voluntary organisations and private sector technology providers can all play their part in creating transformed health and care services for citizens in England.

1.2 Drivers for change

1.2.1 New models of care

The NHS needs to adopt new models of delivery, particularly focusing on the areas which are Vanguards (national leads on developing new models of integrated care), Integrated Personal Commissioning pilots and Pioneers (ambitious and innovative approaches to delivering integrated care). Our digital offer should learn from these models and their successes and encourage uptake across the sector.

1.2.2 The natural move to digital

Citizens have ever higher expectations of digital services from other industries e.g. weekly shopping, ordering goods, hotels and holiday bookings. These services are also being held to account by online review systems, such as TripAdvisor. The health and care system needs to respond to these expectations, balancing the 'activation of demand' with the potential to deliver services digitally.

1.2.3 Demographic pressures

By 2025 there will be 1.1m more people aged 75-84. The number of older people with care needs is forecast to increase by over 40% between 2005 and 2020. It is expected that the number of adults with learning disabilities who require some form of support will increase between 3% and 8% per year until 2026.

1.2.4 Digital inclusion

People over 65 account for more than half of NHS spend, and those with long term conditions account for 70% of all NHS spend. These people are three times more likely to have never used the internet than those without disabilities. Even small improvements to digital skills and access could have a significant impact in terms of delivering savings, helping manage increasing demand and tackling health inequalities.

1.3 Response to these drivers

1.3.1 Self-care and empowerment

Research has indicated that successful self-care has four main elements – personalised care planning; structured information and education, including peer support; access to health-care professionals in regular structured reviews when needed; and emotional, psychological and practical support, including from friends, family and carers. Clearly, IT and digital solutions could play a major role here. For example, Apps (a computer program designed to run on smartphones, tablet computers and other mobile devices) can be used to increase self-care, and over 100,000 are already available.

1.3.2 Productivity and efficiency

Digital approaches also cost less. There are savings to be made from supporting the system to manage increased demand, through effective channel shift and by reducing cost of supply by using our scarce resources better, and make them go further, to deliver better care to more people.

2 RESEARCH AND EVIDENCE

2.1 Engagement

As detailed in our longer roadmap, we have engaged with a wide range of stakeholders, including citizens and patients, in developing our plans. For this programme of work to be successful, engagement will be an on-going programme of work. User research will be core to the

development of all our propositions. Over the summer period we tested our vision with citizens and patients through focus groups, existing online forums and special interest groups. Initial findings indicate there is an appetite for digital services in health, as long as they are secure, simple and easy to use. There are some barriers for citizens to become online and the need for choice in accessing services is paramount.

2.2 Research to help us prioritise what people prefer

In developing our proposals we have also drawn widely on existing evidence and research to better understand which digital services the public would prefer us to focus on first. Examples of this research include:

- **Conjoint (trade-off) Research**

Through a statistically robust trade-off analysis (with a representative sample of the population and qualitative focus group) customers of the NHS emphatically confirmed the importance of four key areas that are fundamental to a modern, non-emergency customer service in the NHS. The four key area are as follows:

1. Multi-channel offer by intent – we were told that being able to contact NHS through channel of choice is by far the most important attribute.
2. Consistent and timely response tailored to contact scenario
3. Personalisation through an NHS account
4. Making it easy to self-serve

- **Population segmentation**

To deliver the vision of a citizen-centred, digitally-enabled, health and social care system, users must be at the centre of what we deliver, so we will need to develop our understanding of the needs, behaviours and characteristics of different segments of the population. This will enable us to develop digital services that can best meet identified needs. Different segmentations have been reviewed as part of this work, and further segmentation analysis research is planned through individual programmes and projects.

2.3 Research to help us prioritise which digital initiatives provide the highest level of cash-releasing savings

Although more economic analysis is required of some of the digital initiatives that the public have told us they prefer, we already know that where NHS organisations have implemented digital services, they are able to realise a high level of economic benefit. The highest yielding digital services, on a unit basis are:

- **E-consultations:** where GPs and secondary care consultants and nurses are being able to consult with a patient by Skype, email or teleconference, involving carers, relatives and members of the wider multi-disciplinary team, saving the patient having to come for a GP or outpatient follow-up appointment, clinician and administration time is freed up and more patients can be seen.

