The UK: Your partner for healthcare solutions

Digital health

Withdrawn 16 May 2019

HEALTHCARE IS GREAT
BRITAIN & NORTHERN IRELAND

Healthcare UK

The vital partner in global health

The UK is internationally renowned for delivering excellent healthcare. Our National Health Service (NHS) is the world's largest integrated health system. It has provided high-quality services for nearly 70 years, supported by academia and innovative commercial healthcare companies. This partnership creates breadth and depth of expertise that no other country can match.

Healthcare UK is your route to accessing this expertise. Whatever type of health facility, service or training programme you are planning, we can bring together the right UK organisations to meet your needs.

Our position in government gives us an excellent platform to support and promote international collaborations, working with UKTI's international network of offices in 107 markets around the world. As a joint initiative between the UK Government's Department of Health, the NHS and UK Trade and Investment (UKTI), we connect UK expertise to business opportunities, drawing on our broad network across the NHS, the private sector and academia.

This brochure is one of a set of five that explains the benefits you gain by partnering with UK healthcare organisations. The full set comprises:

– Education and training
– Infrastructure for health
– Digital health
– Clinical services
– Health systems development.

To find out how you can draw on our expertise to extend, improve and transform healthcare provision in your country, contact Healthcare UK:
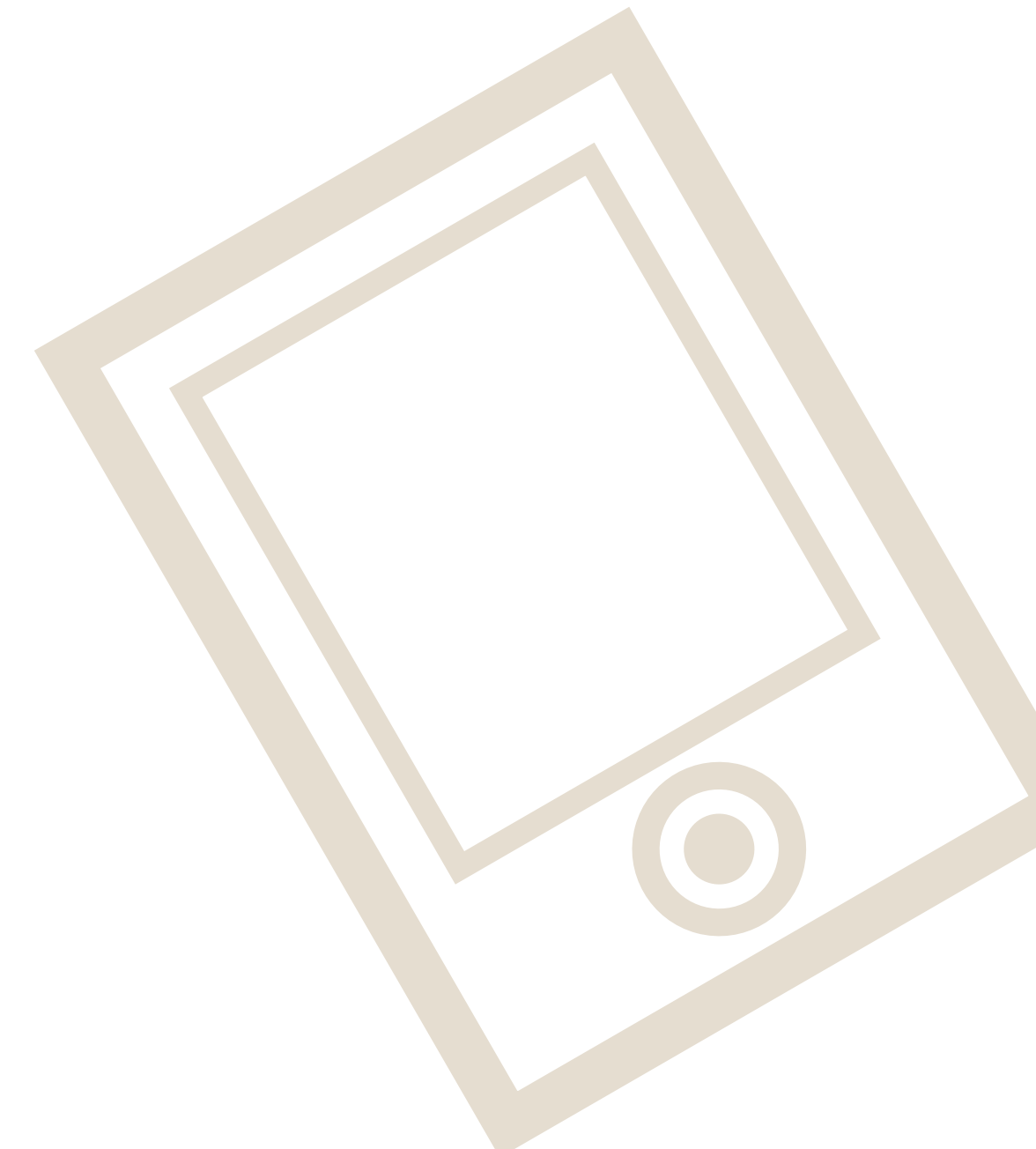
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Telecare and telehealth

