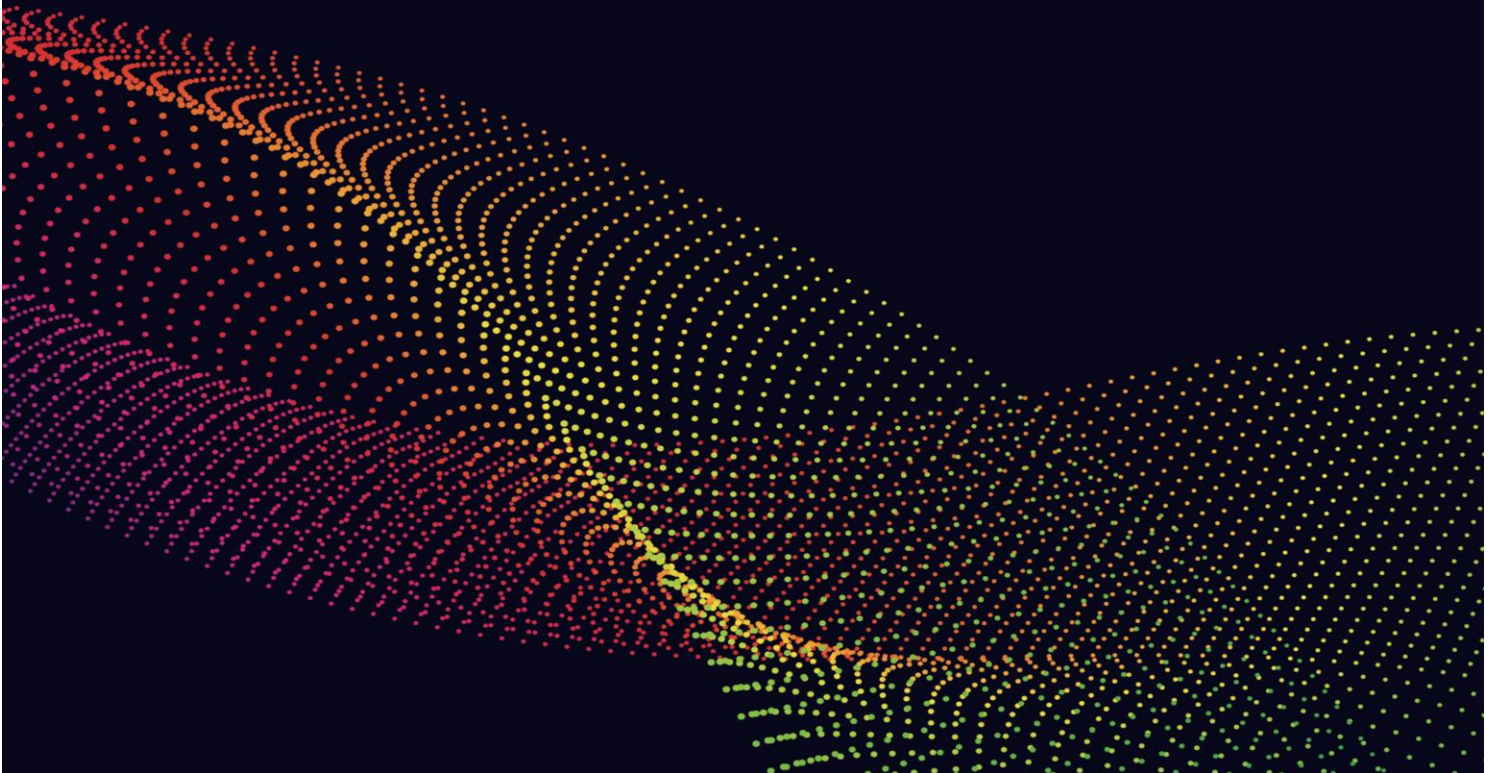




INTERIM EVALUATION OF THE DIGITALHEALTH.LONDON ACCELERATOR

April 2020



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EXECUTIVE SUMMARY

This is an interim evaluation of the DigitalHealth.London Accelerator¹ programme. This £3.4m programme is delivered by London's three Academic Health Science Networks (Health Innovation Network, UCLPartners and Imperial College Health Partners), MedCity and the charity of Chelsea and Westminster Hospital NHS Foundation Trust. It is part-funded by the European Regional Development Fund (ERDF) and provides tailored support for small-to-medium sized enterprises (SMEs) in the digital health sector aiming to enter and navigate the NHS market. This summary sets the scene, assesses the performance and impacts, and reviews the effectiveness of the delivery of the programme, identifying key lessons learnt.

PROGRAMME SUMMARY

The DigitalHealth.London Accelerator provides digital healthcare businesses with support in developing, testing, and piloting their innovations within the NHS, aiming to enhance SMEs' understanding of market demand and provide direct links to the NHS. Over the lifecycle of the programme, four cohorts of SMEs will be engaged through a tailored support programme over one-year periods.

The rationale for the Accelerator is to enhance London's competitiveness in digital health by overcoming market failures related to (a) poor collaboration and coordination between SMEs and the health care system, stifling London's competitiveness in digital innovation, (b) the complexity of innovating in the NHS, and (c) the challenge of translating knowledge into new market products and services.

INTERIM REPORT AIMS AND APPROACH

This report aims to give an independent and objective assessment of the Accelerator programme performance, benefits, and impact, addressing the following objectives, to:

- Provide the programme management, partners, and funders with reliable evidence of efficiency, effectiveness, and value for money
- Understand the experience of implementing an ERDF programme
- Summarise SME impacts on the London health economy relevant to the needs of the NHS
- Consider what factors have contributed to the success or failure of the programme, if the programme has met the expectations of the businesses accessing the support and any added value that the programme has delivered
- Highlight lessons learnt and opportunities for change or improvement to inform future programme regarding service delivery to increase performance and impact

¹ Also referenced as the Accelerator or 'the Accelerator' for the purposes of this interim evaluation report.

- Identify how the programme could develop beyond the period of funding to access future potential funding opportunities

The study used a combination of qualitative and quantitative research from programme reported outputs and spend, and telephone interviews with 22 SMEs, (21 beneficiary companies and 1 counterfactual).

STRATEGIC CONTEXT

The Accelerator programme emerged as a recommendation of the Mayor of London's Health Commission and as a response to feedback and market barriers faced by digital health SMEs in the city. The programme answers recommendation 32 of the Better Health for London Document (2014), stating that an institute for digital health needed to be founded. The DigitalHealth.London group is the product of this, and the Accelerator programme is a partnership between the London Academic Health Science Networks (AHSNs), MedCity and Chelsea Westminster Charity (CW+), and is supported by the Mayor of London's Office. It was conceived to provide a 'tight-knit innovation ecosystem' to help SMEs access the support needed to innovate and grow within London's NHS, aiming to accelerate the development, scale of digital innovations, and facilitate their adoption by the NHS. More recently the Healthy London Partnership released 'The health and care vision for London'. *"We have a shared ambition to make London the world's healthiest global city, and the best global city in which to receive health and care services."*² It has identified 10 areas of concern that need to be tackled from reducing childhood obesity to supporting people with dementia. It also refers to the digital transformation of services and illustrates the work of DigitalHealth.London.

Delivery partners funding has been match-funded by the ERDF. The Accelerator fits the objectives of the ERDF Operational Programme Priority Axis (PA1) aiming to increase the number of SMEs engaged in collaborative research and innovation, in this case within the NHS context. Funding has been awarded to facilitate the transfer, exchange, and exploitation of knowledge, strengthening the capacity of the SMEs and encouraging SMEs to innovate which in turn, leads to increased growth and competitiveness. The call also challenges stakeholders across industry, academia, and the NHS to connect, exchange ideas and collaborate.

PERFORMANCE AND IMPACT

PROGRAMME PERFORMANCE

The ERDF budget spend at the time of this interim evaluation was 75% of its allocation (£1.26m of the full allocation of £1.69m). With three of the four cohorts completed, the programme is therefore on track to be fully spent. All outputs were revised upwards and the results here reflect performance against the most recent Funding Agreement. At the end of quarter 4 2019, 92% of the enterprise targets (97 businesses) had been achieved (both C1 and C4). The programme's projected completion figure at closure is 108% (113 enterprises) of the target (105). The number of enterprises cooperating with research entities (C26) is at 100% of the profile target (32) and is expected to reach 106% (34) of the final target

² Our Vision for London, September 2019

(33) by programme closure. C28 (new products to market) and C29 (new products to firm) were reported to be slower to materialise (64% and 72% achieved respectively) against their targets (32 and 36 of 50, respectively), as these outputs generally take longer to be achieved. However, they are both projected to be achieved at programme closure. Therefore, the programme is on track to either meet or exceed all targets.

At the time of the evaluation, the Accelerator attracted 553 applications over the four cohorts with 102 selected to join the programme (18%). There was no shortage of interest in digital healthcare.

IMPACT

Estimates of Gross Value Added (GVA) and employment generated from the Accelerator programme investment has indicated that the programme is providing excellent value for money. Using the Kada Economic Model, the level of investment, survey data and programme projected outputs were incorporated as part of the calculations. At the time of the evaluation (end quarter 4, 2019) the programme had spent £2.5m of its allocation, which resulted in £36.7m of GVA, and means that for every £1 of public sector investment it generated £14.50 into the regional economy. This is a much higher return than the upper limit of expectations for this type of investment. Employment, due to the programme, is estimated to have resulted in 513 gross jobs at a cost per job of £4,926. With 97 businesses supported, the cost per business was £26,036. As referenced in the performance chapter, both these figures compare well with other similar activities, showing the Accelerator has provided excellent value for money.

EQUALITY

Fifteen percent of survey respondents were from female founded businesses and 9% were self-reported female majority owned SMEs. Twenty-two percent of the SMEs were self-reported BAME however none were black majority owned. Two percent were partly, or majority owned by a person with a disability.

BUSINESS SURVEY

The business survey sampled 21 beneficiary companies supported by the programme, 18.6% of what is predicted to be supported (113) by the end of the programme. The results and comments are therefore given from the perspective of the beneficiary. 96% of respondents rated the professionalism of the Accelerator staff highly (good or excellent); 57% of businesses had already created jobs as a result of the programme, with a further 29% expected to create jobs in the future; and company turnover as a result of the programme is expected to increase for 90% of supported businesses.

For nine out of ten SMEs expectations were either met or exceeded by the programme; seven out of ten reported a reduction in barriers to innovation with excellent comments on the NHS Navigators. In terms of the improvement companies made as a result of the support, 91% reported some level of additionality, in terms of progression made, either due to scale or timeframe. Closeness to market at the start of their support was rated at 4.4, but by the survey stage there was a noticeable increase with a score of 9.6 out of a maximum of 10, attributed to the support they received.

There was clear evidence that beneficiaries improved their access to the NHS, some with senior decision makers leading to outstanding examples in the growth and development of businesses.

Most companies found the selection process 'rigorous but fair' although there was some concern that there was a wide breadth of capability within the businesses supported. While some reported that much of the success was achieved by making the most of the opportunity, others felt the support was not focused enough on the needs of the company. Although the NHS Navigators were highly praised by most, a few did not think they had enough experience to satisfy the needs of commercial businesses. To some degree this may be a reflection of the complexity and variety of potential digital solutions and applications, however the Navigators were recruited on the basis of their NHS expertise rather than on their commercial experience which is largely provided by the delivery partners and experts in the field.

The most important advice and support was reported to be the knowledge acquired in NHS decision making, the seminars and events, and the connections to the right personnel. What was very important was also the prestige and legitimacy the companies gained from being part of the high-profile initiative.

A summary of the key messages and achievements appears in the infographic in Annex One.

PROGRAMME DELIVERY

The comments provided in the delivery section of the evaluation were all from stakeholders. The main objective of the Accelerator was to speed up the adoption of technology in London's NHS by supporting digital health companies to relieve high pressured services. It aimed to address the market failure of the inability of small companies with innovative products to access the complex NHS market and to increase efficiency and save money. There was widespread belief that the programme addressed this failure effectively and the rationale for the programme was therefore still relevant.

The programme was believed to have important advantages over commercial Accelerators as the model was designed to support companies over a 12-month period (rather than three to six months). It had NHS experienced Navigators; applied a generator concept to evidence building; and did not have a cash-associated cost. The use of NHS Navigators was widely considered as one of the main advantages of the programme although some felt performance was variable. The introduction of the 'Generator' concept helped to provide evidence in support of the business case and served to strengthen the offer when selling to potential clients in the NHS. The branding of the programme was thought to be highly successful, having a good profile and attracting large numbers of applicants.

Comments on the improvements of the Accelerator included more focus on sales and entrepreneurship skills for the NHS Navigators; better referral and scoring systems to ensure the companies with the best products are selected; greater tailoring of support to the needs of the companies, and improved links and involvement of key partners.

CONCLUSIONS OF PERFORMANCE AGAINST OBJECTIVES AT THE INTERIM STAGE

An overarching objective of the programme is to create a tight-knit innovation ecosystem to help SMEs grow through digital health in the NHS. To facilitate the changes, there had to be a shift in attitudes to the adoption of digital innovation in the NHS. Stakeholders widely believe that the NHS is now more familiar with the adoption of digital health and the key issues surrounding the technology. The

programme has helped to successfully achieve a change in organisational culture, enabling participating NHS staff to treat innovation with less suspicion and resistance. However, there is still a large unmet need within the healthcare system and some considerable variability between trusts, and the programme needs to continue to help to highlight these areas.

Matching NHS needs with the appropriate digital health product has had its difficulties. The programme identifies the improvements needed before linking organisations with the digital health solutions to meet those needs. Preparing the companies to be ready to meet potential commissioners has been one of the main focusses of the programme. Over time, the experience gained by Navigators has ensured a much better success rate with assisting newer cohorts.

The survey indicated a handful of companies where the impact of the Accelerator support has been truly transformational. DIMEC, for example, developed an online repeat prescription app linking GP surgeries with pharmacies, which now serves Co-op Healthcare serving and serves 70,000 patients nationwide, taking the team from a staff of just two to over 40. Other companies experienced more modest, yet real, impacts; and there was a smaller group for whom there was little or no impact. The combined effects offer a good overall return on investment.

With the programme predicted to meet all targets, the high level of GVA expected to be achieved, significant job creation potential, and outstanding value for money, the Accelerator can be described as a successful against its objectives.

LESSONS LEARNT

Themes, lessons, and recommendations that emerged from the interviews with partners, business survey, and report analysis for different levels of decision making for now and the future.