- **Online Medicines Management:** allowing a citizen to request their repeat prescriptions online, and for that request to be approved and transmitted electronically to the community pharmacy and then either delivered to the citizen's home, or the person picks it up whilst out shopping, saves a lot of administration time for the GP practice, particularly for people with long term conditions who sometimes have multiple repeat medication needs. We have yet to analyse the full economic benefit of a total paperless, prescribing environment in terms of back-end supply chain management for the pharmacies and the NHS BSA who administer payment of NHS prescriptions to the pharmacies, which we estimate to reveal greater savings.

- **Electronic referrals:** managing outpatient appointments in secondary care electronically, rather than through paper letters or fax, has proven to reduce GP and hospital administration time, reduce DNAs and minimise wrong-place referrals.

- **Winter 'Consent and switch' digital offer:** when emergency pressures result in cancelled operations, medical complexity often makes it difficult for the system to 'flex' to take advantage of subsidiary or alternative supply options to reduce the inconvenience, and potential adverse health outcomes, for patients. Reducing the number of cancelled operations by giving patients a digital facility to switch to a less-pressured provider reduces administration time for GPs and secondary care providers and minimises wasted outpatient and pre-operative activity.

- **Digital 111:** many callers to 111 are given advice and don't need to be referred for ongoing treatment. If we are able to provide the information and advice they need in a digital way, so that they can have their questions answered and don't have to make the call to 111 at all, this reduces the cost of managing calls and acting as an intermediary between the patient and the ultimate care that they need. We are currently testing extending the digital advice and guidance to provide the facility for patients to book appointments having self-triaged to determine whether an appointment with a care professional is needed.

- **Booking appointments online:** the facility to book GP appointments online has proven to reduce GP practice administration time.

- **Online primary care registration:** registering with a GP, either to exercise choice or when moving house, is a cumbersome administrative process involving multiple national agencies and inconsistent processes for transfer of medical records between practices. Ensuring full and consistent implementation of the current GP2GP service by GP practices and enhancing this service to provide a facility for patients to switch their GP through NHS.uk will reduce administrative costs. We will test the extension of this service to registration of other primary care services, e.g. NHS dentists.

Economic efficiencies have been proven for many of the other initiatives that the public prefer, like accessing and uploading their wearable information into their online medical record, but the evidence is more limited or inconsistently measured. Part of our work going forward is to continue to test and evaluate the benefits of digital initiatives as part of our development of new models of care.

3 BUILDING THE PICTURE FOR DELIVERY

3.1 Following Digital Design Principles

To take forward the vision, we will follow the key principles of digital design:

- Place users and professionals at the heart of the design of all new offers, by better understanding their needs
- Work to secure people's trust and confidence, and ensure that their expectations are fulfilled
- Support inclusion so that the digital opportunities are open to all who could benefit
- Adopt good existing good practise and base decisions on evidence from research and pilots

We will:

- Ensure that all our offers are tested with users and share the insights we gain from this widely
- We will ensure the provision of digital services does not disadvantage those who are currently offline and that we ensure inclusion is at the forefront of any digital services we design and develop.
- Ensure end-to-end transformation of services, rather than just 'digitise' existing services
- Support the development and adoption of digital standards
- Continue to review and iterate services to meet evolving needs
- Seek to increase our digital capability and share this across the system

At the heart of our programme will be the development of the new "NHS.UK" health and care digital platform. This will not be a single door to services, as we must allow people to access to digital services from the place that works best for them. However, it will provide access to information, directories, national services and locally accredited applications. It will also be a place where people can compare performance of health and care services, see comments and add their own.

See APPENDIX A.