services use technology to help people live more independently — for example by using alarms and health monitoring devices.

mHealth

uses mobile technology to improve access to information and deliver health and diagnostic services.

eHealth

uses the analysis of large datasets to aid clinical decision making, service management and medical research.

The UK – pioneering digital health solutions

Digital health has a crucial role to play in improving the reach, impact and efficiency of modern healthcare. The UK healthcare sector recognised this more than 30 years ago, and now develops some of the most sophisticated systems in the world for tracking, managing and delivering patient-centred services. If you are looking to digital health to improve access, reduce costs and raise quality, the UK has the expertise to make this happen.

Partnering with our digital health sector means your patients will benefit from tried and tested technology in areas such as telecare, telehealth, mHealth and eHealth. UK expertise can:

- bring care closer to home and out of the hospital
- empower patients to take control of their health
- reach out to communities in sparsely populated areas
- give clinicians, managers and researchers the tools to plan and deliver care and develop more effective treatments
- improve efficiency through the seamless transfer and analysis of vital information.

The simplest way to access this expertise is through Healthcare UK, the UK Government's specialists in international healthcare partnership working.

Why partner with the UK?

The UK is at the forefront of transforming healthcare services by using digital solutions to prevent and manage chronic illnesses more effectively, and motivate patients to participate in their own long-term care. This is not just our assessment – in 2014 the Commonwealth Fund rated the NHS as the most efficient health system out of 11 countries studied, due in part to the widespread and effective use of health information technology.[*]

This leading position has grown out of a unique environment for collaboration and innovation. Academics and clinicians from world-renowned institutions work with policy makers and dynamic private sector technology companies. These partnerships can access the vast resources of the National Health Service (NHS), the largest unified healthcare system in the world. Tap into UK expertise and you access a rich network with the capability to transform your healthcare delivery.

[*] Mirror, Mirror on the Wall, 2014 Update: How the U.S. Health Care System Compares Internationally. Davis, Stremikis, Squires and Schoen, The Commonwealth Fund 2014.

Plymouth University is leading the EU- funded ALIZ-E project to develop social robots to help children with diabetes.

Digital health systems and services

There are organisations in the UK that can support all types of digital health solutions. These capabilities can be broken down into three categories.

– Central systems and services work at a national or regional level to facilitate the entire digital health ecosystem. No matter where patients need treatment or what services they are referred to, their records can be accessed via a unique patient identifier. The data generated by these systems can be used to monitor service performance and plan health delivery according to demand.

– Local systems and services operate at the point of care, for example primary care record systems. Connectivity between different systems means a more efficient service for patients, aided by tools that support clinical decision making and service planning and delivery. Local systems can also facilitate the use of telemedicine as a cost-effective way to extend the reach of specialist services.

– Personal care solutions and services are used by individual patients as part of the increasing trend towards self-care in a mobile-internet world. They include technology that empowers patients to monitor, diagnose and treat themselves. Remote monitoring, symptom checking and problem identification solutions automatically alert healthcare professionals to the need for action.

1 million images

are stored on the N3 network every single day.

"By March 2015, everyone who wants it will be able to get online access to their own record as well as book appointments with their GP and order repeat prescriptions online."

The NHS Mandate

Central systems and services

To appreciate how UK digital health expertise can improve the efficiency of your health services at a national or regional level, consider its profound effect on our National Health Service. The NHS is a pioneer in the development of a single, comprehensive and instantly accessible and analysable database (known as 'N3'). The NHS in England is working to become paperless by 2018, making it the most modern digital health service in the world.

NHS Spine: one of the largest public healthcare platforms in the world
The NHS is a pioneering user of the single centralised healthcare database. The NHS Spine handles more than 150 million transactions every month from healthcare settings in a country where 100% of doctors' practices are computerised. The Spine integrates national databases to hold details of all people registered to use the NHS in England. The Patient Demographics Service is a component of the Spine and provides a single source of demographic information including NHS number, name, address and date of birth.