DELIVERY BODY

A delivery body may wish to consider the following lessons and recommendations:

- More rigorous filtering before the interview stage will ensure a pool of high-quality businesses with the capacity and motivation to innovate and meet NHS needs.
- Targeting of larger SMEs, as opposed to micro-businesses, might achieve higher impacts for the programme and ensure participants have sufficient capacity to scale-up where necessary.
- Flexibility on the level and ceiling of support for high calibre companies would help them to fulfil their potential.
- Keeping staff turnover low ensures knowledge can be retained. That said, creating a database, guidance manual and programme systems, combined with designated handover periods and detailed inductions will ensure knowledge is easily retained and passed on.
- Regular diagnostic progress checks between Navigators and SMEs can be used to reset or confirm the direction of travel.
- Exploring the potential of partnerships with complementary business support agencies is an opportunity.
- NHS expertise is recognised as a great strength of the programme; however, some SMEs require more commercial support.

- Deeper relationships with innovative companies who address a variety of NHS needs will help to ensure alternative uses of the technology can be explored.
- Contact with alumni companies is important in tracking key successes and lessons learnt.
- Greater partner engagement will foster ownership, collaboration, and consistency of the approach.
- Pursuit of future grant funding to continue the Accelerator programme will retain expertise, capacity, and momentum.

PROGRAMME DESIGNERS

Those designing and implementing a similar programme may wish to consider the following lessons and recommendations:

- Adopting dedicated evidence-based support through academic institutions has ensured successful research collaborations.
- NHS Navigators have been essential in helping companies find the most appropriate route to a compatible NHS marketplace.
- Stakeholder concern over partner engagement must be addressed in future programmes, ensuring full participation and commitment.
- Revisiting companies one to two years following Accelerator support will allow the programme to learn, apply best practice, and assess value and impact more clearly.
- Simplifying and streamlining administrative processes and using electronic systems where possible will ease the experience for applicants and administrators.
- Future programmes could build in small grant funding that companies can apply for to use on specific projects, for example commercialisation or evaluation, to accelerate progression into the digital health market.
- More flexible periods of support for companies with the best products, services, and clear progress potential may be beneficial.
- Future accelerator programmes could include more job creation and turnover measures to ensure economic impacts can be captured robustly.

POLICY MAKERS

Those formulating policy for similar programmes may wish to consider the following:

- The success of the DigitalHealth.London Accelerator suggests that policy makers must continue to ensure the development of the accelerator concept, with the aim of ensuring that the best digital innovation companies service NHS needs. Additionally, UK post ERDF investment in successive digital health accelerator programmes will build in the experience and knowledge gained to date.
- In terms of speeding up scale and development of innovation in the NHS, the successes have been uneven as the procurement processes between trusts vary considerably. This requires greater alignment and improved buying systems that accommodate small innovative enterprises. Compatible e-procurement software, processing, and approval procedures consistent across the trusts would be an advantage. In addition, embedding and assisting suppliers to adopt complementary systems with built-in timescales should also be a priority.

- Some improvement targets set for NHS organisations could be achieved using digital technologies. These requirements need to be clearly communicated so that SMEs can help provide solutions where there are gaps. This will improve the uptake of solutions and potentially improve the ability for NHS organisations to better collaborate and implement digital technologies together at scale.
- After Brexit, State Aid constraints may be amended, and restrictions on the sourcing of digital services from the EU will allow the internal supply chain to expand to meet NHS demand. Policy makers must therefore be prepared to widen the scope and size of future programme iterations.

1. INTRODUCTION AND PROGRAMME CONTEXT

This chapter introduces the DigitalHealth.London Accelerator. It sets out the programme activities, delivery model and objectives, and highlights the rationale and market failures being addressed. The chapter concludes with a review of the approach to the evaluation and the strategic context.

1.1. WHAT WAS THE PROGRAMME SEEKING TO DO?

The DigitalHealth.London Accelerator aims to speed up the adoption of technology in London's NHS trusts through supporting high potential start-ups and SMEs to refine, develop and scale their digital innovations. Businesses are supported in engaging with clinicians and healthcare experts to develop and deploy their solutions to relieve high pressure on services and empower patients to manage their health through digital solutions.

The programme forms a partnership between London's Academic Health Science Networks (AHSNs), Chelsea and Westminster NHS Hospital Foundation Trust (CW+) and MedCity, is supported by the Mayor of London's Office and is part-funded by the ERDF. The programme provides a unique opportunity for SMEs to gain in-depth knowledge of the UK health and care sector and aims to speed up the adoption of technology in London's NHS.

1.2. PROGRAMME OBJECTIVES

The Accelerator's overall aim is to create a tight-knit innovation ecosystem to help SMEs grow within the NHS and grow as businesses, resulting in increased digital health innovation for the NHS. Therefore, outcomes of the programme enable benefits for both the companies supported and the NHS. In terms of objectives, the programme established four clear targets, set as requirements from the ERDF funding prior to commencing:

- Providing 12 hours of non-financial support to 105 SMEs
- Establishing 32 new research collaborations between SMEs and institutions
- Supporting the launch of 50 new products to the market
- Supporting the launch of 50 new products to the firm

1.3. RATIONALE AND MARKET FAILURES BEING ADDRESSED

The NHS faces significant challenges in the form of changing demographics, rising patient expectation and demand; and combined with restricted budgets, place an increasing strain on the health and care system. Although high quality digital health technology solutions exist, entrepreneurs and innovators often face multiple barriers in attempting to achieve adoption within the NHS. This programme is designed to address some of those barriers.

The programme's overall rationale is to enhance London's competitiveness in digital health by overcoming market failures between private sector businesses and NHS organisations. The market failures being addressed are threefold (a) poor collaboration and coordination between SMEs and the health care system, stifling London's competitiveness in digital innovation, (b) the complexity of innovating in the NHS, and (c) the challenge of translating knowledge into new market products and services.

1.4. PROGRAMME SCOPE

The Accelerator supports the spread and adoption of transformative high-quality digital technologies within London's NHS through the provision of bespoke support to SMEs. The programme has been co-designed with NHS partners to respond to these barriers. It provides direct links into the NHS to enhance SME understanding of demand and provides support in developing, testing and piloting digital innovations.

Over a period of 4 years (2016-20), the programme is designed to provide unique expertise and support to SMEs from experienced NHS professionals, with the aim of assisting them to overcome common barriers and connect their digital solutions to key challenges within the system. Over the lifecycle of the programme, four cohorts of SMEs will engage over one-year periods. Each cohort follows the same structure, however the precise activities for each individual SME is tailored to their specific needs.

The key activities include:

- (i) Access to a named relationship manager (NHS Navigator)
- (ii) Networking and educational events
- (iii) Bespoke diagnostic and brokerage meetings
- (iv) Access to mentor networks

1.5. STUDY OBJECTIVES, LOGIC MODEL AND STUDY APPROACH

The aim of this study was to carry out an interim summative assessment of the Accelerator programme in accordance with EU and UK regulatory requirements. The evaluation approach was structured and designed to give an assessment of the performance and lessons of the programme in line with:

- The Programme Summative Assessment Guidance: ESIF-GN-1-033
- The Programme Summative Assessment Guidance – Appendices: ESIF-GN-1-034

Theory of Change



A theory of change was developed to identify the causal links between the different stages of the programme, denoted by the arrows in the diagram. In most instances, this can be simplified into 'if>then' links. For example, if a programme completes a certain activity, then it is expected to lead to a particular output. The idea is that three sets of activities (see diagram) will lead to three sets of outputs, outcomes and impacts. These causal links help to explain the causality of the programme and are illustrated with arrows on the summary logic model in (Figure 1a, Annex Four). The logic model was created to understand and present how the programme works, linking its planned activities with intended results.

An inception meeting was held to discuss the evaluation approach and research framework and a logic model was subsequently agreed. Topic guides were drafted and signed off. They were designed to meet the requirements of the Summative Assessment Guidance. Desk material was used to determine the rationale, context, and strategic fit for the programme. The programme application form, monitoring reports, and programme change requests were reviewed, and beneficiary data was analysed.

Internal and external stakeholder discussions were held with Accelerator partners and delivery agents that included an initial scoping call with the Programme Manager to agree on the evaluation requirements. Discussions covered achievements and future aspirations plus challenges, successes, lessons learnt and importantly, future direction. Additionally, a 20-minute closed telephone questionnaire was undertaken with 21 business beneficiaries and 1 counterfactual business, looking at motivations, satisfaction and impacts including precision on persistence of the impact. Further companies will be interviewed for the final summative assessment stage.

An economic impact assessment was undertaken, informed by Green Book principles. Value for money and net impact was calculated using survey evidence to inform the appropriate adjustments from gross to net (displacement etc). This provides a robust understanding of what would have happened without Accelerator support and assessment of net current and future GVA return on public and ERDF investment. Two case studies were created with SMEs to illuminate the subtleties and intricacies of the programme.

1.6. STRATEGIC CONTEXT

The Accelerator programme was conceived to provide an innovation ecosystem to help SMEs access the support they need to innovate and grow within London's NHS, responding directly to feedback from digital health SMEs and emerging as a recommendation of the Mayor's London Health Commission. The programme aims to speed up the development and scale up of digital innovations across health and care and pioneer their adoption by the NHS³.

Recommendation 32 of the [London Health Commission](#) states that "*The Department of Health, the Department of Business, Innovation and Skills, and the National Institute for Health Research should invest in an Institute for Digital Health and Accelerator for London, coordinated by MedCity and the AHSNs*".

The Accelerator fits the objectives of the ERDF Operational Programme Priority Axis 1 (PA1) which aims to increase the number of SMEs engaged in collaborative research and innovation. The programme fits this overarching aim closely as its focus is on the business aspects of taking new products or services to market and commercialising them (in this case within an NHS context). PA1 seeks to facilitate the transfer, exchange, and exploitation of knowledge. This will strengthen the capacity of SMEs to develop and scale

³ Mayor of London's Economic Development Strategy for London, December 2018, p191

innovations. The call claims it will encourage SMEs to innovate which, in turn, leads to increased growth and competitiveness. A significant proportion of the government's expenditure on R&D is spent in London, including in the NHS. However, SMEs need to be supported in the innovation process to help commercialise and exploit their ideas. Strengthened coordination between the knowledge/research base, the NHS and the SMEs will enable London to maximise the benefits to existing R&D investment and increase the growth potential of SMEs.

Translating knowledge into new products and intellectual capital is a challenge to be addressed by the call; the different players (industry, researchers, investors and the health and care sector) need to connect, exchange ideas and collaborate. Local priorities identified with the call include:

- Building on the strengths of London's research and technological landscape. This is to ensure there is adequate infrastructure that facilitates knowledge transfer and the market exploitation of innovative products and services.
- Aiming to bridge the gap between experimental or theoretical research and commercial application, by supporting applied research and development programmes which are close to market.
- Supporting testing and piloting of new technologies through incubators for high growth potential SMEs.
- Contributing to the creation of a more 'connected London' where businesses and investors can navigate the knowledge base and increase investment in, and interaction with, London's research strengths.

1.7. DELIVERY AND GOVERNANCE

DELIVERY

Following initial review and due diligence, the application process for businesses wanting to engage with the programme consists of two further stages: an online review and subsequent panel interview. The online review stage scores applications against three key areas:

- Business credibility
- Fit with NHS priorities
- The extent to which SMEs could benefit from the programme

This stage is used to gain knowledge of the company and the specific digital health innovations to be developed. More than 120 experts in the health, technology and business sector independently review the applications. Shortlisted companies are invited to interviews with panel experts (typically five), spanning the healthcare, commercial, technology and academic sectors.

Following due diligence checks, successful companies are offered a place and the programme enters the delivery phase. This comprises of workshops, training, one-to-one clinics and "meet the expert" sessions delivered through over 30 events each year, which cover 10 core areas, including communications, evidence generation, commercialisation and NHS knowledge sharing. An 'NHS Navigator' is assigned to each SME. A Navigator provides bespoke advice, guidance, and support; helping companies navigate their way through the complex NHS environment, and ultimately improve their chances of success. Navigators have multiple roles in their involvement with businesses:

- To check company's motivation and suitability for digital innovation
- Operate as a 'critical friend' in a safe environment
- Help identify and explore all areas for product entrance
- Assist in the provision of evidence to enhance the business case
- Help refine and use the right language to 'sell' the product to the right client

The programme initially supported 31 and 30 SMEs in Cohorts 1 and 2, which was reduced to 21 and 20 in Cohorts 3 and 4 to improve the quality of support. The support is tailored to the specific needs of each company, and may include the following elements:

- Engagement with experts
- A better understanding of the healthcare system
- Refining products to make them more suitable for NHS needs
- Developing business models
- Market access and navigation
- Showcasing innovations in health facilities

During the year of support, Mutual Diagnostic Meetings (MDMs) are held each quarter to set goals, review progress, check whether the product is still fit for purpose, help reduce barriers to adoption, manage the expectations of the SMEs and make any necessary adjustments to the requirements of support. The MDMs are led by the relevant Navigator, with support from a senior within one of the partner organisations.

GOVERNANCE

The programme's founding partners are:

- London's three AHSNs (Health Innovation Network, UCLPartners, Imperial College Health Partners)
- MedCity
- CW+ (Chelsea and Westminster Hospital NHS Foundation Trust)
- Guy's and St Thomas' Charity

The programme is supported by the Mayor of London and part funded by the ERDF and as such follows state aid and ERDF regulations. The programme has a management board consisting of five members from the various partners. The team delivering the programme consists of 13 professionals.

2. PROGRAMME PERFORMANCE

This chapter focuses on the performance of the Accelerator against its financial allocation and contracted outputs, assessing economic impact and value for money. It concludes with a brief assessment of equality of opportunity and marketing.

The information has been provided by the Accelerator programme management team. The most recent intelligence covers the period ending December 2019, a full year before programme closure.

2.1. CONTRACTED OUTPUTS AND SPEND

SPEND AND OUTPUT

The total spend to end Dec 2019 was £2,525,494, equally shared between ERDF and partner match.

Indicators / Expenditure	Original funding agreement	Most recent funding agreement	Total achieved at time of evaluation	% of target	Projected at programme closure	% of target
Expenditure						
ERDF Capital Expenditure	£1,694,754	£1,694,754	£1,262,747	75%	£1,694,754	100%
NHS Capital Expenditure	£1,694,754	£1,694,754	£1,262,747	75%	£1,694,754	100%
Total Spend	£3,389,508	£3,389,508	£2,525,494	75%	£3,389,508	100%
Indicators						
(C1) SMEs receiving support	80	105	97	92%	113	108%
(C4) SMEs receiving non-financial support	80	105	97	92%	113	108%
(C26) SMEs collaborating with research entities	26	32	33	103%	34	106%
(C28) SMEs supported to introduce new to market products	40	50	32	64%	50	100%
(C29) SMES supported to introduce new to firm products	40	50	36	72%	50	100%

Source: Accelerator Monitoring Data

The current ERDF capital expenditure (£m) is 75% (£1,262,747) of the target. 92% of enterprises (97) have received support (C1) and non-financial support (C4). This is projected to increase to 108% (113 enterprises) by the programme closure. Collaboration with research entities exceeds the profile target of 32 (C26), with 34 SMEs projected to be delivered at programme closure (106%).