3.2 Prioritising our work

We have collated a powerful bank of evidence for the cash-releasing benefits that can be achieved from the implementation of various digital approaches in health and care settings both within England and in international settings. On the basis of this initial work, our digital programmes for health, prioritised by a blend of economic return, impact on citizens and wide, underpinning enabling impact are as follows:

1. "NHS.UK" platform, including system-wide service directories
2. Digital Primary Care Services
3. Citizen identity, security and consent
4. Interoperability between local services to allow data sharing
5. Digital Elective Care Services

6. Digital Urgent and Emergency Care services
7. Online medicines management
8. Citizen access to digital health records
9. Supporting business change and citizen uptake
10. Supporting a transformation in the design of social care services
11. Widening access and improving digital skills
12. Creating a database of demographic, contact and customer preference information

For social care, we have less evidence at a national level about the potential cost savings of different interventions given the different delivery model, although we know from local examples that there are potentially very high efficiencies savings from moving towards online personal care assessment, planning and commission; and from utilising greater technology within the home to support personal care. Further work will be undertaken to consider where investment can best be targeted.

Going forward, we believe that we need a blended approach to prioritisation of the different digital programmes across health and social care. Part of the next phase of work is therefore to develop a clearer sense of prioritisation based on robust criteria around:

- Return on investment and potential to drive efficiency savings for the system
- Clear user need and positive impact on citizen experience
- Deliverability

In developing the programme definitions, consideration has been given as to the best delivery model (be that national or local) to help create a portfolio that is describable but, more importantly deliverable. The criteria and explanation of delivery models will be elaborated on at the next phase of development of the roadmap.

4 A BRIEF SYNOPSIS OF BENEFITS FROM OUR PRIORITISED PROGRAMMES

Below we summarise the key benefits for each of our prioritised programmes.

4.1 "NHS.UK" Platform, Including System-Wide Service Directories

NHS Choices will be transformed into a multi-channel platform for the whole health and care system, "nhs.uk", which will provide a single access point for citizens for information, advice and transactions informed by a robust understanding of user need. Citizens will still have a choice in how they interact and where they want to go – it will not be a 'single door', but an easy to access and navigate digital hubs for all citizens. In time, we would expect that this would become the door to online health and care accounts.

It will also provide a clinically profiled directory of services encompassing health and social care services.

Benefits:

- The service will prioritise the surfacing of local information, including service directories with opening hours, and appointment availability
- Citizens who have chosen to login to the service will also be able to book appointments and transact digitally
- In time, and in line with the user needs identified, we would see "nhs.uk" as the door to a care account
- Other parts of the system will be able to use these local directories to drive efficiency and save money and "NHS.UK" will provide signposting to wider health and social care networks, Voluntary Community Social Enterprise (VCSE) sector and government bodies (e.g. regulators, local authorities, charities)
- Offer a portal for NHS-accredited apps
- A place for citizens and patients to be able to complain and provide feedback

4.2 Digital Primary Care Services

Will enable patients to routinely use digital communication and a variety of technologies to access their own health and care records, and other health information sources and services within their home, on the go, and in health and care settings. Empowering choice and decision making.

Will deliver an efficient and secure registration service to enable citizens to register and change their Primary Care providers online.

Benefits:

- Provide citizens with a greater choice and flexibility in finding and booking appointments with the most appropriate service, and with the ability to edit/ cancel/ change appointments Expanding this to cover specialist services and nurse led clinics
- Digital interaction and communication channels will become part of the embedded mechanism to manage demand and signpost to appropriate services
- Enable citizens to communicate with their General Practitioner or 'multi-disciplinary team' via online communications at their own convenience
- Provide the ability for the online registration and facility to change General Practitioner

4.3 Citizen Identity, Security and Consent

To have a digital identity solution that enables citizens to have active participation along their care pathway and access and contribution to their care records.

Benefits:

- Citizen identity will be verified through a secure, flexible and extensible identity platform that provides the common underpinning components so that they do not have login multiple times to access digital services
- Citizens will have the ability to securely login, based on their location and information from their Personal Health Record (PHR) that they have consented to provide, and will receive personalised, pre-curated information to help them manage their health

- A single, trusted and easy to use online identity system will be developed for the whole health and care system, working with local government and GDS
- Functionality on the "nhs.uk" platform will be developed which allows citizens to set their consent preferences for digital and non-digital health and care services, including nominating carers to access digital services on their behalf

4.4 Interoperability between Local Services to Allow Data Sharing

Interoperability is critical in enabling the sharing of information and is key for many of the capabilities needed to support care centred on a citizen.

See NIB Work Stream 2.1 for further information on the plans.

