

**YOUTH HEALTH
PARLIAMENT**

INNOVATION & THE NHS:

**TIME TO START
THINKING LIKE
A STARTUP?**

DECEMBER 2016

**YOUTH
HEALTH
PARLIAMENT**



CONTENTS

1. EXECUTIVE SUMMARY	2
2. INTRODUCTION	4
3. OUR FINDINGS	5
3.1 IDEA GENERATION	6
3.1.1 STAGE DEFINITION	6
3.1.2 INTERVIEW FINDINGS	6
3.2 PRODUCT DEVELOPMENT	7
3.2.1 STAGE DEFINITION	7
3.2.2 INTERVIEW FINDINGS	7
3.3 PILOTING AND CLINICAL EVIDENCE	10
3.3.1 STAGE DEFINITION	10
3.3.2 INTERVIEW FINDINGS	10
4. SUMMARY OF RECOMMENDATIONS	12
5. CONCLUSION	13
ACKNOWLEDGEMENTS	14
APPENDIX A: REFERENCES	15
APPENDIX B: LIST OF INTERVIEWEES	16

1 EXECUTIVE SUMMARY

The NHS is facing an exponential increase in challenges as a result of a growing, ageing and digitally savvy population. Coupled with a rise in chronic conditions, this has led to increasing demand in the UK's healthcare services. In light of this, NHS England is projecting a £30 billion funding gap by 2020. Undoubtedly, the NHS must make bold transformations to ensure it is fit for purpose in the 21st Century.

Emerging healthcare technologies and innovations can provide at least part of the solution to these challenges. Evidence from other industries strongly suggests technology can provide substantial cost efficiencies for the NHS, create value for patients and even advance practice. While there have been some promising ventures and partnerships, like MedCity and Digital Health London, the adoption of innovation and use of technology in health services is simply not happening fast enough. Having interviewed fourteen healthcare professionals and organisations, including accelerators, startups and NHS representatives, our research has identified the following key barriers to innovation:

- **a lack of awareness among the public of the benefits and capabilities of digital health services, combined with patient concerns regarding confidentiality;**
- **a lack of support available to digital health innovators, from the 'idea generation' stage onwards;**
- **a lack of clear communication from the NHS on standardised points of contacts, and processes for piloting and clinical evidence gathering.**

Despite a number of reports¹ and steps taken to address the innovation gap, there remains a perception that not enough is being done to encourage innovation in the NHS. This paper reviews the current state of play for innovation in the NHS and provides recommendations on how to radically increase the number of ventures and partnerships in this space.

1. Recently including Health Foundation (2015) and Institute for Public Policy Research (2015).

1 EXECUTIVE SUMMARY

RECOMMENDATIONS

RECOMMENDATION 1:

The Government and NHS to launch a national 'Digital Health Week': a public engagement campaign to raise awareness of the benefits of digital health and its capabilities.

RECOMMENDATION 5:

Establish a standardised national programme for supporting digital development and innovation in the NHS with the involvement of local governments and CCGs.

RECOMMENDATION 2:

Establish healthcare innovation centres based on the successful Helix Centre model (St. Mary's Hospital, London) in other large cities in the UK.

RECOMMENDATION 6:

NHS to partner with universities and expert bodies to develop information toolkits and innovation representatives who can support startups at all stages in advancing their concepts.

RECOMMENDATION 3:

Academic Health Science Networks to directly approach startups to join innovation programmes via their existing connections with universities.

RECOMMENDATION 7:

NHS test bed sites to be expanded and made easier to access to allow startups to leverage the full benefits of these spaces for rapid and safe testing of new digital services.

RECOMMENDATION 4:

The Government to promote the addition of healthcare innovation and healthcare management modules to existing university medical curriculums.

RECOMMENDATION 8:

Embed a centralised approval system within the NHS (and its providers) which demonstrates that adopted digital innovation is secure and puts patient confidentiality at its core.

2 INTRODUCTION

The NHS is considered by many as one of the UK's greatest institutions. Over one million people are treated every 36 hours and the need for lower cost, disruptive innovations is greater than ever (Barlow, 2016).

The Youth Health Parliament is a group of passionate young people who have endeavoured to provide fresh insights into the management of innovation pathways in the UK without repeating extensive research and recommendations that have gone before (Deloitte, 2016). This paper provides a snapshot of the current state of play for innovation in the NHS. Our goal is to provide policymakers with a clear view of what entrepreneurs understand to be the route to market into the NHS. We also hope that our recommendations can encourage further support for the adoption of digital health innovations at scale, moving successful innovations from initial care provider pilot studies to other care providers across the UK.

