100 years PAGB

Self care and technology: Harnessing the potential of technology to transform self care

PAGB Representing the Consumer Healthcare Industry since 1919

Then. Now. Tomorrow.

Self care comprises the actions that individuals take for themselves, on behalf of and with others, to develop, protect, maintain and improve their health, wellbeing and wellness.

Introduction

Self care can be described as a continuum (see Figure 1), ranging from promoting everyday wellbeing and taking care of self-treatable conditions to the management of long term conditions and recovering after trauma.

Digital technology is already supporting people to manage their own health across this continuum.

However, as we noted in our recent Self Care White Paper, more can be done to utilise these digital solutions to support and increase self care.

This paper outlines some of the most common technologies already supporting self care and sets out a vision for how they could be advanced in the future, drawing on examples from across the world.

In exploring the future potential of technology in self care, we have drawn on existing literature, case studies, and interviews with PAGB members.

Beyond considering the possibilities of how technology can support self care, in each section we have set key steps to make this future a reality.

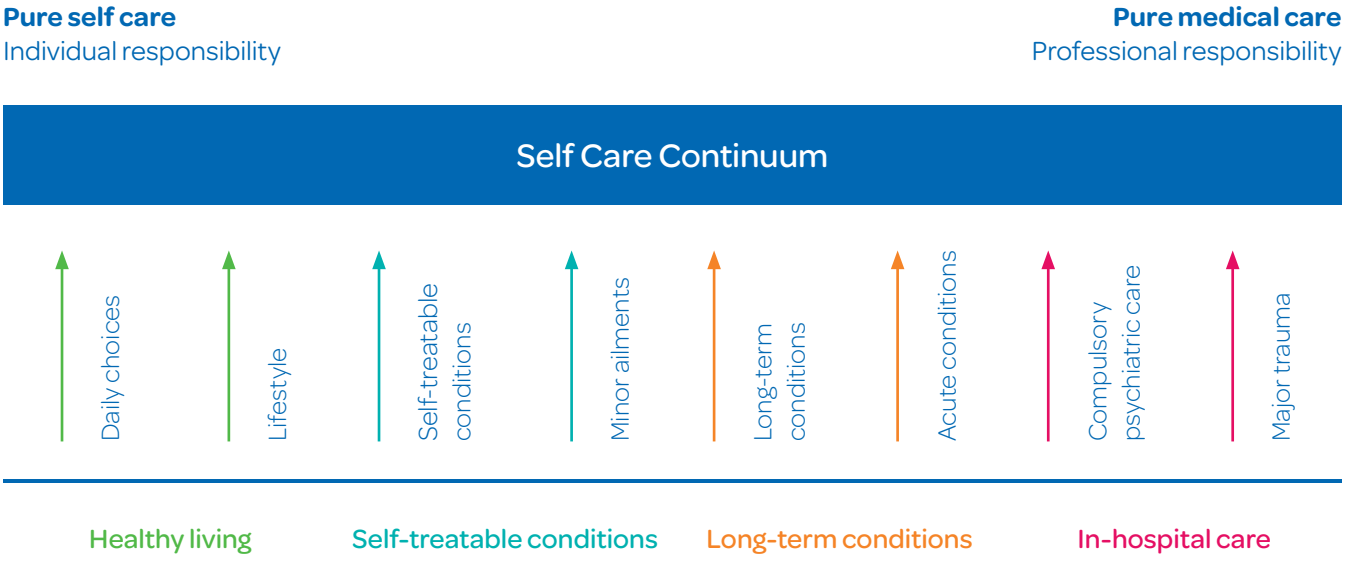


Figure 1: Self Care Forum, *The Self Care Continuum*

Recommendations

1

NHS England to develop a self care section in the NHS app and on the NHS website which includes fact sheets, such as those from the Self Care Forum, and easy to understand videos to improve people's understanding of self care, building on the success of initiatives already directing people to innovative resources like www.what0-18.nhs.uk