The launch of new products (C28 and C29) are slightly behind target but are projected to be met at programme closure, with the support of the DigitalHealth.London Launchpad programme that supports early-stage companies in the launching of their digital health product to the market. Currently 32 SMEs

have been supported to introduce new to market products (C28), 64% of the target (50) and 36 SMEs have been supported to introduce new to firm products (C29), 72% of the target (50).

2.2. IMPACTS AND VALUE FOR MONEY

This section looks at the economic impacts and value for money of the investment in the Accelerator programme. At the end of quarter 4 2019, the estimated GVA of £36.7m would result in a benefit cost ratio (BCR) of 1:14.5, i.e. each £1.00 of public investment generates £14.50 in benefit. This is much higher than what is typically expected for this kind of initiative. As an example, a review by CRESR of evidence for general business support activity cites a BCR of 1:6.0 to 1:8.75⁴. The reason for this high return on investment is related to the high technical nature of the innovations (and the sectors operated within) and the potentially high rewards of the NHS and healthcare market.

The cost per business assisted at £26,036 is below the median benchmark for this type of activity which ranges from £15,600 in the lower quartile to £28,000 (median) and £94,000 (mean)⁵. The cost per gross job generated is £4,926 and is within the lower quartile, well below expectations for this kind of activity, which varies from £11,500 (lower quartile) to £25,700 (median) and £71,000 (mean)⁶. This clearly indicates that the programme provides excellent value for money compared to other similar interventions as reported by the ERDF programme review and suggested baselines conducted by Regeneris Consulting.

APPROACH TO IMPACT ASSESSMENT

The analysis of interim impacts is based on reported outputs to date and responses to the business survey. A comprehensive assessment of economic impact was undertaken comprising:

- Net Employment and GVA Net Present Value (NPV) impacts to date (over three years of persistence)
- Total public cost impacts and value for money

Two tiers of effects were considered:

- Direct Employment: Employment impacts and resultant GVA from jobs created
- Indirect Employment Effect: The effect on suppliers and resultant productivity / GVA

The Treasury's Green Book offers some suggested guidelines in assessing the true impact of investments. In line with these, several steps have been taken to assess gross and net GVA and employment impacts and net present value:

- Deadweight was assumed at 32.89% (based on survey findings)
- Displacement and leakage were assumed average and low at 29.3% and 25% respectively

⁴ Value the Benefits of Regeneration, 2011, Figure 4.8

⁵ England ERDF Programme 2014-2020: Output Unit Costs and Definitions, A Final Report by Regeneris Consulting, 2013, 96

⁶ Op. Cit.p.10.

- A composite multiplier was used to calculate the indirect employment effects (from the HCA Additionality Guide Fourth Edition) using the sub-regional mean for business development and competitiveness (1.51)
- The persistence of the benefits i.e. how many years the benefits are expected to persist and the period over which the benefits will accrue until they reach their full potential. In this instance, a modest three-year time frame was chosen based on experience elsewhere
- A decay of 10% per annum has been used i.e. the proportion of annual benefits expected to be lost from one year to the next due to economic changes, other investment decisions etc.
- Calculation of the NPV of the GVA benefit stream over the appropriate persistence time period by discounting back utilising an appropriate rate. HM Treasury Green Book guidance has been followed, which recommends discounting by 3.5% in order to determine NPV
- A cost benefit ratio calculated by Net Present Cost (NPC) against NPV i.e. the amount each £1 of investment generates
- Estimates for GVA per FTE used BRES (The Business Register and Employment Survey) and ONS (Office of National Statistics) 2017 data for London

The following table shows that the Accelerator programme has or will create 513 gross FTE jobs and has a total NPV GVA of £36.7 million.

Economic Impacts

	Gross Jobs	Net Jobs	GVA	NPV over 2 years
Operations (FTE)	513	182	£13,982,019	£36,712,710
Direct Jobs	340	121	£9,259,615	£24,313,053
Indirect	173	62	£4,722,404	£12,399,657

Source: Kada Research

2.3. ACCELERATOR SURVEY OF COHORTS 1, 2 AND 3

The DigitalHealth.London Accelerator conducted its own survey of Cohorts 1, 2 and 3, collecting economic impact metrics, as collected by the AHSN network. This included 61 of the 82 businesses selected for support. The following impact results were obtained from the analysis.

- 86.3% of companies had grown since the start of the programme
- 22.9% of additional employees were attributed to the Accelerator
- 26.6% of additional contracts gained by beneficiary companies were attributed to the Accelerator
- 57.6% of SMEs who raised investment for their business was attributed to Accelerator support
- 40% of SME export contracts secured by Accelerator businesses were attributed to the programme
- 4.9% of additional pilots were attributed to the Accelerator
- 33.7% of additional NHS savings were attributed to support from the Accelerator
- 23.6% of patients who benefitted from Accelerator companies were attributed to Accelerator interventions
- 'Return on Investment' (ROI) was calculated as 12.8, every £1 invested has created £12.80 return

The results of the Accelerator survey have been very encouraging and complement those of this report. The Accelerator programme has created growth in the supported digital health companies through the creation of new jobs, NHS contracts, exports and business investment. At the same time, it has directly contributed to NHS savings and improved patient care.

The programme's contribution to additional pilots is recorded as 4.9%, which at first sight appears lower than other metrics attributed to the support of the programme. Further analysis indicates that this is due to a single significant outlier in Cohort 3. If this outlier was excluded, the programme attribution would be 28.2% across all three cohorts. When considering only Cohorts 1 and 2, 43.4% of additional pilots were as a result of the Accelerator programme support. With a greater length between end of support and when the survey was circulated, it can be surmised that pilots need a longer period to come to full fruition.

While calculated differently and with different samples, the ROI of 1:12.8 supports the results presented in this interim report using a more detailed analysis which detailed a BCR of 1:14.5 (£1 creates £14.50). Both results suggest that the programme provides excellent value for money compared to other similar business support programmes.

2.4. EQUAL OPPORTUNITIES

The programme's equality policy ensures that the programme is committed to delivering services in a fully accessible way with a commitment to diversity and inclusion. The programme is required to embed equal opportunities through its full life cycle including governance, development, monitoring and evaluation. In practice this means beneficiaries must adhere to equal opportunity policies and copies of delivery partners' equality policies are shared with the applicants. This programme has been designed with partners with experience of developing inclusive and accessible programmes and services.

Self-reported data from the 102 SMEs on the Accelerator programme and 14 Launchpad companies found:

- 15% of companies are female founded businesses. Within the 4 Accelerator and 2 Launchpad cohorts, 9% are self-reported female majority owned SMEs.
- For ethnicity, 22% of the SMEs involved in the Accelerator and Launchpad are self-reported BAME majority owned.
- 2% of SMEs within the 4 cohorts are partly or majority owned by a person with a disability.

2.5. MARKETING

The programme utilises multi-channel communications to engage with the health and technology sectors and showcase the work of the Accelerator, including the DigitalHealth.London website, monthly newsletter, social media and digital articles (e.g. mentioned in Forbes, CNN Business, Health Tech Newspaper, Sifted, the Evening Standard and more). The DigitalHealth.London networking platforms LinkedIn (5,995 followers) and Twitter (13,200 followers) are actively updated and have competitive follower numbers when compared to similar initiatives (NHS Accelerator, 9988 followers; Innovation

Agency, 9,180 followers). The hashtag #DHLAccelerator has also been created to specifically discuss the Accelerator, including any new cohort application information. This marketing has helped result in a high number of SME applying for each cohort, with numbers exceeding capacity each year. On average, 18% of SMEs who have applied have been selected to join the programme, with 553 applications across the 4 cohorts in total and 102 selected. This oversubscription shows that there is an awareness of the Accelerator within the digital health SME community.

Application numbers per cohort:

Year	Number of applications	Final number selected for cohort	% of applications selected
2016/2017 (cohort 1)	118	31	26%
2017/2018 (cohort 2)	199	30	15%
2018/2019 (cohort 3)	96	21	22%
2019/2020 (cohort 4)	140	20	14%
Total	553	102	18%

Source: Accelerator Monitoring Data

3. PROGRAMME DELIVERY AND MANAGEMENT

This section of the summative assessment explores the implementation of the programme. Discussions were held with key stakeholders in relation to specific operational aspects, including selection, delivery, performance, governance, management and impact. Comments derived from the interviews are compiled here which also considers programme delivery strengths and challenges.

3.1. DELIVERY MODEL

DigitalHealth.London is a partnership between London's three Academic Health Science Networks – Health Innovation Network, UCLPartners and Imperial College Health Partners, MedCity, and CW+. Several stakeholders have commented that the programme is unlike other shorter (3-6 month) commercial accelerators, including those that may take some form of equity from participating companies. The Accelerator model looks at products further down the line and provides 12 months of support to accelerate commercialisation and adoption. It developed the 'Generator' concept to sit alongside the Accelerator, aimed at helping companies who want to generate evidence. By having a strong evidence base, companies can support claims or questions about their product and services. Additionally, the DigitalHealth.London Launchpad programme supports early stage companies to launch a product to the NHS market.

3.2. MARKET FAILURE AND RATIONALE

The NHS is a complex organisation for SMEs to access. With increasing pressures on budgets and a growing desire to address inefficiencies, the NHS has long wanted to explore digital solutions to help in delivering their services to patients. At the same time companies find it difficult to know who within the NHS was the customer. Innovative SMEs, therefore, face challenges in identifying opportunities to develop the right products and place them in the right NHS markets, amplified by the inability of many NHS organisations to critique SMEs. The result is a severe knowledge gap, from both perspectives, in meeting both industry and NHS needs. Additionally, without the resources and depth of finance that allows companies to develop a new product to meet demand, opportunities are often lost. There is a clear need to bring the right people together to look at the products being put forward and assess them as to whether they have the solutions for real clinical requirements.

The rationale for the programme is that it enables companies to speak directly with clinicians and NHS organisations, providing appropriate access to each other. The programme seeks to address capacity and financial constraints relating to implementing digital innovations. It works to speed up the development and scale of digital innovations, and pioneer and facilitate their adoption by the NHS. *"The Accelerator aims to create a tight-knit innovation ecosystem."* The selection process of the programme has provided a proxy for a 'Which Guide' to digital health solutions by helping to streamline this process, and by providing a scrutinised list of companies with capability to meet NHS needs. *"It did a lot of the*

hard work for the NHS Trusts because they could essentially outsource their decision making to the Accelerator." The context for the programme has shown a growing emphasis on digitalisation and innovation within the NHS, and the increased pressure to facilitate this change has also grown throughout the life of the programme. *"The rationale is still valid as market failure is still present, but the culture of the NHS is clearly changing for the better."*

The stakeholder consensus is that the SME community still lacks the knowledge and understanding of how to engage with the NHS as a market, with a common misconception that the NHS is one unified decision-making body, rather than a set of independent organisations. Therefore, the rationale for the programme remains as it seeks to continue to address this market failure.

3.3. POLICY CONTEXT

As noted earlier in Section 1.6, development of DigitalHealth.London and the DigitalHealth.London Accelerator were part of the 32 recommendations that emerged from the London Health Commission in October 2014, independent from the NHS. The majority of the stakeholders acknowledge that during the lifetime of the programme there has been a favourable shift within the policy context towards digital innovation in the health sector. The NHS approach to digital has evolved and accelerated in the last few years, with key policy work and structures established within NHS England. There has also been a policy perspective development around how AHSNs and organisations should help to support innovation, uptake and the adoption of digital health. Therefore, from a health policy context, there is an acceptance that digitalisation is part of the NHS long-term plan. At a broader level, the economic policy context has further increased the validity of the Accelerator. *"Brexit has increased the importance of the programme on many issues, including procurement, as well as the UK's industrial strategy."*

3.4. PROGRAMME DELIVERY

The inclusion of the Accelerator as part of the DigitalHealth.London brand has strengthened the strategic impact of digital health in the NHS - *"...with the addition of the Accelerator, winning the funding for the programme has allowed us to build DH.L in its entirety."* After three years since the start of the programme, the investment is generally believed to be working well and has been described as 'fit for purpose'.

EFFECTIVENESS

With other accelerators in existence, the term 'Accelerator' for this programme may not provide an accurate representation of what the Accelerator does. As reported above, this programme is unlike the shorter three to six-month commercial accelerators that take equity. The Accelerator model is different because it provides 12 months of support without a cash contribution, giving advice and access to expertise throughout the programme. The more rounded approach of the programme, when compared to commercial accelerators, has encouraged a good selection of digital health companies to apply for the opportunity.

"I personally think that there are two aspects that really distinguish it from other accelerators that are run on a commercial basis. The first is the length of the programme which is entirely justified and reflects

the fact that the NHS is not an easy market....The other was the early identification for the need to have the NHS Navigators."

The programme is meeting its ERDF requirements, and delivering on economic growth. As illustrated in the impact chapter, to date the programme has delivered £36.7m GVA and each £1 of public investment will generate £14.50 in GVA. The programme is not designed to select higher value products for adoption, but rather to meet the needs of the NHS, which are not necessarily high value. Nevertheless, the majority of the products are, by their very nature, higher value digital, and as illustrated by the impact results together produce high levels of GVA.

A good display of effectiveness as a programme is the ability to identify gaps and implement change to ensure targets will be met. This is shown in the development of the DigitalHealth.London Launchpad and the DigitalHealth.London Generator offerings, aimed at improving the collaborations with academia to generate real-world evidence and helping companies launch new products both to firm and market. Additionally, the use of Navigators is widely considered as one of the main strengths of the programme. Although highly regarded, performance has varied, with their effectiveness depending on the level of their personal knowledge, the scope of their networks and their connections to other stakeholders.

Our experience at Kada Research in evaluating ERDF business support programmes, whether they are on innovation, export, product development or sector growth, generally always shows some level of complaint about the administrative bureaucracy. These usually feature during interviews with stakeholders but particularly with beneficiaries. However, this programme has had very little emerging complaints from the interviews conducted. There may be an acceptance that it is a necessary part of management systems, although this does not concur with the norm for such evaluation exercises.

Overall, while there were some mixed responses to the effectiveness of programme delivery, the overall opinion shared by stakeholders is positive. The selection process has resulted in good cohorts, with the programme implementation being highly reliant on SME engagement, evidence generation and navigator networks. Key in the effective delivery was the agreement that without ERDF funding, the programme would likely have been delivered differently with a narrower focus and therefore had a lower impact.