Digital innovations are increasing within the healthcare space and they could go a long way in supporting a sustainable NHS. Enormous potential is found in innovations such as the Care4Today® cardiac rehabilitation programme, launched in 2013 by the Buckinghamshire Healthcare NHS Trust (Janssen Research and Development, 2015), and through the introduction of devices like PneuX, a cuffed ventilation tube and inflating device which electronically monitors patients breathing and saves the NHS £700 every time it is used. Indeed, use of innovative technologies and data is just one of the ways that NHS England has estimated that it could make up to £22bn worth of efficiency savings by 2020 (NHS England 2016). The value of such digital services has clearly been recognised by the NHS, which has established an increasing number of initiatives to support their use, from the launch of the Academic Health Science Networks (AHSNs) in 2013 to the Innovation and Technology tariff announced in early 2016.

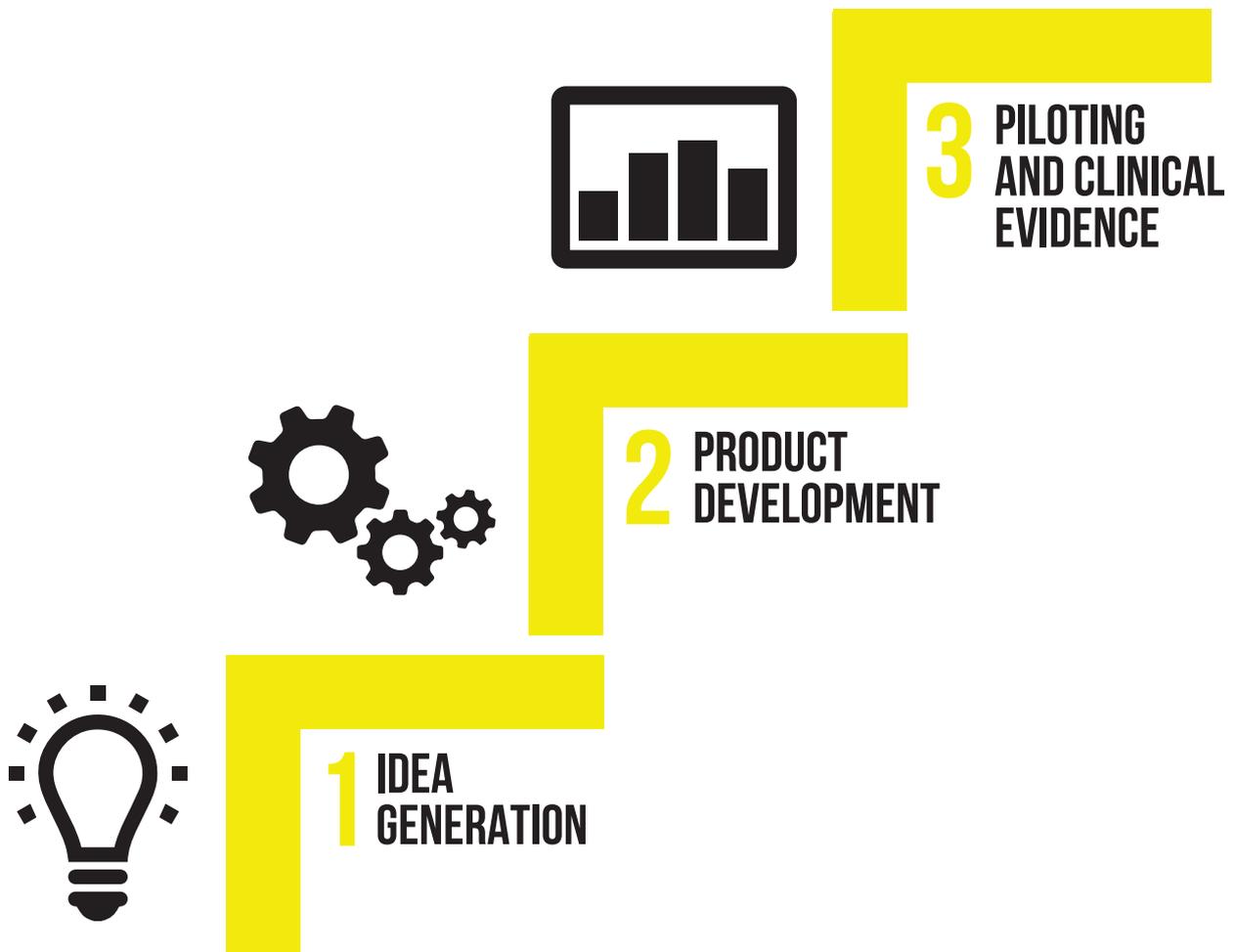
However, while the NHS continues to espouse the benefits that greater use of technology could bring, progress has remained painfully slow in opening up the NHS to new technologies and digitising healthcare. Innovators interviewed by the Youth Health Parliament cited organisational complexity and fragmentation within the NHS as a major challenge to introducing innovative technology. Another barrier is the widespread scepticism about allowing the private sector to manage patient data. The shadow of the delayed rollout and ultimate abandonment of the care.data programme continues to hang over the NHS. A number of barriers therefore need to be tackled to improve NHS adoption of innovative technologies, particularly in the contexts of digital applications, data integration software, patient workflow packages and remote patient monitoring technology.