2

NHSX to explore how existing apps and wearables could support greater self care, encourage the use of pharmacies and help manage demand on local GPs

3

NHSX to address barriers to the development of apps and wearables which safely promote self care

4

NHS England to require access to pharmacist advice and support be included within Primary Care IT systems, along with digital access to the OTC directory for GPs and other healthcare professionals

5

NHSX to ensure online triage systems direct people based on their symptoms and signpost to local pharmacies for self-treatable conditions, rather than connecting them to a GP

6

NHS England to give community pharmacists 'write' access to patient health records

PAGB is committed to working with the Government and NHS England to support the advancement of self care.

Given the ambitions set out in the Long Term Plan, both to help people stay healthy through predictive prevention and to upgrade technology and digitally enabled care across the NHS, we hope this paper is a welcome contribution.

Digital technology supporting the self care continuum

Digital technology is available to support individuals along the self care continuum.

However, discussions on digital technology often focus on how it is improving hospital-based care, enabling greater access to GP services and supporting people with long term conditions.

This paper explores how digital technology is also supporting the other end of the self care continuum.

This includes technology which people already use on a day-to-day basis, that can be harnessed to support self care: online information and advice, lifestyle apps and wearables, online symptom checkers, digital triage and integrated electronic health records (see Figure 2).

This paper explores each of these technologies in more detail.