PROCESS OF MEETING PROGRAMME OBJECTIVES

In order to speed up the acceptance of high-quality evidence-based innovation, the organisational culture has to change within the NHS, and the collective impression from stakeholders is that changes have been happening. There is a belief that the NHS is now more familiar with the adoption of digital health and the key issues that surround the technology. After the introduction of the Accelerator, and the experience and skills gained, NHS staff are less suspicious of digital solutions than previously. However, there is still a large unmet need within the healthcare system, and the programme is helping to highlight these areas, addressing the complexity of innovation in the NHS and translating knowledge into new market products and services by supporting digital health companies.

In supporting digital health companies, one of the main objectives is to recruit the right SMEs with the capacity and capability to help improve and transform NHS services. This can be challenging and can be compounded by the selection of companies who are in varying states of readiness. However, the

programme has *"definitely speeded up the number of innovations in the NHS"*. The support that has been provided is delivered in a number of ways, all aimed at improving company readiness, knowledge sharing and showcasing. The Navigators assess the companies, their product and capability; identify where in the labyrinth of NHS organisations they best fit. This support is essential in ensuring companies are prepared for growth and scale and that all time given by individuals in the health and care system is utilised effectively. Any introductions that are secured rely on the Navigator's existent network and their ability to develop relevant connections specific for the sector a company operates in. The designed strength of the Navigator is to open doors and connect people, however one drawback that was raised is the commercial acumen of the advisor. *"However, the beneficiaries are commercial entities that need commercial support, and the navigators have not always had a strong commercial background so that support is something we have never been able to deliver well."*

Even a reliable company with a good product may not be able to persuade a commissioner to consider a pilot or a contract without supporting information. Backed by a strong evidence base this improves the ability to support claims and assists Navigators in the commercialisation of the product. There are a growing number of companies signalling their appreciation for the offer to help with academic collaborations through the DigitalHealth.London Generator and understand the importance of evidence gathering. *"There are 5 proposals coming through right now, more than previously experienced."* However, seamless collaborations between universities and digital health SMEs is still work in progress as both industries adjust to constraints of the other. *"There is the inflexibility of certain universities who, are set in their ways, can only work for a year at a time, and are not used to operating pragmatic programmes."*

There is consensus among all partner organisations that the programme has been a successful talking point and is ahead of its time. The ecosystem has created an environment where over 100 companies have gained a better understanding of the NHS process and the demands therein. Some companies are clearly building relationships that last beyond the 12 months, creating an 'alumni community'. It has also been channelled outside of the London region with overseas customers, as there are now curated offers to the rest of the world. From an ERDF metric perspective, stakeholders believe they are meeting the objectives because they are on track. *"The effort we put in in emphasising what the main targets are to SMEs meant that we were ahead of the curve."*

PROGRAMME IMPROVEMENTS

Some companies were expecting more of a sales component as part of the support and Navigators were not adequately skilled in providing that type of guidance, however Navigators are overwhelmingly recognised as a major advantage. It was therefore suggested that a heavier focus on sales would be more beneficial, particularly when assisting start-ups who are less entrepreneurial. However, a balance needs to be struck to ensure honest brokerage from the Accelerator Navigators.

According to one stakeholder, the selection process has been very effective, but the scoring system produced several average scores which failed to meet a higher threshold for the companies with quality products. In some cases, a company will 'talk things up' however in reality, their ideas are not as well formed as initially expressed. The interview questions for cohort 4 allowed for more probing questions around product readiness which should have a positive effect on the subsequent metrics. Following selection, success for both the company and the programme is dependent on SME engagement and

commitment. This has been emphasised particularly in the newer cohorts in order to get the most out of the programme. There was a concern raised that there is an oversupply of companies offering similar services. The promotion of the programme and range of services *"in effect is a victim of its own success, creating lots of noise which makes selection more difficult". "The emphasis must be towards fewer and better companies, ones that are going to really make a difference."* Improvement advice is therefore that the programme should consider being more selective, *"choosing businesses that are high-calibre rather than working like other Accelerators who may be more concerned with numbers and income generation"*.

Others reported that although the wide range of support services had been highly regarded, at times, the advice and support appeared unfocused and in danger of trying to be 'everything to everyone' and not concentrated on key concerns of the beneficiary. The amount of resources available for the companies has been lower than originally planned but mainly due to a greater emphasis for creating a stronger core team that can provide practical solutions. The programme should continue to ensure a good balance between support that can be delivered to a number of companies on the cohort, and bespoke support.

Finally, it was felt that there was a need to improve the relationships, roles and mutual opportunities with key partner organisations. Greater alignment of roles, more clarity and awareness of effective delivery in working together will produce an even more successful and supportive accelerator programme to both companies and the NHS. *"I think we need to move more towards a firmer partnership model focused on adoption with provider organisations. Also Invest outside of South London, maybe building clinical advisory groups that allow key high-level decision makers with accountability."*

PROGRAMME BRANDING AND PROFILE

In today's society, digital health has a high profile with a good level of awareness. One stakeholder reported that the overseas interest in DigitalHealth.London as a result of the programme has been really positive. The programme is highly competitive compared to most digital health accelerators due to the quality of advice, potential length of the support and the fact that it is free. It therefore has a broad appeal and has been well received - *"having created quite a buzz. I think most people think DigitalHealth.London is bigger than it actually is"*. The branding and the message are felt to be clear and stakeholders believe that the companies are benefiting from a 'prestigious association' as they are able to report their part in a unique venture. SMEs who go or are invited to attend Accelerator conferences and presentations provide clear evidence of success stories.

MANAGEMENT AND GOVERNANCE

The delivery team recognise that the ERDF funding comes with a set of requirements, and commentators believe these are effectively administered. Regular meetings that have been held, are described as well organised and attended, and focused on the issues of performance management. The flat management structure is said by partners to be conducive to communication and collaboration. However, some reported that there can be a lack of clarity in how elements fit together. Direct management input is at times not fully connected to evidence gathering for example. Consequently, there may need to be more communication between the layers, particularly around budget spending; and setting up efficient and consistent data collection methods.

Overall partners working together has been regarded as a success, however while partners have generally been active, enthusiastic and positive, one stakeholder highlighted that one of the partners have been there in name only and not an active participant. While partners varied in financial and time commitment, the fact that the programme has been overseen by all three AHSNs, MedCity and CW+ has ensured a strong joint effort. It was raised that when this Accelerator programme started, it was ahead of the game then and still leads the way now, and while ASHN day to day business is beginning to incorporate some of the practices performed in the Accelerator, it is allowing companies to come into the digital space that have not previously been involved.

3.5. PROGRAMME IMPACTS

The scale of the programme's intervention allowed the DigitalHealth.London impact *"to be bigger and tell a better story"*. The fact that it is London focussed has ensured greater access to large institutions in relatively close proximity, with a significant range of services, and more senior people that could only be achieved in a substantial conurbation. *"The fact that it has been an all London initiative has been one of its strengths."*

While the impact of Cohort 4 cannot yet be assessed, as support had only just begun at the time of the evaluation, the skills and experience gathered from delivering Cohorts 1 and 3 is a reason for optimism. Cohorts 1 and 3 have seen some excellent examples of impact on the ground., For example, Perfect Ward from Cohort 1 has an audit tool currently being used at Kings College Hospital, which has had a significant impact on the number of different types of audits undertaken across the hospital. Staff are reporting to a standardised process which is having a positive effect on the quality of patient care. An example of a wider benefit is Lumeon, which has shown improvements in the management of the postnatal discharge system providing better information and medication.

In terms of the general adoption of innovation, the processes can be slow to materialise and therefore it can be hard to speed up the innovation in the healthcare system. However, *"the speed of 'conversation' is definitely getting faster"*. Therefore, part of understanding the impact of each intervention is being able to track progress over a longer timescale, beyond the lifetime of the programme, because *"that is when the value is created - two or three years hence"*. There should be a requirement to produce 'an impact report' for the entire programme, getting the insights from alumni in the programme. *"We have to a degree, but we need more, and we need to do this from the start. Fundamentally this is hard."* However, it must be noted that with only a total of four years of the programme, and the fact that the nature of the sector means benefits take longer to fully materialise, the long-term impact cannot be captured within the lifetime of the programme. The full impact can only be assessed years after programme closure.

OUTPUTS AND TARGETS

Stakeholders conclude that the set targets have been achievable. *"Some have been a stretch, but I don't think they were wrongly estimated."* Partly due to engagement, results have not been consistent across all SMEs *"but in terms of jobs, investment and products it has created value"*. With three quarters of the programme completed, the ERDF metrics on one output for 'cooperation with research entities' has

already been achieved (C26). Two have almost been achieved (92% for C1 on enterprises supported and C4 on non-financial support) and will be achieved by the end of the programme. It is also predicted the targets for C28 (new products to market) and C29 (new products to firm) will be achieved. Originally, the target for new products was challenging due to them taking longer to materialise in most programmes, however swift action was taken by management to the structure for delivery. *"Looking back, the targets for new products to company and to market were maybe too challenging, although as the programme pans out, we are predicting they will be achieved by the close of programme."*

ADDED VALUE AND ADDITIONALITY

The consensus was that without the ERDF funding, the size of the Accelerator would not have been realised and DigitalHealth.London as the larger entity would be significantly less attractive as a service to both the NHS and industry. The Accelerator programme has indirectly contributed financially to both companies and the NHS. Companies have managed to raise funding because they were involved in the Accelerator as this was generally seen as a 'badge of honour'. It also *"...did a lot of the hard work for many NHS trusts, because they could then essentially outsource their decision making to this Accelerator"*. In the long-term this will have an impact on patient care, ensuring that tangible savings are made. It has added value to SMEs in that it has provided an opportunity to become more visible as they are introduced to key people.

CROSS-CUTTING THEMES

In terms of diversity, it was felt that there is a reasonably good mix of ethnic minority and BAME participation, however some categories could be pushed further. For gender diversity, one stakeholder said - *"we have a few female founders, but it is only a small minority. We believe this will change with time"*. Due to the nature of tech entrepreneurs, women in the digital health sector are under-represented compared with the broader economy and so having a better representation of female founders is a challenge but one that can change.

Environmentally, the programme holds events in central London to discourage attendees from driving and rather using public transport. In terms of sustainability, the selection and support of products that meet NHS needs for improvement or change fulfils an element of sustainability for the NHS. It boosts growth in the industry and as a consequence, creates an example for replication by other providers.

4. BUSINESS SURVEY

This chapter presents the findings from 22 company telephone interviews (21 beneficiaries and one counterfactual), conducted between December 2019 and January 2020.

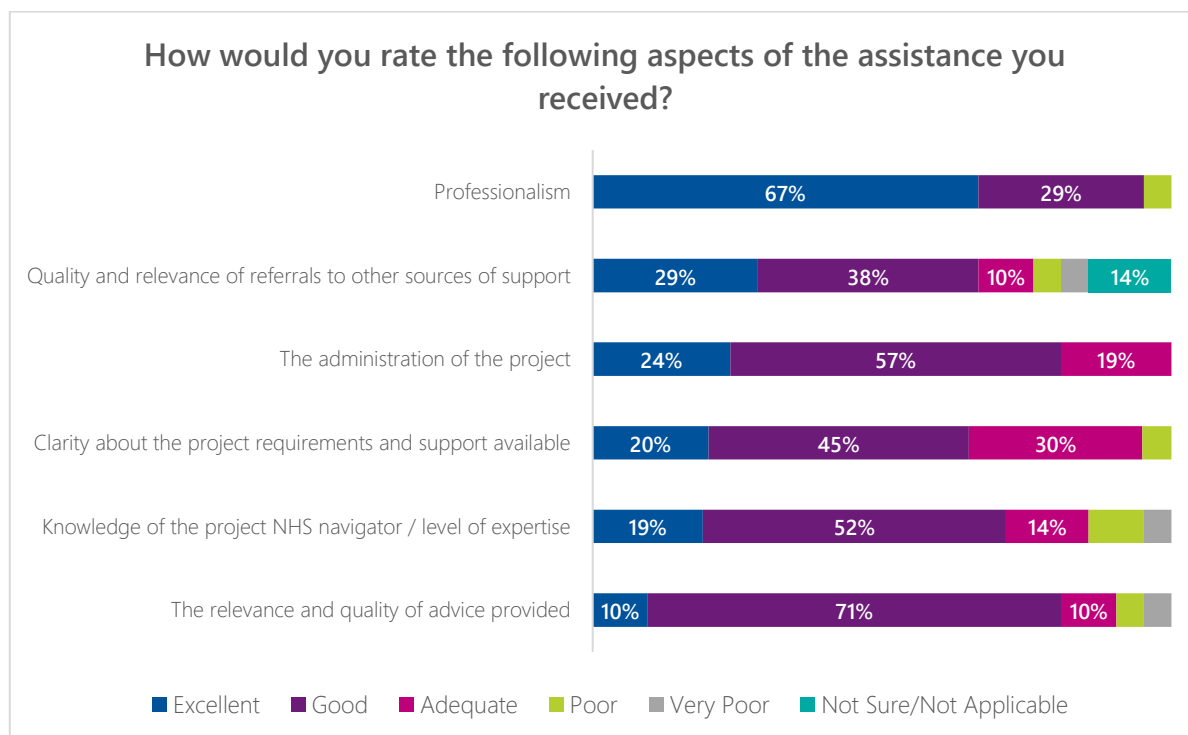
4.1. SURVEY SAMPLE

A call was sent to a list of beneficiary companies from the Accelerator team and Kada contacted and interviewed those willing to participate within the interview timeframe. The survey sample resulted in 21 businesses, a third from each of Cohorts 1, 2 and 3.

The most common way that respondents learnt about the Accelerator was through word of mouth (nine citations). Three respondents learnt about the programme online; a further three learnt about it via an event or other programme, and two were referred. Four respondents could not remember.