This paper provides a voice to a range of digital health innovators and highlights a number of recommendations of how innovation in the NHS can be increased and better supported.

3 OUR FINDINGS

In order to structure our findings, we have focused on three early stages of the innovation pathway: **idea generation, product development, and piloting and clinical evidence generation.** Whilst we recognise other key stages of the pathway, including regulatory approval and national endorsement, the digital health innovators we interviewed were concerned with the barriers they perceived to exist at the beginning of the innovation process.

Our interviews with digital health entrepreneurs have been used to gauge awareness and general perception of the various support services and organisations currently available within each of these stages.



3 OUR FINDINGS



3.1 IDEA GENERATION

3.1.1 Stage definition

We define the first stage in the innovation pathway as the ideation stage, where ideas for new products and services are generated and validated.

It is vital at this point that innovators explore whether their idea will address an unmet need within the NHS, and how it will translate into a viable business case.

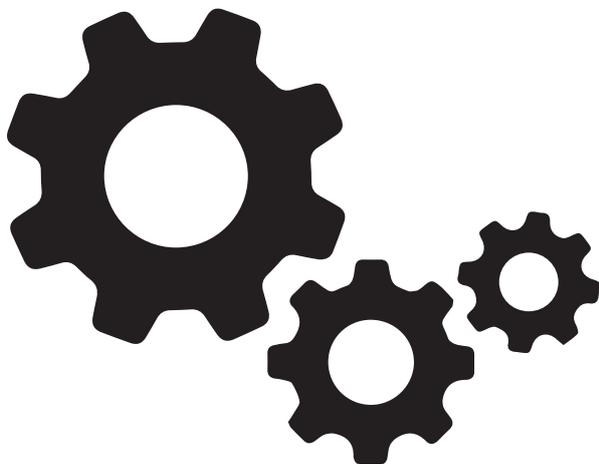
3.1.2 Interview findings

Despite the importance of validating initial ideas, many startups we interviewed were unable to identify any formalised support within or outside the NHS. Recognising the need for support at this stage, Quit Genius, a startup developing an app using gamified CBT to help people quit smoking, stressed that it's critical for the NHS to invest in 'idea incubators'. There was consensus among all the startups we spoke with that **if the NHS were to guide ideas from the outset, startups could achieve more timely as well as less costly interventions with greater alignment of specifications.** Most importantly, however, ideas could be directed to the areas of medicine most in need, or where the greatest use could be extracted.

Such idea incubators would clearly identify key issues facing patients and/or specific segments of the NHS, and provide specialist information to startups to help them both develop and validate ideas. Access to anonymised and aggregated NHS data would help validate new business ideas and help support creation of the business case. The idea generation platforms could also provide qualitative user insights from patients, which can be otherwise often hard to access. Furthermore, these idea incubators could connect relevant specialists working within the NHS with entrepreneurs, ensuring readily available expertise and, if traction is gained, a potential sponsor and advisor for the startup as it progresses.