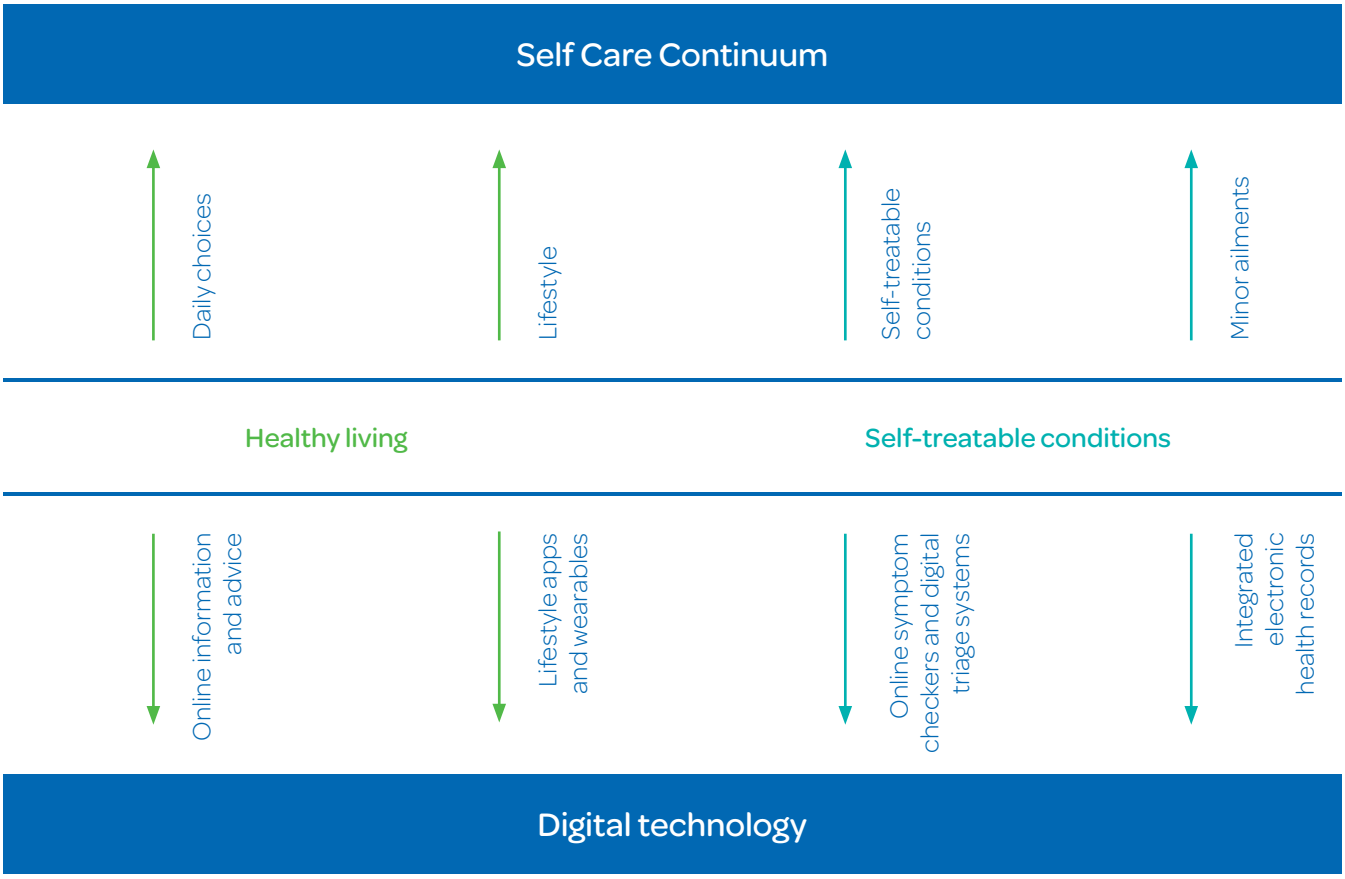


Figure 2: Self care continuum supported by digital technology

Online information and advice

Now

In 2018, 54% of adults in Great Britain looked online for health-related information[i]. This represents a significant increase over the past decade, up from just 25% in 2008[ii].

There are three key benefits of websites such as **www.nhs.uk** and **www.selfcareforum.org**, which includes high quality fact sheets with information on what people can expect, how they can help themselves and when they should seek medical assistance for common ailments[iii].

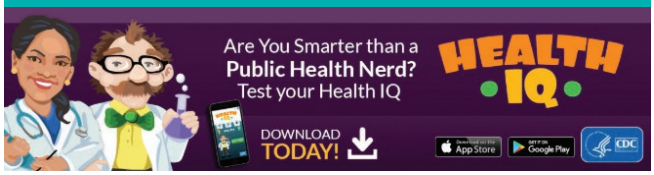
Evidence shows that people who have access to health information online[iv]:

- Have more productive conversations with their healthcare professionals
- Develop a better understanding of their prognosis
- Save themselves and the system time by accessing information independently rather than making appointments with the GP

Case study 1: Improving health literacy through technology in America

The U.S. Centers for Disease Control and Prevention has developed an app that can help users improve their health literacy.

Available in Spanish and English, and compatible with both the iPhone and Android, the Health IQ platform is a trivia-based tool that can help individuals learn more about important health topics.



However, at 54%, the percentage of adults looking online for health-related information is still far lower than for other online activities. For example,

77%
of adults use the internet to look up information about goods and services

69%
of adults use online banking[v]

90%
of all households in Great Britain have access to the internet

86%
of adults use the internet daily

More should be done to encourage greater use of reliable and trustworthy online sources, such as the Self Care Forum, the NHS website and over-the-counter (OTC) medicine brand websites[vi].

In the future

Online health information in the future should take advantage of the greater flexibility online platforms provide. Some local areas are already exploring this, using videos, diagrams, animations and multi-language options to explain symptoms of self-treatable conditions and how to manage them[vii].

Looking internationally, we can also see examples of how this information has been collated at a national level to improve health literacy (see case study 1).

The flexibility to provide more information to people via digital technology such as QR Codes and NFC chips should also be explored. At present, guidelines allow QR Codes and NFC chips to direct people to an OTC medicine's patient information leaflet. However, in the future this could also be used to provide broader information, including instructional videos, to help empower people to self care.

How to get there

To encourage more people to access health information online, more needs to be done to ensure that the information is presented in a user-friendly way and is accessible through technology such as QR codes.