4.2. ABOUT THE SUPPORT AND SATISFACTION

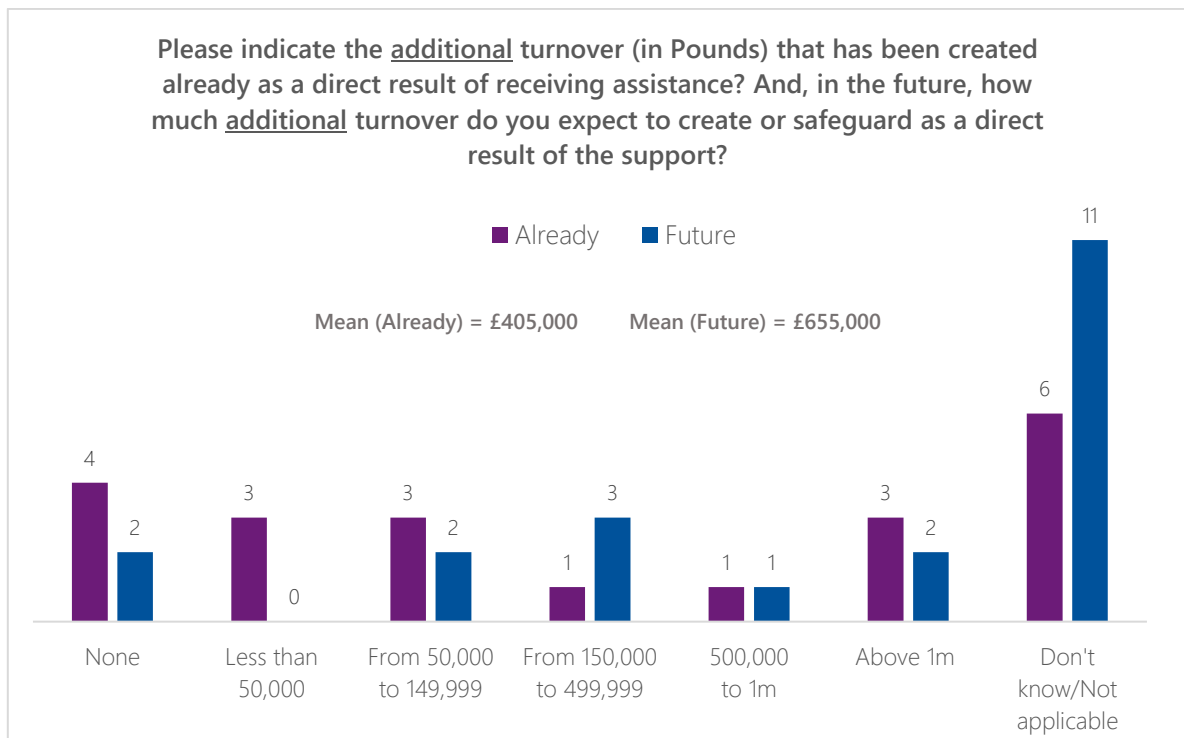
Companies were asked to rate the quality of the support provided. 'Professionalism' came out highly, with 96% of respondents rating it as 'Excellent' or 'Good'. As can be seen in the chart below, the combined responses for 'Excellent' or 'Good' were prominent across all the categories, suggesting the assistance was well received.



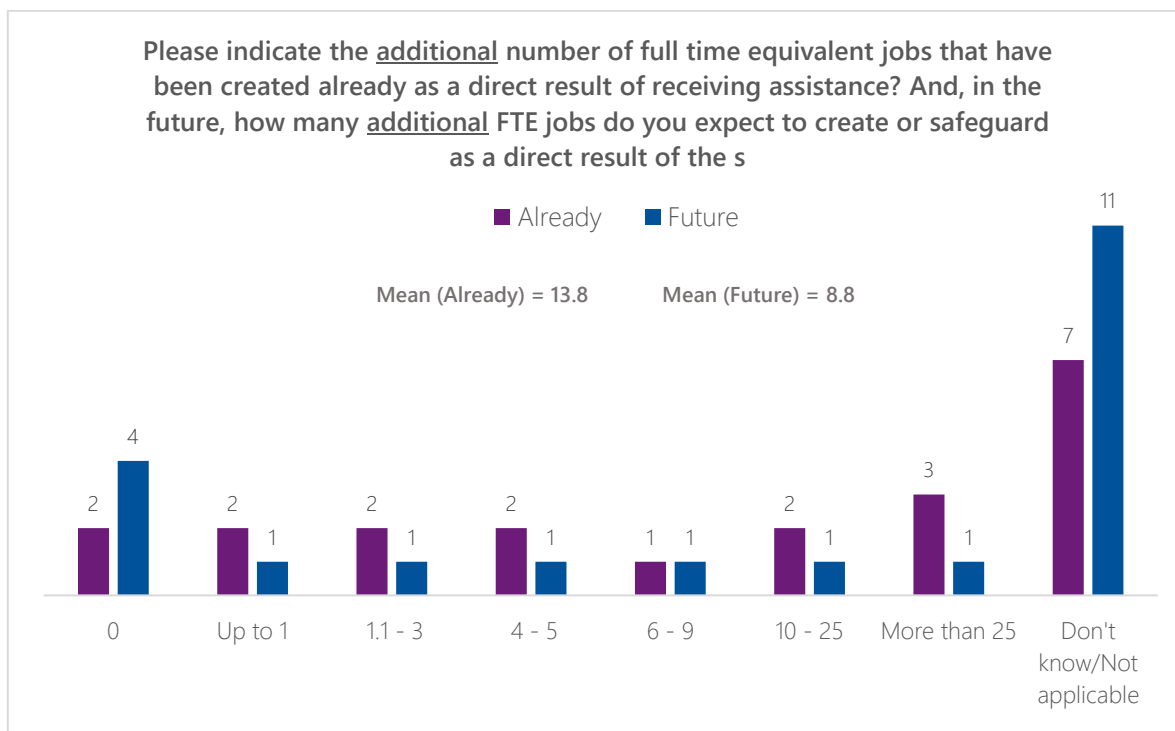
Source: Kada Business Survey, Jan 2020 (n=21)

4.3. IMPACT

The surveyed companies were asked about the additional turnover, full-time jobs created, research and development spend, and products or services developed as a direct result of receiving assistance. These questions were asked from two viewpoints – to date and in the future.

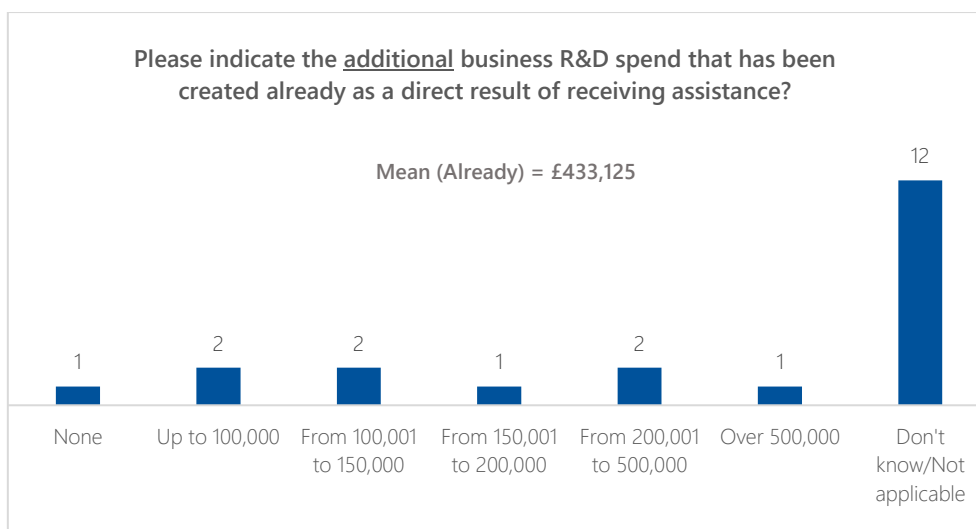


Source: Kada Business Survey, Jan 2020 (n=21)



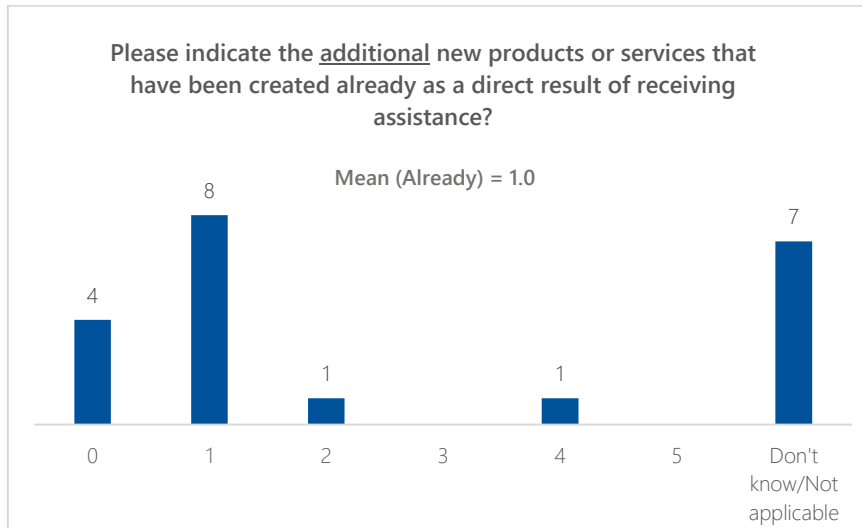
Source: Kada Business Survey, Jan 2020 (n=21)

Figures show that the average values for additional turnover are £405,000 to date and £655,000 projected. Employment has increased on average by 13.8 FTE jobs to date and 8.8 FTEs in the future. This was high due to four outliers claiming very high numbers of jobs (20, 27, 45 and 70 FTEs). These were moderated for optimum bias for the economic impact calculations.



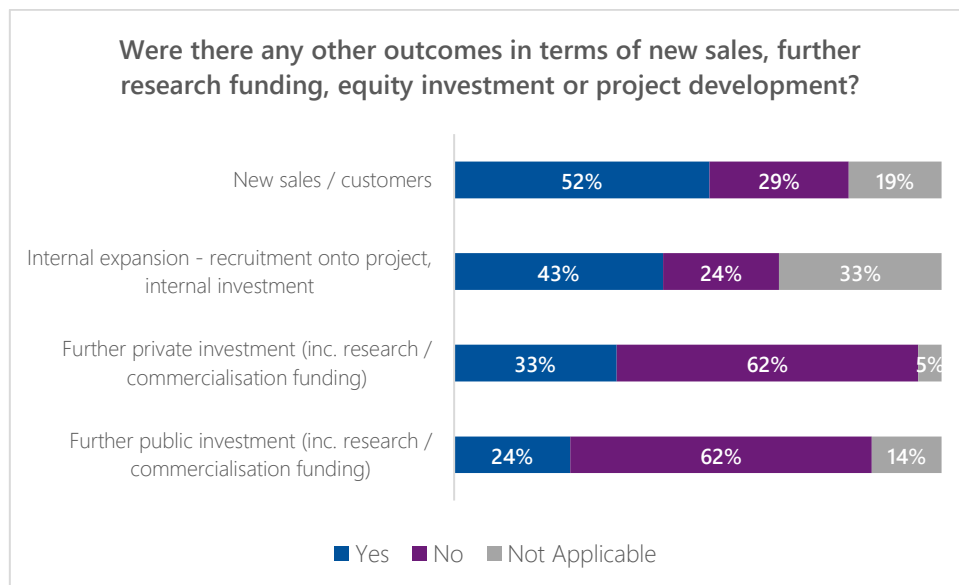
Source: Kada Business Survey, Jan 2020 (n=21)

For most of the companies, although a figure could be produced for additional R&D spend and additional new products or services developed to date (the mean was £433,000), the task of speculating about the future proved too difficult. Only five companies responded to future R&D spend and this was either a 'Yes' or 'No' with no amounts specified. For additional new products, 14 new products / services were launched as a direct result of the Accelerator support.



Source: Kada Business Survey, Jan 2020 (n=21)

Interviewees were asked whether there were any other outcomes in terms of new sales, further research funding, equity investment or programme development as a result of the Accelerator support. The majority of SMEs 'new sales/customers' and/or some aspect of 'internal expansion' was as a result (52% and 43%, respectively). Investment in both the private and public sector was a less common outcome for the surveyed companies.



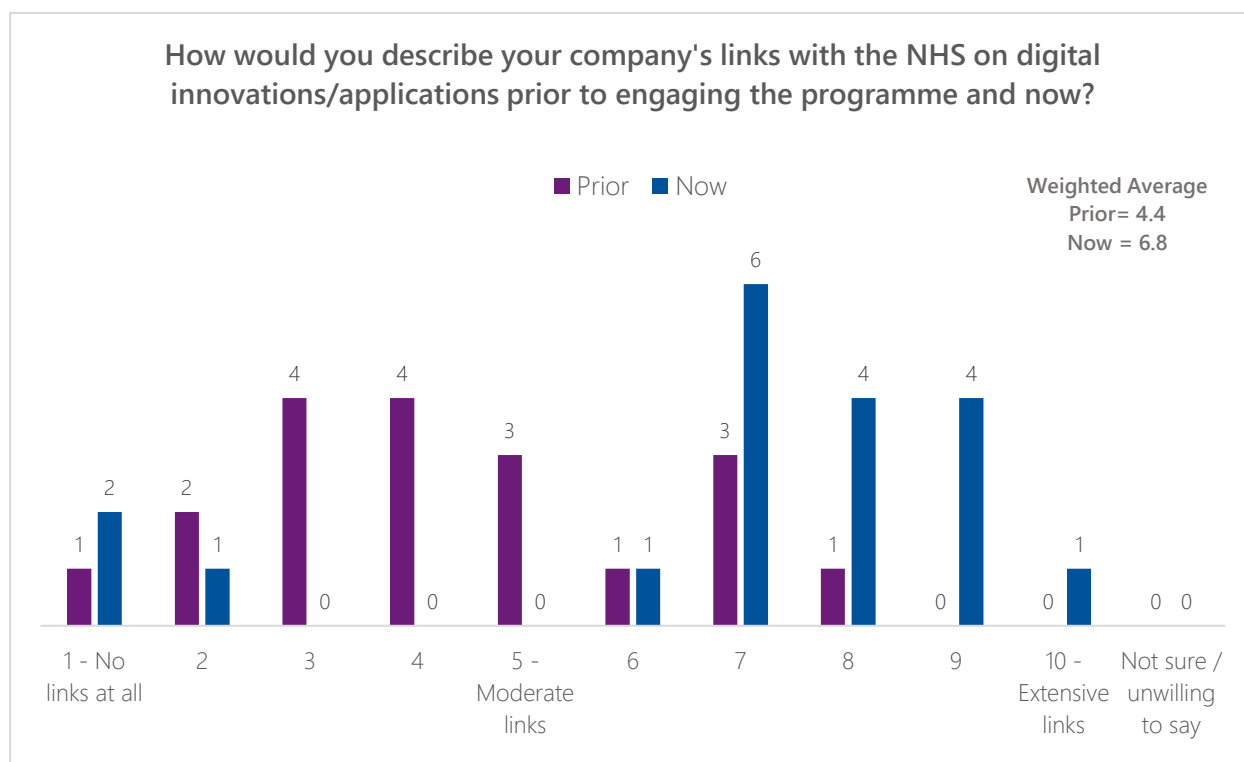
Source: Kada Business Survey, Jan 2020 (n=21)

One company with an app for ordering repeat prescriptions reported that it had recently been purchased by the Co-op group and had 70,000 users. Another said that it was dealing with seven new trusts, four of which were through the Accelerator. For a number of companies, the impact of the Accelerator support has been truly transformational, with most companies having modest impacts and a smaller group for whom there was little or no impact. The combined impacts are quite significant.