The Helix Centre, an independent design centre based at St. Mary's Hospital, London, encourages healthcare professionals to discuss and develop solutions to problems faced in the frontline of healthcare delivery. It was formed from a partnership between Imperial College, Royal College of Art and Imperial College Healthcare NHS Trust hospitals. Gianpaolo Fusari, a Senior Designer, said they have developed a number of innovations but have struggled to commercialise due to problems such as finding the relevant decision-makers in the NHS, and cultural barriers preventing organisations from being willing to trial their innovation (discussed later). However, he said the Helix Centre had successfully facilitated ideas workshops and he had been surprised by the amount of creativity and ideas already provided by nurses and clinicians attending. This is very promising and suggests there are plenty of valuable ideas waiting to be tapped, though they need the right support.

3 OUR FINDINGS



3.2 PRODUCT DEVELOPMENT

3.2.1 Stage definition

The second stage of the innovation pathway focuses on the need to develop the innovation in order to test its clinical validity, usability and, where relevant, interoperability.

For digital health products a number of more nuanced points may also need investigation, such as:

- **Does the innovation need to interact with databases containing personal health and care data? If so, is this compliant with data protection and information governance laws?**
- **Is the innovation considered to be a medical device?**
- **Do the innovators need to seek accreditation from the Medicines and Healthcare Products Regulatory Agency (MHRA)?**

Finally, innovators need to be fully aware of the process/route into the NHS for piloting a novel technology — for instance, understanding how to engage with NHS research and ethics committees and National Institute for Health Research (NIHR) Clinical Research Network resources.

3.2.2 Interview findings

We were repeatedly told during the interviews that the NHS is an ‘unknown’ to outsiders, which makes it very challenging for startups to create business and commercial plans. Feedback revealed that conducting in-depth market analysis, finding the right person to talk to, agreeing the testing of prototypes and negotiating sales takes significantly more time than in the private sector.

Written Medicine, whose cloud-based software translates and prints bilingual pharmacy dispensing labels and hospital discharge medicines summary, said it took them six to twelve months to find a relevant contact in the NHS. gripAble, creators of a low-cost hand rehabilitation device, explained that without a central procurement team, approaching the NHS can feel like a lucky dip: “The main issue is selling to 100 different organisations with complex sales processes, none of which will buy large quantities.” Many health startups are working with minimal funding and need to produce results quickly. However, interviewees said this was not compatible with the pace of the NHS. Therefore businesses often need to sell to another market in parallel to the NHS, or face the risk of running out of time and money. In fact, a handful of the healthcare startups we spoke to were advised to go to private and overseas markets in the first instance – a shame for British patients who could benefit so much from these innovative solutions.

Fragmentation of the **innovation pathway within the NHS** is a critical barrier to product development. To address this **we suggest a standardised, national programme for supporting digital development and innovation in the NHS, with a clear first point of call for startups.** CCGs should be incentivised to collaborate, and within each CCG there should be stakeholders appointed for liaising with startups and SMEs. These stakeholders should have their **incentives aligned with digital adoption** to ensure they are rewarded for recognising and accepting risk and fostering innovation.

3 OUR FINDINGS

With regards to support, we were told by startups that early stage incubators and accelerators were highly useful in guiding and supporting ideas to fruition. Current examples include Bethnal Green Ventures, OneStart, Velocity Health and DigitalHealth.London. gripAble revealed that the support they received as a participant of OneStart, in the form of business advice, financial support and help with devising route-to-market through the NHS, had been invaluable. **Academic Health Science Networks should liaise directly with all health incubators and accelerators to support product development and provide contact points.**

A panel of experts and a toolkit of information could also be made available for those who are at the idea generation stage or seeking advice on how to develop and pilot their product. ZPB, a healthcare strategy, marketing and communications firm, has developed several resources² for SMEs who want to work with the NHS. MedCity is another example of a portal of relevant information. It is a collaboration between the Mayor of London and London's three Academic Health Science Centres: Imperial College Academic Health Science Centre, King's Health Partners and UCL Partners. Their website provides advice for innovators but is not well publicised. Startups we spoke to were aware of MedCity but did not know about the resources available to them. **In summary, it is important not just to create information-providing bodies, but also to promote them to the appropriate networks, and review whether frontline innovators are receiving the information.**

Education is another barrier. A senior health academic told us that a lack of basic health informatics education to NHS employees means that implementation is often problematic:

“I’ve seen so many people trying to pilot these things, and because they don’t understand implementation, they don’t understand the context, they don’t understand the barrier to implementation, [and] they don’t have the knowledge of how it should be done properly.”