60%

of England's working age population find health material containing both numbers and text too complicated[viii].

Moreover, people from more disadvantaged socioeconomic groups have been identified as having disproportionally low or inadequate health literacy[ix].

71%

of the public think there should be better education around self-treatable conditions and relevant services to encourage more people to self care[x].

With greater signposting to reliable and trustworthy online resources and clearer, easier to understand content it is possible to imagine a future where health literacy levels are improved, and the public is better informed about how to stay healthy and self care for self-treatable conditions. Ultimately, this will reduce demand on our over stretched NHS and support the NHS Long Term Plan's ambition to ensure people access the right care at the right time.

We are therefore calling for:

1. NHS England to develop a self care section in the NHS app and on the NHS website which includes fact sheets, such as those from the Self Care Forum, and easy to understand videos to improve people's understanding of self care, building on the success of initiatives already directing people to innovative resources like **www.what0-18.nhs.uk**

Lifestyle apps and wearables

Now

In 2017 there were 325,000 health apps available worldwide[xi]. This is a rapidly growing industry with 78,000 new apps added in 2017 alone[xii].

Two-thirds of all health apps and wearables relate to healthy living, including fitness, lifestyle, stress, diet and nutrition[xiii].

There is emerging evidence that these apps can have a positive impact on diet monitoring, physical activity, adherence to medication and management of long-term conditions[xiv].

By using behaviour-change techniques such as promoting goal setting, reviewing progress and feeding back on performance, these apps have the potential to improve individuals' daily choices and lifestyle decisions, encouraging healthier living.

Companies are also starting to explore how apps can work together with self care products to improve healthy living (see case study 2)[xv].

However, we know that adherence to apps frequently declines over time, especially when healthcare professionals are not involved in encouraging use [xvi].

Case study 2: Nicorette

Johnson & Johnson Limited is investing in building a digital ecosystem that, beyond Nicorette® products, offers advice and support to help smokers quit for good. Given that up to 76% of quitters give up on their quit attempt after one week, the need for additional support along this difficult journey is clear and is proven to increase the likelihood of quitting by up to 4x*.

As part of this initiative, the Nicorette® website has been upgraded with new content, features and an easy-to-navigate framework and design. In addition to the popular Product Selector and My Quit Plans, the website also features blog articles, a Pharmacy locator (to help smokers reach their nearest pharmacy), email & newsletters for on-going tips and support, a social community (closed) group via Facebook, new Quitter testimonials for inspiration, ratings and reviews, and the ability to buy products from the site, together with sales support live chat functionality.

The Nicorette® brand also plans to use this as a learning platform, utilising big data to better understand consumer journeys to enable support services to be personalised to different types of quitters.

In addition to the website, the Nicorette® app is also available to support smokers through their quit journey by tracking their smoke-free days and how much money they have saved from not smoking. The app also sets challenges to help motivate them to achieve their milestones and provides distractions to help when cravings strike.

*Using stop smoking services increases likelihood to quit vs willpower alone. Nicorette contains nicotine. Stop smoking aid. Requires willpower. Always read the label. UK/NI/19-14189.

In the future

Over the next five years it is predicted that artificial intelligence (AI) and remote monitoring will be the most disruptive forces in health apps and wearables[xvii].

Although not yet widespread, some AI-powered, consumer-operated diagnostic and monitoring devices are already on the market across the world. These are transforming how people interact with the health system.

For example, a Dutch start-up called SkinVision has developed an app that could identify skin cancer[xvii]. By uploading an image of their suspected skin problem to the app's database the user can be either reassured or directed to seek medical attention.

Looking to the future we can imagine such uses will be widespread. Through AI, apps will not only be able to track activity, they will be able to offer tailored, automatic self-management advice to support healthy living.

How to get there

As apps and wearables move from monitoring activity and encouraging healthy living to providing personalised advice, it will be essential that these devices include self care.