Benefits:

- The open platforms will support interoperability and provide the infrastructure to make it easier for innovators to deliver safe and secure digital health and care
- The wider digital offers proposed will rely on the effective sharing of information - this "interoperability" that needs to extend not just between care professionals but between care professionals and citizens

4.5 Digital Elective Care Services

Providing citizens with the ability to choose where they go for treatment at a time convenient for them is an established commitment of the government. Additionally, pressures have been building on A&E departments for several years and increase significantly over winter because of a rise in the number of people admitted to hospital. Supporting a more effective elective care system should help manage these demands better.

Benefits:

- Providing citizens the ability to (following the initial primary care decision to refer) book and manage their secondary care appointments online, including the ability to cancel and reschedule appointments after an initial appointment has been made and the ability to switch to an alternative provider
- Providing a single source of information and support on referrals and bookings.
- Making data and information readily available to support patient choice, clinical pathways and health and social care planning
- Enabling citizens to communicate with their secondary care physician or 'multi-disciplinary team' via online consultations at their own convenience
- Provide information on self-care and prevention during the Winter period and real time status updates on A&E waiting times and admissions
- Issuing digital appointment reminders to citizens for their convenience and to minimise non- attendance
- Explore the use of digital channels for pre and post-operative assessments

4.6 Digital Urgent and Emergency Care Services

To deliver a safe and effective online triage and consultation service for patients with urgent needs. This service will be fully integrated with local services so that patients only have to tell their story once. It will be delivered nationally as a service for local use. Our vision is for the service to reside on the "NHS.UK" platform allowing transactions to be conducted seamlessly by the user based on their clinically assessed need.

Benefits:

- Create a telecare service to triage calls to the most appropriate responder
- Explore local innovations such as Co-ordinate My Care (London), which allows patients with life-limiting illnesses develop a personalised urgent care plan that is shared will all involved in the patients care. This is delivering a reduction in hospital attendances and length of stay
- Developing current processes to provide the customer with seamless delivery
- Increase coverage for mental health algorithms

4.7 Online Medicines Management

Improving and saving lives by giving patients and care givers convenient ways to manage the ordering & receipt of medication, and giving them tools to better understand and manage their medications. New efficiencies for patients, and the health and care system through greater transparency, control and models for prescribing, dispensing and delivery.

Benefits:

- Allow citizens to collect prescriptions from various locations most convenient to them or allow them to be delivered to a place of their choosing
- Ability to nominate preferred pharmacies and track progress of existing prescriptions
- Provide citizens with the ability to check information about their medications, through simple bar codes
- Use "NHS.UK" personalisation to look at communication methods with citizens
- Ability to connect data to others apps, such as medicines adherence tools, to help remind people when to take their medicines
- Save citizen time by them not having to visit their GP to exchange paper information
- The capability for prescriptions to be generated in emergency situations, as well as in other care settings such as health and justice, community, urgent care would allow patients to receive all medications in the same way, would create significant operational efficiencies and improve safety
- Patients and pharmacists can be supported in medicines exemption checking, and this will support the reduction in deliberate and accidental incorrect claims
- Medication prescribed from other settings to be included in a comprehensive data set for a patient. This could include home care, acute care, and specialist care

4.8   Citizen Access and Input to Digital Health Records

Citizens can start to play a more active role in their healthcare, by accessing, entering and uploading data into their online medical record. They will forge new relationships by partnering with professionals, making informed choices in their health and care journey.

Benefits:

- Citizens will be able to access and download their detailed GP record by 2016. By 2018 record will be richer, contributed to by information held in other care settings and from wearables/ biosensors
- We will facilitate digital transmission of test results into a patient's PHR
- Patients will be notified when the results are available to view
- Carers will be given access to, and contribution to, the online medical record of the person they care for
- Residential care homes will be given access to GP systems and PHRs
- Providing families the ability to view and contribute to their maternity records digitally at each appointment (rather than white notes)

4.9   Supporting Business Change and Citizen Uptake

Support the localities, the workforce and the citizens in changing the way that they think about delivering and receiving services, 'activating demand' for digital services and then ensuring that these digital services match expectations.