2. Visit <http://digitisinghealthcare.com/insights/smes/> for further information,

3 OUR FINDINGS

Doctorpreneurs, a global community for doctors, medical students and individuals interested in healthcare innovation and entrepreneurship, agreed that education is key, saying vital enablers for innovation are “education and awareness, making doctors and medical students aware about the startup and digital health world.” This could be overcome at policy level by ensuring that **both the benefits of innovation, and also the operational logistics of implementation, are embedded from the beginning of health education.** This could include basic courses on health informatics and digital healthcare innovation throughout medical education at university level, as well as introducing this as part of NHS employee onboarding.

More networks should also be introduced to foster links between doctors, medical students and digital health startups. Digital innovation champions, such as leading physicians, chief information officers within Trusts, and former innovation award recipients could be identified and trained in specific innovation areas. It will also be important to get a diverse group of people around the table, i.e. coders, entrepreneurs, accelerators, policy implementers, and those who do not come from a health background. NHS Innovation Scouts and NHS Innovation Fellowship programmes encourage healthcare professionals to champion innovation within their organisations, and we have yet to see the outcomes of these schemes. ‘Hackathon’ competitions could be initiated as a method of fostering new links between doctors, medical students, coders, engineers and entrepreneurs. A hackathon is typically an event lasting several days (often over a weekend), inviting individuals from diverse backgrounds to meet and form teams to solve problems around a theme using new business ideas. Competition prizes often consist of business advice and financial support to encourage teams to take the idea beyond the competition. The Breathe Respiratory Hackathon hosted by COPD Foundation in September 2015, in association with Novartis Pharma, took place in Tel Aviv, London and Boston, and winning teams presented their innovations at the European Respiratory Society Annual Meeting in Amsterdam (COPD Foundation, 2015).

3 OUR FINDINGS



3.3 PILOTING AND CLINICAL EVIDENCE

3.3.1 Stage definition

The third stage of the pathway is clinical evidence development. When piloting, health innovators need to collect data to build an evidence base that demonstrates the value of their technology. This at a minimum needs to provide evidence of safety and clinical efficacy, but should also encompass cost effectiveness.

Innovators need to think carefully about their value proposition, and consider what other clinical and economic evidence may be needed to support the sale of their innovation.

3.3.2 Interview findings

Obtaining the necessary data to prove effectiveness is a significant challenge. It is extremely hard to get access to patients to take part in a trial – an issue that Doctorpreneurs faced, as individuals were hesitant about participating in pilots. gripAble explained that they had easier access to this process only because one of their founders is a doctor working in the clinical trials pathway. This is not the reality for most health technology innovators.

Approaching CCGs to begin trials is highly challenging: a ‘vicious circle’ was frequently referenced by our interviewees, who told us that

when a startup first approaches a CCG, they will be expected to provide data on the effectiveness of the product. Yet a pilot to produce this data can take one and a half to two years, and most often requires access to patients. Even if this stage works out, the CCG will then only purchase the minimum quantity for the trial. Conversely, if that same company approaches another CCG and tells them their product is currently under trial, the second CCG will usually wait for the first trial to finish to see if the initial CCG makes a purchase. This means that lead times are significantly increased, while sales volumes remain low. While established companies might be able to sustain the costs, digital startups typically have minimal funding, which constitutes a tremendous hurdle.

In contrast, the five NHS test beds, launched in 2016, are a great platform for large and small corporations to gather evidence on new services. However, these test beds can also be difficult to access, especially for startups with limited contacts. **Further test beds should therefore be established to ensure there is a suitable and accessible setting for new and innovative services to be rapidly and safely tested.** It is worth noting that the culture of these test beds is imperative: instead of the conventional approach, these should be homes for safe and fast experiments that ensure the most efficient and secure testing of new innovation, which can then be rolled out to the rest of the country. Ultimately, these test beds should increase adoption of short-term risk and failure inherent in innovation. Doing so ensures that long-term risk dramatically decreases, whilst costs are reduced and efficiency and patient outcomes are increased.

It is vitally important to change not only the mentality of healthcare organisations, but also attitudes of the public. Widespread scepticism regarding the NHS’s ability to maintain patient confidentiality was cited as one reason why clinical evidence was difficult to gather. The shadow of the delayed rollout, and eventual abandonment, of the care.data programme, due to such fears, continues to cast doubt over the ability of the NHS to securely manage patient-identifiable information. Whilst the Government has a target to make the

3 OUR FINDINGS

NHS 'paperless' by 2018 through digitising patient records and introducing wholesale online patient management systems, fears remain of private companies selling the data and such information being used by insurance companies and other third parties (Caldicott, 2016).