Each year there are an estimated 18 million GP appointments for self-treatable conditions[xix].

This includes:

5.2 million
GP visits every year for blocked noses

over 1 million
GP appointments each year for backache

40,000
appointments per year for dandruff[xx]

Apps and wearables have the potential to help reverse this trend, changing the behaviour of users, directing them to self care where appropriate and encouraging greater use of their local community pharmacists.

To support this, we are calling for:

2 NHSX to explore how existing apps and wearables could support greater self care, encourage the use of pharmacies and help manage demand on local GPs

3 NHSX to address barriers to the development of apps and wearables which safely promote self care

Online symptom checkers and digital triage systems

Now

Online symptom checkers and digital triage systems are already being used across the UK.

These have the potential to support more and better self care, with one UK pilot finding that among users of an online triage platform, for every one user who required a GP response, five users required online self-help only[xxi].

However, online symptom checkers and digital triage systems which offer to connect users directly to GPs if needed, also threaten to increase demand on GP time. Currently the algorithms that sit behind these interactive symptom checkers and digital triage systems are often risk averse, recommending professional care when self care is appropriate[xxii].

In the future

The personalisation of online symptom checkers and digital triage is likely to transform the information people can receive through the triage process, and hopefully address the inherent risk aversion currently built in, by ensuring they receive more tailored information.

By using anonymised personalised data from millions of people to develop algorithms which take into account the user's own medical history, some companies are already leading the way in how this might be done (see case study 3).

Case study 3: Developing a personalised symptom checker

Israel based technology start-up K Health has developed an online symptom checker which uses real world data from millions of people and clinical outcomes from thousands of doctors. The result is highly relevant information on hundreds of diseases.

Through machine learning, K Health builds a private profile for each user based on a set of approximately 20 questions about their age, gender, health history and symptoms. This is then compared with the vast database to develop a list of outcomes experienced by people with similar health circumstances and a percentage of the likelihood of each diagnosis.

Through local partnership, K Health then has the capability to connect people with clinicians in their area, if appropriate, sharing the developed reports and profiles ahead of appointments[xxiii].

Some areas within the NHS are already starting to explore how to further advance the NHS 111 non-emergency triage system, putting in place virtual avatars to direct people to appropriate care (see case study 4).

As AI technology enables a more personalised approach to health, it will be essential that information regarding self care and the importance of pharmacy is not overlooked.

Whether it is within online symptom checkers, pre-GP triage avatars or advanced NHS 111 triage systems, information on self care and engagement with pharmacists must be provided to users. Without it, demand on GPs will continue to grow and the Government's aims to achieve greater self care will not be met.

How to get there

As these technologies and associated care pathways are being developed, it is critical they incorporate the role of community pharmacists and empower people to self care when it is appropriate.

There are over

11,000

community pharmacies in England, many of which have extended evening and weekend hours.

99%

of those living in areas of highest deprivation are within a 20-minute walk of a community pharmacy, making pharmacies an accessible resource for people with health concerns living in these areas.

Case study 4: Virtual nurse avatar in Dudley Clinical Commissioning Group

To reduce pressure on both GP services and NHS 111 triage, Dudley Clinical Commissioning Group introduced a Sensely Mobile triage app, called 'Ask NHS" which uses a virtual nurse avatar, named 'Olivia' to assess the user's needs through a series of questions modelling a clinician-patient interaction.

The user is then directed to the most appropriate service[xxiv].

The app has had over 200,000 downloads in the UK[xxv].

The 2019 NHS Long Term Plan made two important commitments to help realise the true potential of community pharmacy and support greater self care within the community[xxvi]:

- NHS 111 will start referring to community pharmacies
- GPs will also be able to refer to pharmacies through the pharmacy connection schemes

Introducing such pharmacy referral schemes will encourage people to visit their pharmacies first, should they require healthcare advice, and strengthen the role pharmacists play in the care pathway.