A company offering software services to facilitate increased digital communication between patients and doctors on a range of conditions and remote monitoring services won a Malaysian contact and now

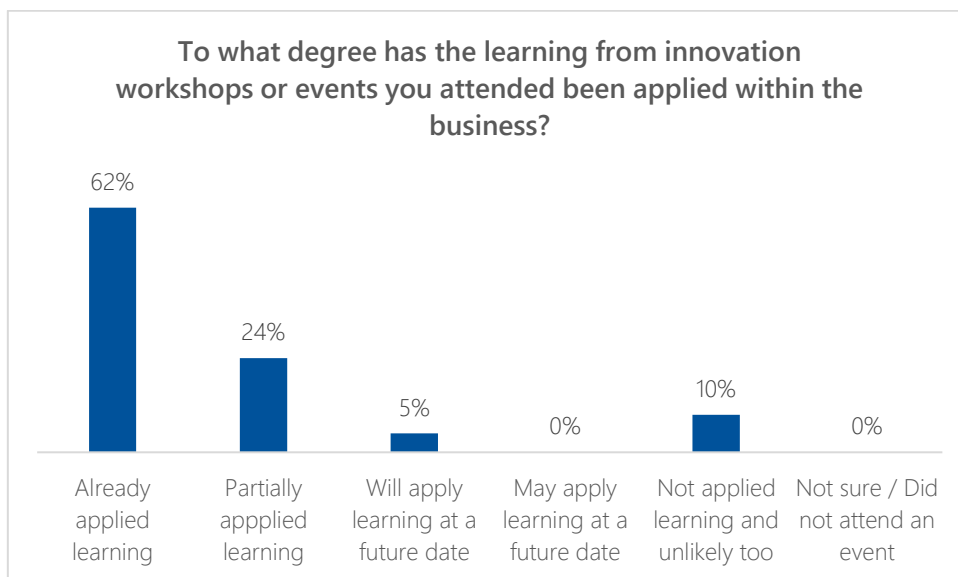
90% of their business is with health organisations overseas. One company said that the reputation gained through the Accelerator had allowed them to improve the quality of their grant applications, while another reported that three further investors had joined them, contributing around £170,000. Further public investment included two Innovate UK grant programmes and one company was now working with two more academic institutions via the programme support. Nine (43%) of the 21 surveyed companies were engaged with the NHS prior to joining the Accelerator.

The following chart shows how the surveyed businesses described their company's links with the NHS on digital innovations both prior to engaging with the programme and now. This uses a scale of 1-10 where 1 was 'No links at all' and 10 was 'Extensive links'. The chart shows a clear bias towards 'Extensive links' for the companies after intervention (in orange), with a weighted average of 6.8. The described links prior to joining the Accelerator (in blue) has a weighted average of 4.4, showing that access to the NHS have improved over time (up 55%), thanks to the support of the programme.



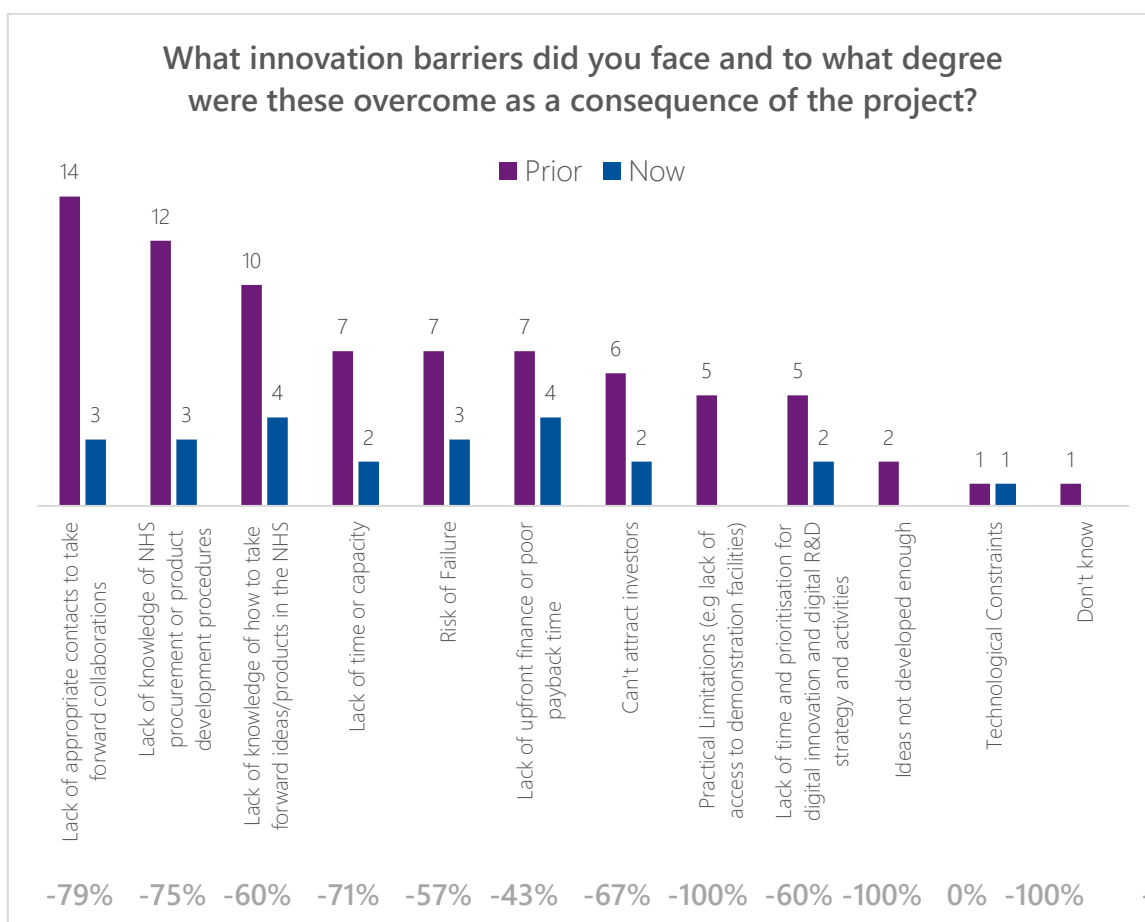
Source: Kada Business Survey, Jan 2020 (n=19)

The companies on the programme were invited to attend innovation workshops and events. They were asked to what degree the learning from such events applied within their business. Most respondents have already or partially applied the learning acquired (86%) with a further 5% saying they will apply their learning in the future.



Source: Kada Business Survey, Jan 2020 (n=21)

There was a clear decline in the innovation barriers faced after participating in the programme. The biggest impacts were in the 'Lack of appropriate contacts to take forward (79%) and 'Lack of knowledge of how to take forward ideas/products in the NHS' (75%). The cumulative number of barriers before was 76, and this was reduced to 24 following programme support.

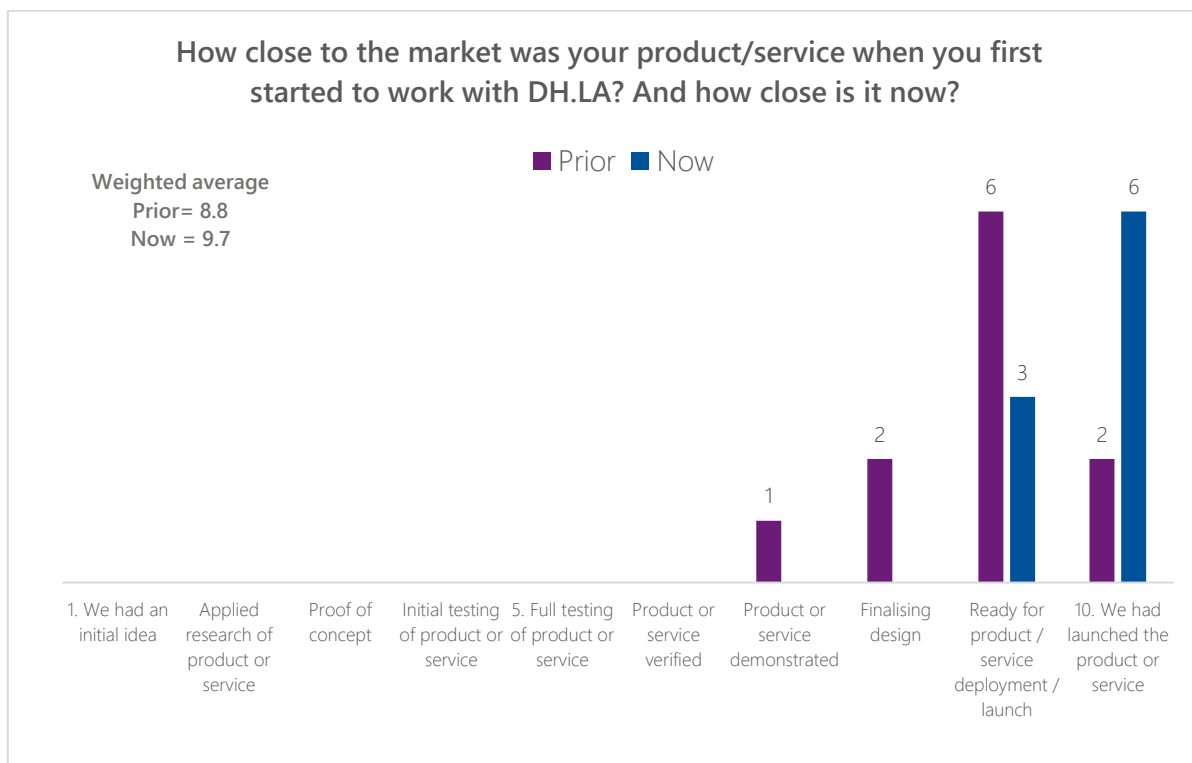


Source: Kada Business Survey, Jan 2020 (n=16)

Overall, 62% (13 citations) of respondents said that their barriers were overcome, with 19% (four citations) saying that they remained. The main barriers cited in the qualitative responses were as follows:

- **Funding** (seven citations): *"Funding and revenue had been overcome by helping us understand how we can work with the NHS. Since then we benefited from investment because of our increased access to the NHS through the Accelerator."* And *"We were put in touch with potential funders, but it didn't lead to anything."*
- **Lacking knowledge of NHS** (five citations): *"The best help has been clarifying standards in the NHS. This programme gave us the correct information and policy changes."* And: *"The programme enabled us to understand the landscape and to operate within it."*
- **Lacking NHS connection** (five citations): *"The difficulties in engaging with the NHS was the main barrier and trying to overcome NHS risk aversion. It is incumbent on the company to find the appropriate individual innovators within the massive bureaucratic structures. This has been overcome, but only very slightly."*
- **Facilitating product innovation** (three citations): *"The main barrier was defining a product that fitted the market and was market ready – this barrier was overcome."*
- **Procurement difficulties** (two citations): *"We struggled to integrate with NHS due to slow processes of procurement. Finding someone in the NHS to meet was useful, you can't get through the front door as an SME without someone in procurement."*

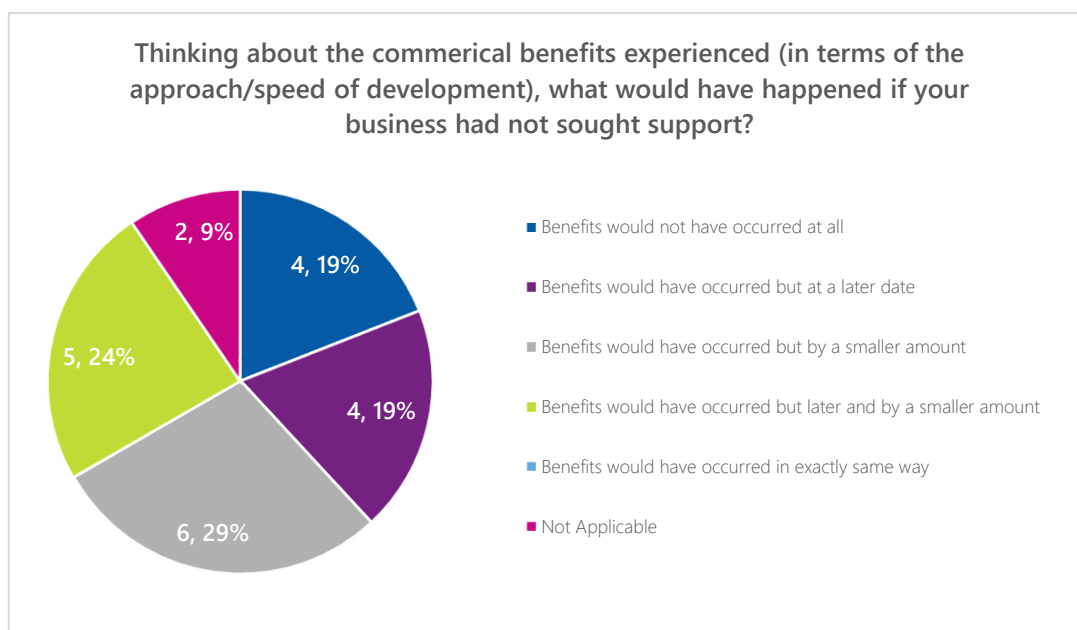
Fifteen of the 21 companies surveyed received support to help speed up bringing a new digital product or process onto the market. These 15 companies were asked how close to the market their product or service was when they first joined the Accelerator and the status of the product to date. The following chart shows that most of the 15 companies, in the development of their product or service, were at a fairly advanced stage when they joined on the Accelerator programme. The 'Now' figures show an increase, but it is small, reflective of the gains that can accrue for a product or service already in a late stage of development. A large proportion were launched or ready to launch.