These concerns are key challenges to the basic and imperative digitalisation of NHS services. The only way to overcome this, and encourage patients to opt-in to trial digital services or share their data, is by **embedding stringent and transparent processes within the NHS and its providers which demonstrate that their digital innovation is secure and puts patient confidentiality at its core**. Standards could be recognised in the form of a seal of approval, or kitemark process, awarded perhaps by NHS Digital or the Medicines and Healthcare Regulatory Agency, confirming that the specific data storage system is appropriate and approved.

The Department of Health is already working to address some of these concerns. Dame Fiona Caldicott recently published her review of NHS data security, calling for tougher sanctions and penalties for organisations misusing data, and better safety and management processes for personal health data and associated technology (Caldicott 2016). Measures are being taken to mitigate the stumbling blocks, such as the required use of a government approved, UK-located server company to ensure privatised data management remains as secure as possible.

Despite these measures, there is little public awareness of progress and therefore data security remains a wide concern. **The Government and NHS should do more to promote the benefits and capabilities of digital health as a core of our national healthcare system.**

We suggest promotion of the name NHS Digital through a wide reaching internal and public-facing campaign, showcasing and supporting digital initiatives. One example would be to launch a 'digital health week' to communicate to the public the array of benefits and improved services deriving from a fully digitised NHS.

4 SUMMARY OF RECOMMENDATIONS

1. Promote benefits of digital health technology to the public

The Government & NHS should do more to raise awareness of the benefits of digital health and its capabilities, through a 'Digital Health Week' or similar.

2. Establish new centres for idea generation

The process of idea generation is currently hampered by poor access to both patient data and professional insight into specific NHS challenges. Nevertheless, the Helix Centre, strategically located within St. Mary's Hospital, London, is a platform for innovation that has had measured successes in terms of encouraging idea generation among healthcare professionals. We suggest that this model should be closely reviewed and trialled elsewhere in the UK.

3. Creation and promotion of incubators

Innovation incubators such as OneStart and Velocity Health have enjoyed some success, and Digital Health London's first cohort will graduate next year. Such opportunities represent a move in the right direction but need to be better promoted to innovators. Academic Health Science Networks should directly approach startups to join these programmes via their existing connections with universities.

4. Incorporate technology into healthcare education

Innovation should be embedded from the beginning of health education, including ensuring there is a link between doctors, medical students and digital health startups. 'Hackathon' competitions, solving problems around a theme using new business ideas, could be initiated as a method of fostering new links between doctors, medical students, coders and entrepreneurs. Competitions prizes can consist of business advice and financial support to encourage teams to take the idea beyond the competition.

5. Streamline internal NHS structures

The innovation pathway in the NHS is fragmented. Instead, there should be a standardised, national programme for supporting digital development and innovation in the NHS that includes local governments and CCGs.

6. Support startups in developing their concepts

More information should be provided to entrepreneurs within and beyond the NHS to help them develop and refine their products. A panel of experts and a toolkit of information should be made available for those who are at the idea generation stage and are seeking advice on how to take their idea forward. One possible route is by facilitating connection to idea generation centres. The healthcare information portal MedCity, promoting healthcare entrepreneurship in the South East, has made some progress in this direction but resources are often not well publicised. Bodies such as MedCity could collaborate more closely with universities and accelerators to establish themselves as a first point of call for medical technology innovation.

7. Launch further NHS Test Bed sites

The five NHS test bed sites, launched early 2016, provide a powerful platform for small and large corporations to test innovative healthcare services. They are a great example of NHS receptiveness to innovation, however they need to be expanded and made easier to access in order for startups to be able to leverage the full benefits of these spaces for rapid and safe testing of new digital services.

8. Put data security at the core

Embed stringent and transparent processes within the NHS and among its providers which demonstrate that digital innovation employed is secure and puts patient confidentiality at its core. This should be done through centralised approval system, which could include a kitemark process.

5 CONCLUSION

The NHS faces well documented pressures which require it to fundamentally change the way it operates. Whilst the Department of Health and the NHS have acknowledged the need for innovation in the health sector, there is far more that could be done to ensure that it is promoted, facilitated and implemented.

Our interviewees expressed overwhelming opinion that despite existing initiatives within the NHS, there is fragmentation in the system, which leads to avoidable delays at every stage of the innovation pathway.