Developing the NHS Spine required the prime contractor for the project, BT Global Services, to manage teams from more than ten major IT organisations across multiple time zones. The contract is one of the largest IT programmes in the world, consuming over 15,000 man-years of effort to date.

Big data for research and public health development
The NHS uses the huge amount of data it generates as a powerful tool to support healthcare delivery, public health policy and medical research. Analysis of this rich dataset enables:

– identification of patterns of disease
– identification of the most effective ways to prevent, manage and treat illness
– monitoring of disease spread
– streamlining of care pathways to reduce inefficiencies
– fairer and more efficient allocation of resources
– identification of the best way to meet local community needs.

UK partnerships in action

Health & Social Care Information Centre (HSCIC)
HSCIC brings together knowledge and implementation skills for data, information and IT systems across the span of the health sector. Not only does HSCIC cover health and social care, but it also understands how to take disparate data from the entire health space in order to produce reliable indicators and products which allow key decisions to be made.

HSCIC is well versed in working on the global stage to help develop meaningful standards in health information. This knowledge is crucial for the interoperability of data and systems, without which it becomes very hard for providers to share information in order to improve the safety, quality and efficiency of care.

Recently HSCIC secured international status for the UK as an expert centre for global health classifications. It is committed to improve health through ongoing development, maintenance and promotion of an integrated suite of health classifications that provide information of value and utility across the world.

www.hscic.gov.uk

Scottish Care Information Diabetes Collaboration (SCI-DC)
SCI-DC uses big data to drive integrated care for patients with diabetes throughout Scotland. A real-time, web-based IT system holds records of over 270,000 Scottish patients with diabetes, including data on all areas of their healthcare. This visionary use of big data has transformed the way diabetes is managed and treated in Scotland, leading to better care and clinical outcomes. Rates of amputations and diabetic retinopathy have both decreased. Many patients have also agreed to take part in research on diabetes, enabling faster recruitment into clinical trials.

www.sci-diabetes.scot.nhs.uk

The Kuwait Scotland eHealth Innovation Network (KSeHIN)
KSeHIN aims to exploit the exceptional educational, research and informatics resources in Kuwait and Scotland to advance clinical care, research and training in diabetes and other chronic diseases. It is a collaboration between the Ministry of Health and Dasman Diabetes Institute in Kuwait and a Scottish consortium consisting of the University of Dundee, NHS Tayside and Aridhia, a Scottish company supporting the management of chronic diseases through health informatics.

Aridhia's Kuwait Health Network (KHN) informatics portal, which connects all primary health centres in Kuwait and the Dasman Diabetes Institute, is being rolled out nationwide to include all state-owned hospitals. A new disease registry and electronic shared clinical care record will support both integrated care of diabetes across Kuwait and world-leading collaborative research activities. KHN will link primary care clinics with hospitals and specialist clinics in real-time, presenting information at the point of care to improve decision making.

The registry will track the diabetic patient cohort, monitor clinical outcomes and implement public health screening to reduce disease complications. Aridhia is also integrating laboratory information system data from the major hospitals and polyclinics to provide a national reporting service.

www.aridhia.com

UK Biobank
UK Biobank has been created to have a central role in a long-term study to monitor people's health over a 30-year period. The project recruited 500,000 people aged between 40 and 69 years in 2006-2010 from across the UK. The participants have undergone various tests and provided detailed personal information. The study will create a powerful resource for identifying why some people develop particular diseases and others do not.

www.ukbiobank.ac.uk

UK partnerships in action

Local systems and services

"UK physicians stand out compared to physicians from other countries for receiving information about their performance.

The vast majority of UK doctors reported that they received and reviewed physicians' performance information."

The Commonwealth Fund, 2012

Digital health has brought huge benefits to primary care in the UK. A universal electronic patient record system allows doctors to work more efficiently, meaning patients get a better service. The system also gives feedback to doctors on their performance. You can access the same expertise used to develop the solutions below.