However, at present, developments in technology often do not reflect this momentum. Instead the focus remains on ways in which technology can connect people with GPs outside of the GP surgery. This does not fundamentally address the overreliance on GPs which plagues the primary care setting.

To address this imbalance and support greater self care where appropriate, the role of pharmacists must be recognised. To enable this, data from triage systems, clinical outputs and pharmacists must also be made available to AI technology developers.

Once the technology is in place, all online GP services should check whether a user could access the help they need from a pharmacist before connecting them to a GP.

To equip GPs to support individuals to self care, reliable information on self care products, such as the OTC Directory[xxvii], should be readily available and the potential to integrate this into GP IT systems should be explored.

To support this, we are calling for:

4 NHS England to require access to pharmacist advice and support be included within primary care IT systems, along with digital access to the OTC directory for GPs and other healthcare professionals

5 NHSX to ensure online triage systems direct people based on their symptoms and signpost to local pharmacies for self-treatable conditions, rather than connecting them to a GP

Integrated electronic health records

Now

The introduction of electronic health records allows people to manage their own health, supporting both healthier living and self care for self-treatable conditions.

Additionally, electronic health records offer the potential for multiple healthcare professionals across primary care to have up-to-date information on a patient.

In England, the Government aims to introduce a comprehensive system of electronic health records by 2020. However, as noted by the Department of Health and Social Care, the ability within the NHS to share records between hospitals, GPs, community pharmacies and care providers is inconsistent[xxvii].

If NHS England is to deliver on the NHS Long Term Plan's ambition that pharmacists are to undertake medicines reviews, ensure people are getting the best from their treatment, reduce waste and promote self care, it needs to address this interoperability challenge and ensure pharmacists have full read and write access to patient health records.

In the future

By addressing the interoperability challenge, community pharmacists would not only be able to view records, they would be able to write in them as well. Learning from international examples, we know that when pharmacists are able to write in patient records, they are better placed to support self care and play a more active role in keeping the community well (see case study 5).

How to get there

The NHS Long Term Plan sets out an ambition to accelerate the roll-out of digitally enhanced services, from GP consultations through to outpatient appointments. However, pharmacy is notably left behind, despite the majority of patients being happy for their notes to be shared across the primary care team[xxx].

The NHS needs to consider how pharmacists are enrolled in the digital care pathways. We believe giving community pharmacists 'write' access to patient health records will be an important first step in this.

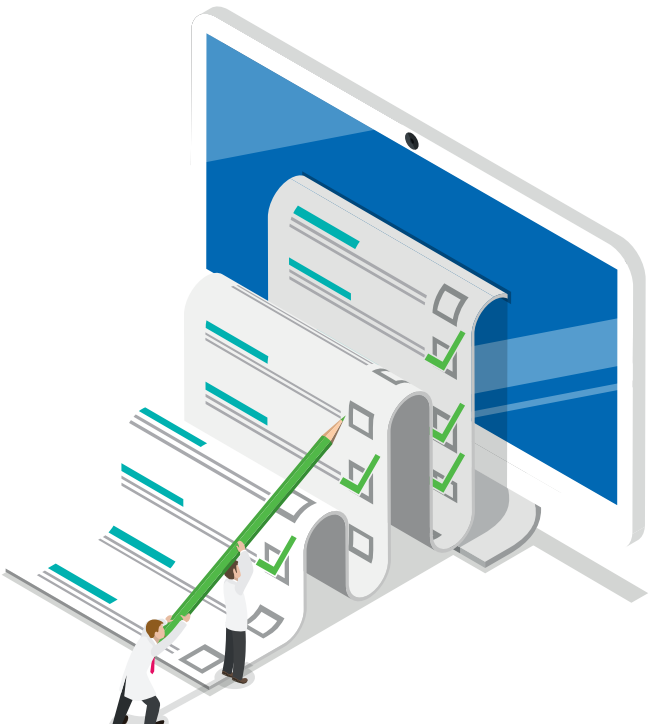
Case study 5: Singapore's system to ensure pharmacists are writing to patient records

Singapore's National Electronic Health Records (NEHR) system has been used since 2011 in both public and private healthcare institutions with the aim of achieving a 'one patient, one health record' vision.