We have made eight recommendations that we hope will help eradicate that fragmentation and lead to better awareness amongst the public, NHS staff and technology innovators, regarding the role that innovation has to play in ensuring the NHS maintains the service the public wants.

If we were to summarise the recommendations, it would be that the NHS has to start thinking more like a startup. The environment surrounding innovations should encourage experimentation, and failure should not immediately mean the end for that innovation. Whereas the startup world has long accepted that failing can be positive and often pivotal for true success, the same cannot be said of the NHS.

Supporting digital health innovators from the idea generation stage onwards, by ensuring a clear line of communication throughout the NHS, will go a long way to address the hold up for innovation in the NHS. We believe that welcoming innovation, raising awareness of (or to use a startup term, 'evangelising') the benefits of digital health and its capabilities to the public, and taking privacy issues seriously, are key to making the NHS the most modern, technologically-advanced healthcare system in the world.

ACKNOWLEDGEMENTS

We would like to thank all interviewees and organisations who agreed to share their insights with the Youth Health Parliament 'Innovation & the NHS' team, and in particular 2020Health and our list of sponsors below who supported us in our research and creation of this report.

2020Health

Google

Hanover

Westminster Policy Institute

Imperial College London

Johnson and Johnson

British Heart Foundation

London Business School

AXA PPP Health Tech & You Awards

Design Museum

Nihara Krause

APPENDIX A

REFERENCES

Barlow, J. (2015). Innovations in Healthcare, Imperial College Business School. Multi-media broadcast. Available from: <https://vimeo.com/171401592> [Accessed 11th October 2016]

Caldicott, Dame Fiona (2016). Review of Data Security, Consent and Opt-Outs, National Data Guardian for Health and Care, Report. Available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/535024/data-security-review.PDF. [Accessed 16th October 2016]

COPD Foundation (2015). BREATHE Respiratory Hackathons. Weblog. Available from <http://www.copdfoundation.org/Learn-More/For-Patients-Caregivers/Breathe-Hackathon.aspx> [Accessed 18th October 2016]

Deloitte (2016). A guide to navigating the innovation pathway in England, Office for Life Sciences, Report. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/525787/AAR_how_to_guides.pdf [Accessed 18th October 2016]

Harrington (2016). Healthy Start discovery, an initiative that aspires to change the paper based Healthy Start scheme to digital, Department of Health, Weblog. Available from: <https://digitalhealth.blog.gov.uk/2016/07/22/healthy-start-discovery/> [Accessed 16th October 2016]

Health Foundation (2015) What's Getting in the Way, Barriers to Improvement in the NHS, Evidence Scan, Health Foundation, Report. Available from: <http://www.health.org.uk/sites/health/files/Whats-GettingInTheWayBarriersToImprovementInTheNHS.pdf> [Accessed 11th October 2016]

Institute for Public Policy Research (2015) Improved Circulation: Unleashing Innovation Across the NHS, Report. Available from: http://www.ippr.org/files/publications/pdf/improved-circulation-NHS_June2015.pdf?noredirect=1 [Accessed 11th October 2016]

Jenssen Research and Development (2015). Care4Today. Weblog. Available from: <https://www.care4today.com> [Accessed 18th October 2016]

MedCity (2015). Navigate the NHS, MedCity. Weblog. Available from: <http://www.medcityhq.com/access-the-market/navigate-the-nhs/> [Accessed 11th October 2016]

NHS England (2015). Simon Stevens call for bold action to make NHS fit for the future. Weblog. Available from: <https://www.england.nhs.uk/2015/05/fit-for-future/#full-speech> [Accessed 17th October 2016]

NHS England (2016). NHS Five Year Forward View. Report. Available from: <https://www.england.nhs.uk/wp-content/uploads/2016/05/fyfv-tech-note-090516.pdf> [Accessed 16th October 2016]

ONS (2015). Expenditure on Healthcare in the UK: 2013, Office for National Statistics, Report. Available from: <http://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthcare-system/articles/expenditureonhealthcareintheuk/2015-03-26> [Accessed 16th October 2016]

APPENDIX B

LIST OF INTERVIEWEES

STARTUPS

1. gripAble
2. Vishaal Virani, Co-founder, Doctropreneurs
3. Doctitude
4. Quit genius
5. Ghalib Khan, Founder, Written Medicine