Source: Kada Business Survey, Jan 2020 (Prior n=11; Now n=9)

4.4. ADDITIONALITY

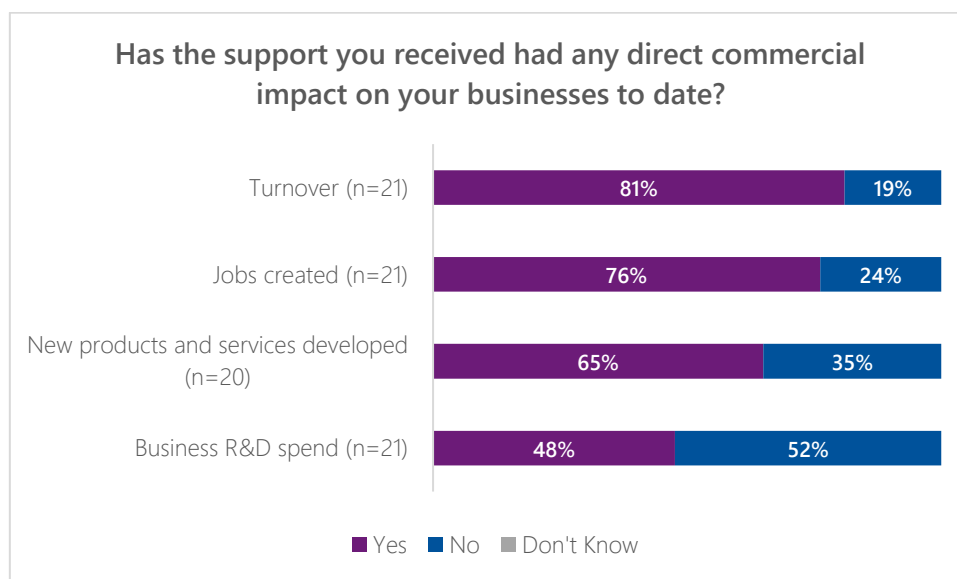
The survey respondents were asked about additionality in terms of the commercial improvement they made as a result of the support from the programme; relating to the size and speed of benefit; and whether it made any difference to what growth they would have otherwise realised.



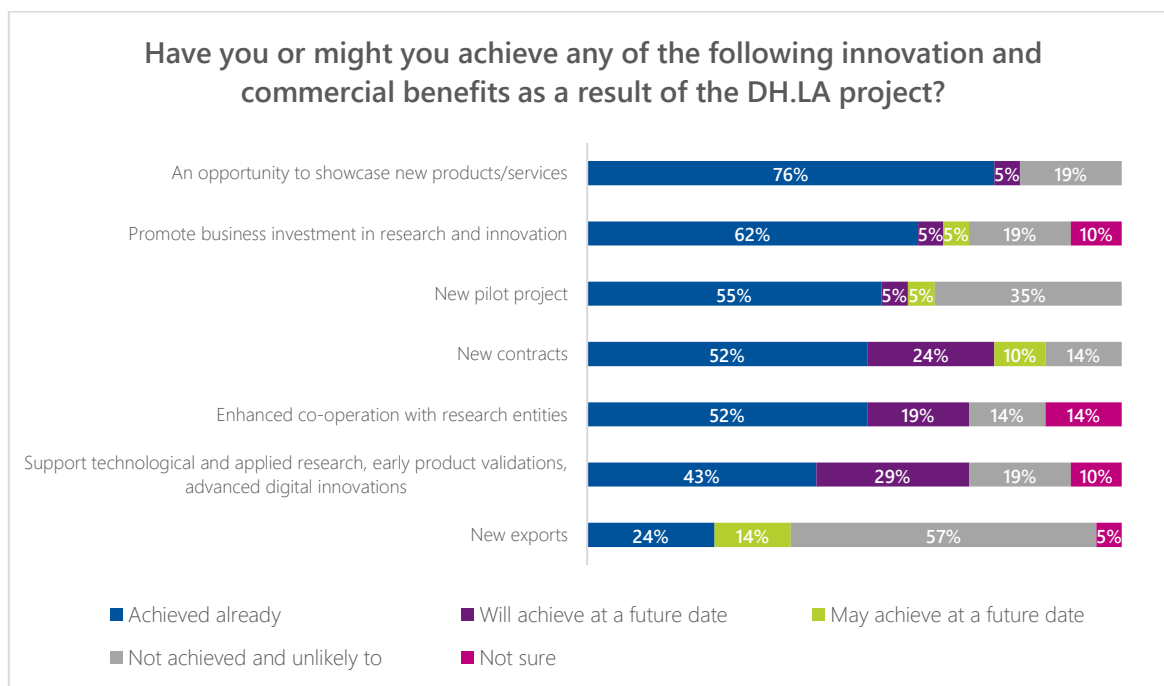
Source: Kada Business Survey, Jan 2020 (n=21)

None of the companies surveyed reported deadweight (benefits would have occurred in exactly the same way without the Accelerator). Nineteen percent reported that the benefit would not have occurred at all without the Accelerator support (pure additionality) and 19 (91%) of the 21 respondents reported some form of additionality, whether it be time, scale or time and scale.

When asked whether they obtained commercial impacts on their business from the Accelerator support, the majority said it had improved (turnover, jobs and new products/services); although just under half benefited from an impact on 'business R&D spending'.



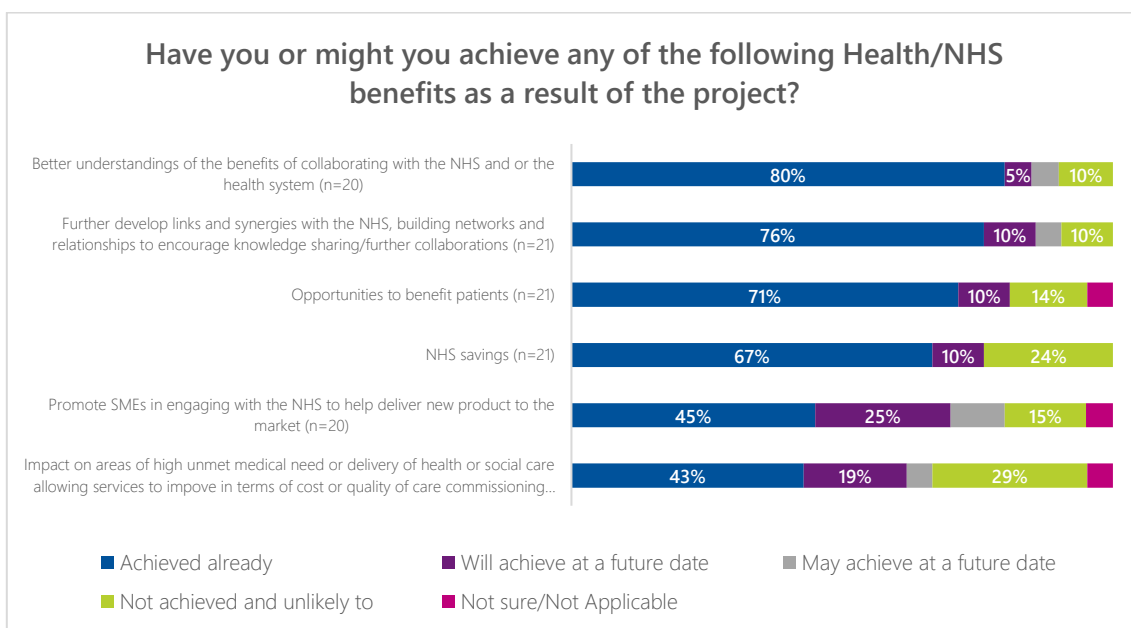
Source: Kada Business Survey, Jan 2020 (n=20/21)



Source: Kada Business Survey, Jan 2020 (n=21)

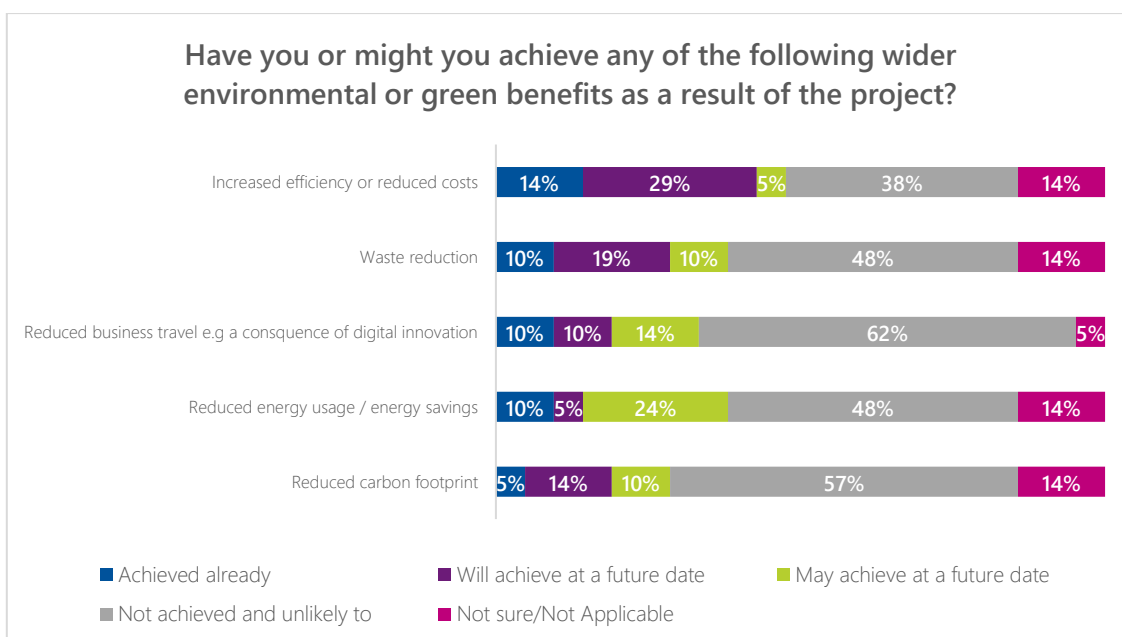
The previous chart looks at wider innovation and commercial benefits. Aside from new exports, outside of the remit of Accelerator, all categories performed well in terms of those reported showing 'Achieved already' and 'Will achieve at a future date', demonstrating the wide range of additional benefits.

Several NHS related benefits were also achieved due to support from the Accelerator. The top responses were a better understanding of the benefits of collaborating with the health and care system (85% saying they had already or would achieve this) and the ability to further develop links with the NHS (86% had or will achieve this). There were also a wide range of other benefits such as opportunities to benefit patients, help the NHS save money, NHS engagement, and impact on NHS needs.



Source: Kada Business Survey, Jan 2020 (n=20/21)

Although the programme was not directly designed to improve the business's impact on environmental matters, this is a requirement of ERDF funding. There were some small gains realised here.



Source: Kada Business Survey, Jan 2020 (n=21)

4.5. THE SERVICE AND ADMINISTRATION

SELECTION

The majority of respondents found the application and selection process straightforward (10 citations) – *"Really good. Straightforward, spent half a day on questions and form-filling. Enjoyed the interview stage."* A further three respondents found it a 'rigorous' process: *"Positively surprised about its rigour. Application form was standard, but the interview was detailed and very effective."* Two commented on the 'fairness' of the process (positive and neutral).

Others were less happy with the selection process (three citations) – *"Some of those who were interviewing didn't seem to understand how an SME works. They over-estimated what we could do as a small company."* And – *"If the Accelerator was [meant] to be efficient in its selection, it failed. The companies were varied in their stage of development. So, it was challenging for the Accelerator to deliver good service to all businesses."*

RELEVANCE OF ASSISTANCE AND MOST IMPORTANT ADVICE

Overall, there were 11 positive responses (52%) as to whether the assistance and scale was appropriate to their needs. Five gave neutral responses (24%) and five gave negative responses (24%). Most of the positive comments were broadly from companies who appeared to have a clear understanding of what they wanted out of the Accelerator programme. Three out of the five negative comments wanted a more personalised service, more tailored to their needs. – *"Each business is different, and the navigators' knowledge did not always align with our needs. So, the support was not focused enough."* Others felt that it was either very basic or too complicated for companies depending on where they were in terms of their capacity and development.

There were regular comments on the navigators (five citations) most of which were supportive – *"[The] idea of a Navigator role is a fantastic one. Conversations that you ended up having were very specific and rarely generic."* There was one company, however, who was less happy due to changes – *"We had five different navigators over the cohort, which was an issue, three of the navigators were part-time and some left. Some had good knowledge, but we didn't gain much from them due to the frequent changes."* Another commented on skills and attitude – *"Our Navigator had no prior knowledge of commissioning, innovation or other relevant factors. They also had the view that the private sector should not be used within the NHS - which was challenging."*

Surveyed beneficiaries were asked to comment on what the most important part of the advice was that they received. Some of the key comments were as follows:

"It helped us understand the NHS decision making landscape in the London areas."

"The seminars on selling to the NHS financial directors – 'cracking the NHS code'."

"The connections made for us. Navigator had to think outside of the box."

"The Accelerator acted as a badge of approval. We weren't directly introduced [to the trust], but the Accelerator then enabled us to legitimise our talk."

HOW THE ACCELERATOR HAS ENABLED BUSINESSES

Ten of the SMEs felt the support from the Accelerator enabled them to secure more contracts, not necessarily with the NHS, often due to the new connections:

"It unlocked access to lots of other contract opportunities."

"It got us through doors, we wouldn't have got through without the programme."

"We gained a pilot with this group, which turned into a contract afterwards."

The programme also raised the profile of the company (four citations):

"It definitely helped our business be recognised as a player in healthcare in London. We got there quicker than we would have done otherwise."

"[The Business] gained a reputation and allowed us to acquire a seal of approval to helping us gaining further contracts."

Others believed there was no direct enabling impacts (three citations):

"We were not really enabled but it wasn't due to the programme."

"Generally, the support reinforced what we knew before about who not to speak to. It was difficult for me to identify what way it positively advanced our business, other than being able to say we were already on it."

CHANGES TO BUSINESS PRACTICE

Businesses were asked whether the Accelerator had changed the way they worked with the NHS. Of the 18 respondents, 60% (12 citations) said the support 'brought them closer' to the NHS, 25% (five citations) said there has been no change to how they work with the NHS; one said they moved further away from working with the NHS (5%).

Those who said they were brought closer to working with the NHS commented on the **understanding** they now had of how the organisation worked (eight citations); the fact they gained **new contracts** (three citations) and how their **brand awareness was improved** (one citation):

"It felt like we were innovating within the NHS, rather than in front of the NHS. Brought a big change in our mind-set and provided a value shift."

"The experience has given us a good perspective on some of the NHS policy changes, enabling us to understand the landscape better and introduced us to purchasers."

"It helped gain new contracts and enabled us to meet higher level staff. Throughout the programme we were advised to tailor our products to the needs of the trust and be very user focused. It led to us developing new products that would be slightly scaled down."

"The programme gave us brand awareness and improved our knowledge of NHS procurement processes in both positive and negative ways."

The company that moved further away commented:

"If anything, we are now looking to the export market, it has lessened our connections with the NHS."