Integrating health and social care: Northern Ireland
Northern Ireland is the only part of the UK where health and social services are integrated. It has a single electronic care record for every patient, pulling together data from existing systems and making them available to authorised staff wherever the patient is located. Northern Ireland's approach has received an award from the European Commission as part of its European Innovative Partnership on Active and Healthy Ageing. Northern Ireland is now regarded as having one of the most successful systems in Europe for raising the quality of health and social care for the elderly.

www.dhsspsni.gov.uk/index/hss.htm

Joined-up healthcare using electronic patient records: TPP
British company TPP are dedicated to delivering world- class healthcare software through their innovative products: SystmOne, SystmOnline, SystmConnect and SystmInsight. Their philosophy is to join up healthcare based on a shared medical record, improving access to clinical data and empowering patients to take part in their care. They are known for their outstanding achievements in the UK, providing electronic health records in a single instance database for 35 million patients. More than 160,000 NHS staff use TPP's product, performing an average of 120 million transactions on TPP's servers every day.

Other countries are now implementing TPP's systems to improve the delivery of patient care.

China – TPP are working with the Zhejiang Provincial Centre for Disease Prevention and Control (CDC) in a project to enhance the public health surveillance system for Zhejiang's 54 million citizens. TPP are also working with Ninghai and Nanjing Health Bureaux on pilot projects to introduce an electronic patient record system into several community clinics.

Middle East – TPP has an agreement with health ministers from the Gulf Cooperation Council to explore the development and implementation of an electronic patient record system across the Gulf States. Specific projects include the possible introduction of a primary health electronic record system in Saudi Arabia and an international referral electronic system in Kuwait.

www.tpp-uk.com

Developing a community clinical information system in China: Nine Health Community Interest Company
Nine Health Community Interest Company (NHCIC) have signed a co-operation agreement with Lantone Technology Company from Hangzhou to develop an intelligent community clinic information system at sites in Zhejiang province.

The project will use innovative new semantic technology for clinical information support and intelligence processing using Chinese National Guidelines and Chinese medicine. NHCIC will be working with MiTac Corporation to deliver the mobile technology component of the system.

The first NHCIC China team members will include clinically qualified information systems experts with national and international design expertise, a system architect and an experienced developer of both Chinese and NHS systems.

www.ninecic.org.uk

UK partnerships in action

Primary care management systems: Albasoft

Albasoft provides clinical audit, quality assurance, payment verification and data extraction services to NHS Scotland. Their EScro software ensures that contracted clinical services are delivered to the minimum agreed standard. The system is in daily use by healthcare professionals across three Health Boards covering more than 300 practices.

www.albasoft.co.uk

Clinical decision support: BMJ Best Practice

BMJ Best Practice is a point-of-care decision support service which brings together regularly updated research evidence with guidelines and the knowledge of international experts, direct to the online device of their choice. BMJ Best Practice is used in over 60 countries by medical schools, ministries of health, public and private hospitals and health networks.

www.bestpractice.bmj.com

Avoiding emergency admissions: Airedale Hospital telemedicine service

The Yorkshire and the Humber Telehealth Hub partnership is one of the best examples of good practice in Europe in the telehealth field. Airedale Hospital provides telemedicine services to help patients manage chronic illness effectively and avoid unnecessary admissions to hospital. Patients linked to the telehealth hub include those with chronic heart failure, chronic obstructive pulmonary disease and diabetes. Over 2,000 care home residents are also linked to the telehealth hub.

The hub is staffed 24 hours a day, seven days a week. The patient's doctor is instantly informed about any consultations which occur via the telehealth hub. During the first six months of operation, almost half of patients contacting the hub avoided visiting Accident and Emergency. Only 15% of patients needed admission and in these cases the process was streamlined to allow direct admission to a ward. Consultations in clinics via video link also save patients from having to go to hospital.
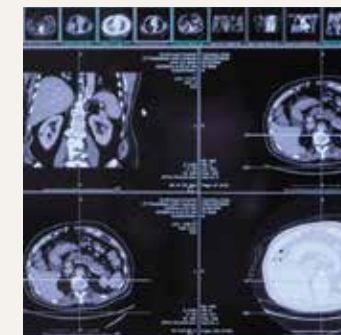
www.airedale-trust.nhs.uk

Innovation to improve diagnosis of dementia: IXICO Ltd

Early diagnosis of dementia can help patients access support and treatment that slows the progress of the disease. IXICO, a world-leading imaging company, developed Assessa, a digital tool that supports early and accurate diagnosis – a facility that, at the time, was only available in a few specialist centres.

IXICO's unique technology – quicker, cheaper and more accessible than the previous alternatives – is now being used in 450 imaging centres globally, including 25 hospitals in ten cities across China. The technology is also being piloted in the UK in community and hospital settings. In December 2013 IXICO signed an agreement with the Beijing Union Medical and Pharmaceutical General Corporation to support dementia diagnosis and advance public understanding of the disease.

www.ixico.com

UK partnerships in action

Personal care solutions

75%

of the UK population go online for health information.