INDIVIDUALS

1. Jonathan West, Research Fellow,
Helen Hamlyn Design Centre
2. Elizabeth Roberts, Visiting Researcher,
Helen Hamlyn Design Centre
3. Gianpaolo Fusari, Senior Designer
at Helix Design Centre
4. Senior health academic
5. George Freeman, MP

ACCELERATORS

1. Andrew McGee, Business Acceleration
Manager, Medicity Scotland

BUSINESSES

1. Jim Crilly, former CEO, Unilever

NHS

1. Ben Marathappu, NHS England
2. Eight AHSN members

LOCAL GOVERNMENT

1. Clive Furness, Councillor, Canning Town
Ward, Mayoral Adviser, Adults and Health,
London Borough of Newham

INNOVATION AND THE NHS YHP SUBGROUP

Ciara Butler

Emma Carr

Jas Chana

Angela Oliveira Pisco

Rory Ryan

Emily Stott

Shelby Sydnor

Jack Turner

Samad Wahid

The above named have written this report in a personal capacity and views expressed do not necessarily reflect those of their respective employers or partner organisations supporting the YHP.

YHP editorial advisory board: 2020health
Design: Matt Carr Design Ltd
Infographics: Sarah Willet

Supported by:



Google hanover

Imperial College
London



WPI | WESTMINSTER
POLICY
INSTITUTE

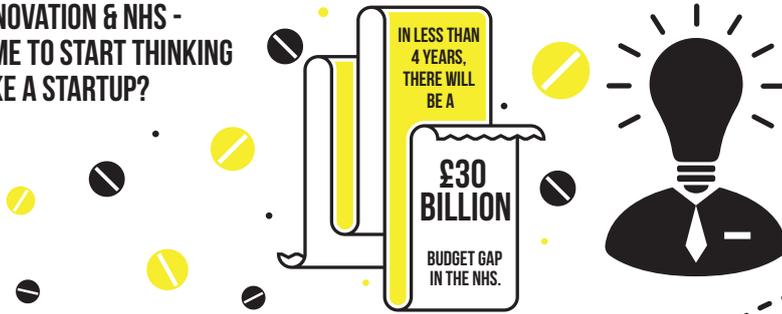
EMERGING TECHNOLOGY

The following insights come from interviews and research conducted by the Youth Health Parliament, a group of highly motivated and passionate future leaders determined to shape the future of the NHS.

**YOUTH
HEALTH
PARLIAMENT**



INNOVATION & NHS - TIME TO START THINKING LIKE A STARTUP?



Our society needs the latest innovations to help our care providers deliver better quality care at a lower cost, but NHS culture and organisation is slowing and sometimes even deterring the adoption of game-changing innovations.

IT'S TIME FOR THE NHS TO START THINKING LIKE A STARTUP:



Failure at an early stage shouldn't be the end for that innovation. The environment surrounding innovations should encourage experimentation.



While the 'startup world' has long accepted that failures can be positive - and often pivotal for true success - the same cannot be said of the NHS.



The NHS needs to be more open-minded, experimental and results driven and less risk-averse. It should take lessons from "effectuation" decision-making in the startup world.

STREAMLINE INTERNAL NHS STRUCTURES:

The innovation pathway in the NHS is fragmented. There should be a standardised, national programme for supporting digital development and innovation in the NHS including local governments and CCGs.



CREATION AND PROMOTION OF INCUBATORS:



Innovation incubators such as OneStart and Velocity Health have had some success in developing innovations. Digital Health London's first cohort will graduate next year.

INSERT TECH INTO HEALTHCARE EDUCATION:

Innovation should be embedded from the beginning of health education, ensuring there is a link between doctors, medical students and digital health startups.



PUT DATA SECURITY AT THE CORE:

Embed stringent and transparent processes within the NHS and its providers that demonstrate their digital innovation systems are secure and put patient confidentiality at their core.

This should be done through a centralised approval system and include a kitemark process.



PROMOTE BENEFITS OF DIGITAL HEALTH TECHNOLOGY TO THE PUBLIC:



LAUNCH FURTHER NHS TEST BED SITES

NHS test bed sites provide a powerful platform for small and large corporations to test innovative healthcare services. They need to be expanded and made easier to access.



CONCLUSION:

Supporting digital health innovators from the idea generation stage onwards, by ensuring a clear line of communication throughout the NHS, will go a long way to address the hold up for innovation in the NHS.