Benefits:

- Provide a co-ordinated engagement approach to professionals, citizens and carers
- Champion IT enabled change and support wider health and social care community
- Provide insight on why uptake is low and link into future development
- Identify potential test bed for 'alpha' and 'beta' exploration using established and emerging relationships

4.10 Widening Access and Improving Digital Skills

To ensure that the digital opportunity is inclusive and nobody is left behind. Improving digital skills and capabilities while ensuring that those who are unable to transact digitally, due to disability or literacy, are in no way disadvantaged.

Benefits:

- Ensure that the opportunities for digital services and care are open to all
- Improved readability of information has been shown to improve access to information for all people – not just people with disabilities
- Provide free WiFi access for citizens across the NHS and local government estate will be championed, including working with other Government departments to secure funding and agree funding models.

4.11 A Customer Relationship Management (CRM) Database of Demographic, Contact and Customer Preference Information

Provide a system that remembers my previous interactions, outcomes and special preferences. Provide the ability to fast track patients within NHS 111 and Clinical Hubs who have greater needs.

Benefits:
- A CRM platform will support personalisation and collect a history of patient interactions across all channels of access
- It will offer the ability for clinical decision support to be auto populated with existing healthcare information, to take real time feeds of biometric data, and to consider genomics data in the future

4.12 Supporting a Transformation in the Design of Social Care Services

This programme will support those with a social care need to self-care, to plan and manage their care and finances, and to connect to carers and peers. The programme will support the work of local government, and also involve the independent and voluntary sector, and carers, who deliver the majority of care within England.

Working in partnership with local government, social care sector, carers and voluntary sector, we will support those with a social care need to self-care, to plan and manage their care and finances, and to connect to carers and peers.

We will support CCGs, local authorities and health and wellbeing boards to realise greater benefits across local systems:
- Utilise technology to support self-care in the home, and in residential care settings; and exploring the use of telehealth between care homes, primary and acute settings
- Develop digitalised personalised care assessment, budgets, planning and commissioning to provide people with more choice and control
- Provide online services such as information, self-assessments, care plans, reviews and feedback to help improve the citizen experience of social care
- Develop online care accounts to support delivery of the second part of the Care Act
- Support individuals and carers to share information better with providers
- Use the "NHS.UK" platform to support improved information services for social care
- Develop integrated health and care budgets, building on the work of the IPC pilot sites

APPENDIX A: DIGITAL DESIGN PRINCIPLES

nhs.uk

All services start and end with nhs.uk
The single point to access all health and care

Analytics throughout the journey
Channels demand to low cost, low intervention

NHS

Services / Transactions/apps

nhs.uk	nhs.uk	nhs.uk	nhs.uk	nhs.uk	nhs.uk	nhs.uk	nhs.uk
Find... GP, dentist, counsellor, health app etc.	**Book...** GP appointment, blood donation, hospital outpatient	**Apply...** Exemption from charges, EHIC vouchers	**Pay...** Prescription in advance	**Order...** Repeat prescription, anti-virals	**Register...** Organ donor: receive info and updates	**Report...** Medicine: side effects, safety, abuse	**Access...** Your personal health record and other digital health services and apps

All developed to the same standards. Easier to use than non-digital alternatives. Consistent look and feel regardless of supplier.

Platforms

Identity Assuring secure personal access	Payments Cross government	Appointments Cross government e.g. prison visiting	Messaging Reminders, notifications	Publishing Gov.uk	Personal Health Records Links with APIs, wearables, secure hubs	Symptoms/ Conditions

Discrete capabilities that can be consumed by multiple services and applications. Re-usable components and common standards.
Don't solve the same problem twice.

Registers / Data

Organisational details	Medicines	Licences	Performance/Outcomes	Apps	Other

A single source of knowing something – secure, accurate, well-managed, supporting many services equitably.

Standards

Service standards: All services must meet standards at alpha, beta, live. Will build on GDS work and supplement with health specifics
- User needs, design, consistent, assisted digital, in-house capabilities, security, flexibility, technology

Data standards: Easy to understand and widely agreed. Based on existing (open) standards. Protect privacy. Avoids lock-in (open APIs)
- Accountability, transparency, control, consent, interoperability, security, integrity, visibility, open data