>50%

of the UK population use the internet to self-diagnose.

Self-care
Digital technologies are empowering people to understand and manage their own health. UK expertise can be especially valuable if you are planning services to meet the needs of an ageing population. There are excellent examples of UK organisations delivering digital services to relieve pressure on frontline services.

A trusted source of healthcare information: NHS Choices
With about 40 million page visits a month, NHS Choices is the biggest and most visited health information website in Europe and one of the ten most visited health portals in the world. It includes more than:

– 20,000 regularly updated articles
– 1,000 videos
– 120 health tools
– 50 postcode-search directories to help visitors find, choose, compare and comment on health services across England.

Partnership with a wide range of providers is vital to the site's success. Around 10 million people each month access NHS Choices via more than 400 partner websites and applications run by NHS organisations, local authorities and commercial companies.

www.nhs.uk

Other self-help portals
Many UK organisations, working closely with the NHS, run online portals to help people manage their health and remain independent for longer.

Grey Matters provides state-of-the-art online resources that improve people's lives, promote communication and allow them to stay in their homes. Supporting people with long-term conditions such as dementia, hypertension and rheumatoid arthritis, the range of customisable solutions includes health records, real-time communication, specific modules for each condition and games to influence patient behaviour and enhance patient-carer interaction.

www.greymattershc.co.uk

The effective delivery of telehealth can reduce:*

Mortality rates by	A&E visits by
▼ 45%	▼ 15%

Emergency admissions by	Elective admissions by
▼ 20%	▼ 14%

Bed days by	Tariff costs by
▼ 14%	▼ 8%

* Whole System Demonstrator programme, conducted for the NHS in England.

Handle my Health helps people to manage their medication and improve overall quality of life. Available on smartphones and tablets, it allows patients to:

– set medicine reminders
– track how medication and illness is affecting them over time
– share this information with healthcare professionals.

www.handlemyhealth.eu

Telehealth
The UK is currently the largest spender in the EU on telehealth. You can access the expertise gained through running the largest randomised control trial of telehealth and telecare in the world – the Whole System Demonstrator programme.

Proving the benefits of telehealth
Conducted for the NHS in England, the Whole System Demonstrator programme involved more than 6,000 patients and 238 doctors' practices across three areas in England. More than 3,000 people with one of three conditions (diabetes, heart failure and chronic obstructive pulmonary disease) were included in the trial.

mHealth
The UK's success at creating ground-breaking mHealth applications stems from collaboration between specialists in our technology and creative sectors. This combination of expertise – including software engineering, interactive and interface design, 3D animation and games development – can help you deliver innovative mHealth applications.

The world's first mobile connected diabetes management system: Cellnovo
The Cellnovo system is the world's first mobile-connected diabetes management system. It uses intuitive operation and real-time tracking to help users enjoy life, reassured by the ability to monitor blood glucose levels, insulin use, activity and diet. The on-line data management system sends instant clinical information to healthcare professionals and caregivers.

www.cellnovo.com

UK partnerships in action

The Well Happy App: DW and NHS London

NHS London asked mobile app company DW to create a smartphone app that gives young people easy access to information on the vast range of support services on issues such as mental health, sexual health, drugs, alcohol and smoking. The result is the Well Happy App, an accessible source of information on more than 1,000 support services. The app has a social networking facility via email or text which can be used, for example, to send out eCards illustrating particular health issues. The Well Happy App also integrates a custom third party web service which pinpoints services on a Google Map.

www.dw-uk.com

Your.MD

Using information from NHS Choices, Your.MD provides personalised healthcare advice on mobile devices. Individuals are able to access information on how to identify, treat, and live with conditions in seconds. Your.MD helps both people in the western world with busy lives and those in developing countries where access to primary healthcare may be limited.

www.your.md

Be He@lthy Be Mobile: UK expertise for a global mHealth service

Be He@lthy, Be Mobile is a global mHealth program fighting non-communicable diseases in low and middle income countries. Healthcare provider BUPA, British multinational healthcare company GlaxoSmithKline and Public Health England are key partners in a ground-breaking collaboration led by the World Health Organization and the International Telecommunication Union. The programme is developing approaches to combat diseases such as diabetes, cancer, cardiovascular and chronic respiratory conditions.

www.itu.int/en/ITU-D/ICT-Applications/eHEALTH/Be_healthy

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