The secure system collects summary patient health records across different healthcare providers, including pharmacists – who have full read/write access. The Patient Medication List further supports pharmacists in medication reconciliation for people who may visit multiple care providers. Anonymised data from the NEHR are used for research and health insights. People can also access part of their health records through a secure mobile app[xxviix].

We are therefore calling for:

6 NHS England to give community pharmacists 'write' access to patient medical records



When advances in digital technology are discussed within health, the focus is often on improving hospital-based care or enabling greater access to GP services.

Despite the contributions digital technology is currently making to support self care and the even greater potential it has to do so in the future, the application of digital technology within the self care setting is often overlooked by the NHS.

To address this, policy changes are needed to embed self care within the digital agenda.

We hope by setting out the ways in which digital technology is already supporting self care and the many ways in which it can do so in the future, we have highlighted the important overlap between the Government's ambition to help people stay healthy and upgrade technology and digitally enabled care.

References

i Office for National Statistics. Internet access – households and individuals, Great Britain: 2018. August 2018. Available here: https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/bulletins/internetaccesshouseholdsandindividuals/2018

ii Office for National Statistics. Internet access – households and individuals, Great Britain: 2018. August 2018. Available here: https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/bulletins/internetaccesshouseholdsandindividuals/2018

iii Self Care Forum. Fact sheets. February 2019. Available here: http://www.selfcareforum.org/fact-sheets/

iv Nuffield Trust. The digital patient: transforming primary care?. November 2016. Available here: https://www.nuffieldtrust.org.uk/files/2017-06/1497259872_nt-the-digital-patient-web-corrected-p46-.pdf

v Office for National Statistics. Internet access – households and individuals, Great Britain: 2018. August 2018. Available here: https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/bulletins/internetaccesshouseholdsandindividuals/2018

vi Office for National Statistics. Internet access – households and individuals, Great Britain: 2018. August 2018. Available here: https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/bulletins/internetaccesshouseholdsandindividuals/2018

vii Clapham Park Group Practice. econsult. Available here: https://www.claphamparkgp.com/econsult

viii Nuffield Trust. The digital patient: transforming primary care?. November 2016. Available here: https://www.nuffieldtrust.org.uk/files/2017-06/1497259872_nt-the-digital-patient-web-corrected-p46-.pdf

ix PAGB. Self Care White Paper. March 2019. Available here: https://www.pagb.co.uk/content/uploads/2019/03/PAGB_Self-Care_White-Paper_v1-0.pdf

x PAGB. Self Care White Paper. March 2019. Available here: https://www.pagb.co.uk/content/uploads/2019/03/PAGB_Self-Care_White-Paper_v1-0.pdf

xi Research 2 Guidance mHealth App Economics 2017. November 2017. Available here https://www.uzelf.org/wp-content/uploads/2017/12/R2G-mHealth-Developer-Economics-2017-Status-And-Trends.pdf

xii Research 2 Guidance mHealth App Economics 2017. November 2017. Available here https://www.uzelf.org/wp-content/uploads/2017/12/R2G-mHealth-Developer-Economics-2017-Status-And-Trends.pdf

xiii Nuffield Trust. The digital patient: transforming primary care?. November 2016. Available here: https://www.nuffieldtrust.org.uk/files/2017-06/1497259872_nt-the-digital-patient-web-corrected-p46-.pdf

xiv Nuffield Trust. The digital patient: transforming primary care?. November 2016. Available here: https://www.nuffieldtrust.org.uk/files/2017-06/1497259872_nt-the-digital-patient-web-corrected-p46-.pdf

xv Nuffield Trust. The digital patient: transforming primary care?. November 2016. Available here: https://www.nuffieldtrust.org.uk/files/2017-06/1497259872_nt-the-digital-patient-web-corrected-p46-.pdf

xvi Nuffield Trust. The digital patient: transforming primary care?. November 2016. Available here: https://www.nuffieldtrust.org.uk/files/2017-06/1497259872_nt-the-digital-patient-web-corrected-p46-.pdf

xvii Research 2 Guidance mHealth App Economics 2017. November 2017. Available here https://www.uzelf.org/wp-content/uploads/2017/12/R2G-mHealth-Developer-Economics-2017-Status-And-Trends.pdf

xviii Interesting Engineering. These 7 AI-Powered Doctor Phone Apps Could Be the Future of Healthcare. January 2019. Available here: https://interestingengineering.com/these-7-ai-powered-doctor-phone-apps-could-be-the-future-of-healthcare

xix PAGB. A Self Care White Paper: supporting the delivery of the NHS Long Term Plan. March 2019. Available here: https://www.pagb.co.uk/content/uploads/2019/03/PAGB_Self-Care_White-Paper_v1-0.pdf

xx PAGB. A Self Care White Paper: supporting the delivery of the NHS Long Term Plan. March 2019. Available here: https://www.pagb.co.uk/content/uploads/2019/03/PAGB_Self-Care_White-Paper_v1-0.pdf

xxi Nuffield Trust. The digital patient: transforming primary care?. November 2016. Available here: https://www.nuffieldtrust.org.uk/files/2017-06/1497259872_nt-the-digital-patient-web-corrected-p46-.pdf

xxii Nuffield Trust. The digital patient: transforming primary care?. November 2016. Available here: https://www.nuffieldtrust.org.uk/files/2017-06/1497259872_nt-the-digital-patient-web-corrected-p46-.pdf

xxiii VB. Online symptom checker K Health raises $12.5 million, launches in New York City. July 2018. Available here: https://venturebeat.com/2018/07/17/online-symptom-checker-k-health-raises-12-5-million-launches-in-new-york-city/

xxiv ICF. Evaluation of Value Proposition Projects Dudley Clinical Commissioning Group. November 2017. Available here: https://www.strategyunitwm.nhs.uk/sites/default/files/2018-02/Dudley%20Evaluation%20of%20Value%20Proposition%20Projects%20-%20November%202017.pdf

xxv NHS Dudley CCG. Ask NHS app goes live in Dudley. Accessed: April 2019. Available here: http://www.dudleyccg.nhs.uk/ask-nhs-app-goes-live-in-dudley/

xxvi PAGB. A Self Care White Paper: supporting the delivery of the NHS Long Term Plan. March 2019. Available here: https://www.pagb.co.uk/content/uploads/2019/03/PAGB_Self-Care_White-Paper_v1-0.pdf

xxvii PAGB. OTC Directory. Available here: http://otcdirectory.pagb.co.uk

xxviii DHSC. The future of healthcare: our vision for digital data and technology in health and care. October 2018. Available here: https://www.gov.uk/government/publications/the-future-of-healthcare-our-vision-for-digital-data-and-technology-in-health-and-care/the-future-of-healthcare-our-vision-for-digital-data-and-technology-in-health-and-care

xxix PAGB. A Self Care White Paper: supporting the delivery of the NHS Long Term Plan. March 2019. Available here: https://www.pagb.co.uk/content/uploads/2019/03/PAGB_Self-Care_White-Paper_v1-0.pdf

xxx Healthandcare.scot. Report finds support for tech-enabled NHS. July 2019. Available here: https://healthandcare.scot/default.asp?page=story&story=633

PAGB, the consumer healthcare association, represents the manufacturers of branded OTC medicines, self care medical devices and food supplements in the UK.

For further information please contact

Donna Castle
Senior Director of Public Affairs and Communications

donna.castle@pagb.co.uk
020 7421 9315

PAGB
Representing the Consumer Healthcare Industry since 1919
Then. Now. Tomorrow.