4.6. SUGESTED IMPROVEMENTS TO PROGRAMME

The survey sample was asked how the Accelerator programme could be improved. There were some comments on the skills of the NHS Navigator (three citations) – *"They could have listened and challenged me more. They could have asked more probing questions and acted as a mentor."* And *"You had to push the navigators to get what you wanted, when it should be the other way around."* There was a call for more tailoring to the needs of the company (five citations) *"Receiving more tailored advice would have been helpful. There could be a more robust training programme for staff to enable them to work with diverse companies and diverse products and skills."*

Some felt that the programme could have been better structured (eight citations) – *"We needed more structured meetings, working to a schedule every few weeks to keep on track and make sure we get followed up support. You had to put a lot of effort into the programme to get more out of it."* One person said it ended abruptly and did not lead to anywhere else in the NHS. *"The programme had a hard stop. If there was a way of others in the NHS becoming aware of this programme it may have opened more doors."* There were two citations suggesting that support for funding or built-in funding provision should be part of the programme to give the company a head start.

A number (four citations) reported that it could not be improved – *"They should continue what they are doing now! They throw a lot of stuff out and the smart companies pick and choose what is right for them. A range of opportunities are provided with a choice of what to adopt, you will only get out what you put into it."*

4.7. BUSINESS GROWTH PRIORITIES AND SUPPORT REQUIRED

The respondents' business growth priorities were generally focussed on the expansion of their businesses (17 Citations, 81% of respondents). *"There is a huge focus in the next year or so on increasing our UK market, and we want to gain more contracts, in particular on UK secondary care acute markets."* Getting more connected to the NHS (five citations) was also a priority – *"We want to increase our footprint, because we can help 2.5 million patients right now. We are looking to build more contacts in the NHS and would look to another scheme if they were perhaps more relevant to a company of our size."*

In terms of what support SMEs may require, some reported that they would like to develop new products (three citations), scale-up their productivity (two citations) and export (two citations) – *"We're looking for growth, new contracts and expanding, potentially looking at expanding to South Africa."*

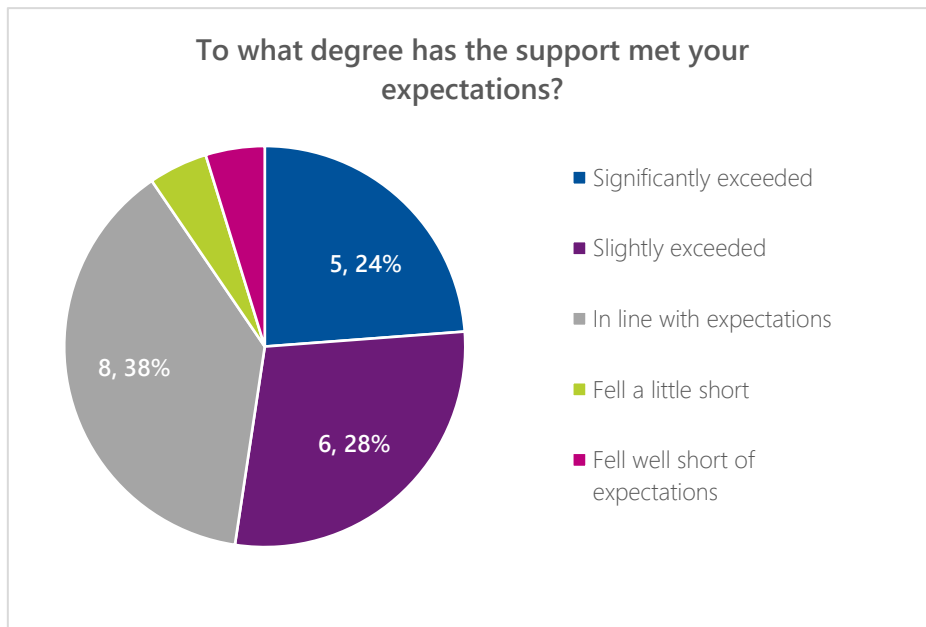
4.8. OVERALL SATISFACTION AND EXPECTATIONS

In terms of what companies expected, these sometimes revolved around the quality of relations developed with the Navigator (seven citations). – *"Before we didn't know what to expect but we actually got contracts and our revenue increased. It even changed the way we worked. It was instrumental in our growth at the time of the support and provided great impact."* Another commented - *"We have done a few similar schemes and this one has definitely been the best level of involvement and commitment from*

the navigators. They displayed a genuine interest in working with us, were well trained, knowing how to best help. The quarterly meetings were useful in understanding targets and did an excellent job to help us find the right experts." However not all companies were happy with their Navigator – *"The experience was diminished due to the quality of the navigator."*

There were some that felt the Accelerator helped them better understand whether the NHS market was right for them or not (three citations) – *"My expectations were very high and were met. But the experience with the NHS made us realise we had to focus on other markets."* Another theme drawn from this question regarded the size and level of development a firm had reached before it was ready to benefit from the programme (three citations); *"I felt like we were a bit of an imposter, as a small company, compared to the bigger companies who may have got more out of it."*

Expectations for 90% of the surveyed companies were either exceeded (52%) or met (38%). 24% significantly exceeded expectations which suggests a successful implementation of the programme and its targeted outcomes.



Source: Kada Business Survey, Jan 2020 (n=21)

5. CONCLUSIONS, LESSONS LEARNT RECOMMENDATIONS

This final chapter reflects on the performance of the Accelerator programme against its objectives and looks at how the support might be developed in the future. It concludes with an assessment of lessons learnt and recommendations.

5.1. CONCLUSIONS OF PERFORMANCE AGAINST OBJECTIVES

The Accelerator is concentrated on delivering the ERDF Operational Programme Priority Axis (PA1) objective, which is to increase the number of SMEs engaged in collaborative research and innovation, within the NHS context. The Accelerator provides digital healthcare businesses with direct links to the NHS, helping SMEs and the NHS to better understand and implement innovation. The programme began in November 2016, with the aim of achieving its objectives by delivering the following targets:

- Provide 12 hours of non-financial support to 105 SMEs (C1 & C4)
- Establish 32 new research collaborations between SMEs and institutions (C26)
- 50 new products to the market (C28)
- 50 new products to the firm (29)

All targets are projected to be achieved (C28 and C29) or exceeded (C1, C4 and C26) by the programme closure date at the end of November 2020 (See section 2.1). In addition, the programme has:

- Enjoyed a high level of notoriety and prestige. This was demonstrated by over 500 applications from digital health businesses, with less than one-fifth selected to progress through to the programme. Many of those that were successful considered the association with the venture as a 'badge of honour', improving their stature and reputation.
- Shown a demonstrable improvement in SMEs' ability to access the NHS market. On a scale of 1-10 (where 1 was 'no improvement' and 10 was 'significant improvement'), survey results show that the enterprises' ability to develop clear links with the NHS market showed a 'significant improvement', with a weighted average moving from 4.4 before and 6.8 after the intervention (up 55%). It also improved the beneficiary businesses' closeness to market.
- Confirmed that the approach of using Navigators to identify a route for SMEs to the NHS market is the right and informed approach to linking the needs of the NHS with the digital healthcare companies who have the potential solutions. The business survey indicates that 96% of beneficiary companies rate the professionalism of their advisor as excellent or good and 71% rated their expertise as excellent or good.
- Been successful in already achieving the main PA1 objective of collaborative research and innovation through target C26. This indicator was behind its target during the early stages of the programme. The introduction of the 'Generator' programme to enhance the businesses who needed evidence to support their case greatly improved performance. The provision of evidence generated research supplied by the region's universities allowed this target to be met before any other.

- Achieved job creation as a direct consequence of the programme despite no target being set and no grants being made available. The business survey indicated that 82% of businesses had already created jobs due to their participation and a further 59% reported that there will be more jobs created in the future.
- Already improved the turnover of 57% of the companies surveyed since the intervention and 38% said they will improve in the future.
- Enabled some level of additionality across 100% of the survey sample, with 21% benefiting from full additionality and no deadweight.

5.2. LESSONS LEARNT AND RECOMMENDATIONS

This section outlines some of the themes and points that have emerged from the business survey, interviews with stakeholders and report analysis. They identify and summarise lessons and recommendations that could be considered by different levels of the decision-makers if this type of programme were to be run again.

DELIVERY BODY

A delivery body may wish to consider the following lessons and recommendations:

- More rigorous filtering before the interview stage will ensure a pool of high-quality businesses with the capacity and motivation to innovate and meet NHS needs.
- Targeting of larger SMEs, as opposed to micro-businesses, might achieve higher impacts for the programme and ensure participants have sufficient capacity to scale-up where necessary.
- Flexibility on the level and ceiling of support for high calibre companies would help them to fulfil their potential.
- Keeping staff turnover low ensures knowledge can be retained. That said, creating a database, guidance manual and programme systems, combined with designated handover periods and detailed inductions will ensure knowledge is easily retained and passed on.
- Regular diagnostic progress checks between Navigators and SMEs can be used to reset or confirm the direction of travel.
- Exploring the potential of partnerships with complementary business support agencies is an opportunity.
- NHS expertise is recognised as a great strength of the programme; however, some SMEs require more commercial support.
- Deeper relationships with innovative companies who address a variety of NHS needs will help to ensure alternative uses of the technology can be explored.
- Contact with alumni companies is important in tracking key successes and lessons learnt.
- Greater partner engagement will foster ownership, collaboration, and consistency of the approach.
- Pursuit of future grant funding to continue the Accelerator programme will retain expertise, capacity, and momentum.

PROGRAMME DESIGNERS

Those designing and implementing a similar programme may wish to consider the following lessons and recommendations:

- Adopting dedicated evidence-based support through academic institutions has ensured successful research collaborations.
- NHS Navigators have been essential in helping companies find the most appropriate route to a compatible NHS marketplace.
- Stakeholder concern over partner engagement must be addressed in future programmes, ensuring full participation and commitment.
- Revisiting companies one to two years following Accelerator support will allow the programme to learn, apply best practice, and assess value and impact more clearly.
- Simplifying and streamlining administrative processes and using electronic systems where possible will ease the experience for applicants and administrators.
- Future programmes could build in small grant funding that companies can apply for to use on specific projects, for example commercialisation or evaluation, to accelerate progression into the digital health market.
- More flexible periods of support for companies with the best products, services, and clear progress potential may be beneficial.
- Future accelerator programmes could include more job creation and turnover measures to ensure economic impacts can be captured robustly.

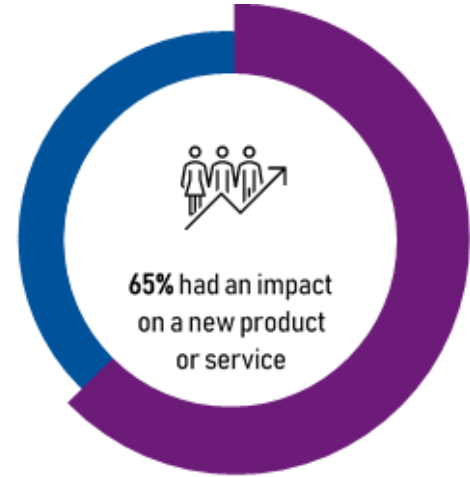
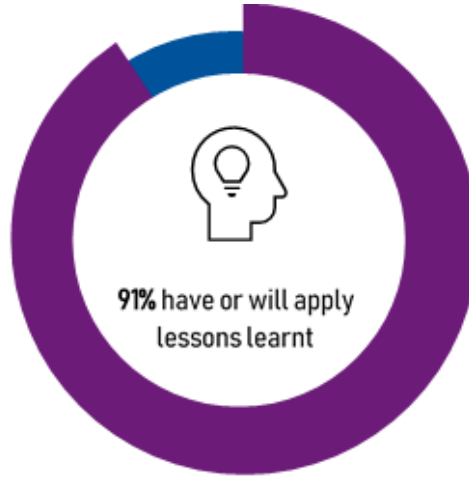
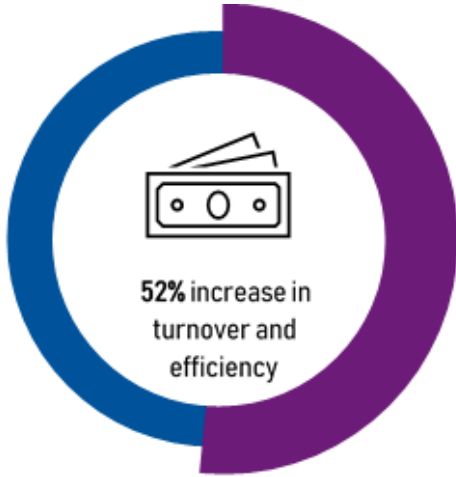
POLICY MAKERS

Those formulating policy for similar programmes may wish to consider the following:

- The success of the DigitalHealth.London Accelerator suggests that policy makers must continue to ensure the development of the accelerator concept, with the aim of ensuring that the best digital innovation companies service NHS needs. Additionally, UK post-ERDF investment in successive digital health accelerator programmes will build in the experience and knowledge gained to date.
- In terms of speeding up scale and development of innovation in the NHS, the successes have been uneven as the procurement processes between trusts vary considerably. This requires greater alignment and improved buying systems that accommodate small innovative enterprises. Compatible e-procurement software, processing, and approval procedures consistent across the trusts would be an advantage. In addition, embedding and assisting suppliers to adopt complementary systems with built-in timescales should also be a priority.
- Some improvement targets set for NHS organisations could be achieved using digital technologies. These requirements need to be clearly communicated so that SMEs can help provide solutions where there are gaps. This will improve the uptake of solutions and potentially improve the ability for NHS organisations to better collaborate and implement digital technologies together at scale.

- After Brexit, State Aid constraints may be amended, and restrictions on the sourcing of digital services from the EU will allow the internal supply chain to expand to meet NHS demand. Policy makers must therefore be prepared to widen the scope and size of future programme iterations.

ANNEX ONE: KEY MESSAGES AND ACHIEVEMENTS



513 new jobs created
66% - direct support
33% - indirect support



Over 14 times return on investment
For every £1 spend by the NHS (through AHSNs) on the Accelerator, £14.50 is returned



What SMEs said...

'It definitely helped our business be recognised as a player in healthcare in London.'

'It unlocked access to lots of other contract opportunities'

'It got us through the doors, we wouldn't have got through without the programme.'

'The Accelerator acted like a badge of approval'

Diversity of the programme

15% founded by women

22% BAME majority owned

2% by person with a disability

90%



Reported the support exceeded or matched expectation

96%



Reported the professionalism as excellent or good

ANNEX TWO: STRENGTHS AND WEAKNESSES

The following is a list of interview responses by partners to a request for strengths and weaknesses:

STRENGTHS

- The process has been professional, with capable advisers bringing forwards a large selection of high-quality digital companies to the attention of the NHS.
- There is now a filtered list of start-ups that are linked to NHS requirements.
- Key component of a successful is the navigator is to clear the haze and open doors.
- Strengthen the evidence of the product through the Generator which enhances and legitimises its appeal.
- Companies see the participation in the programme as prestigious and a badge of honour.
- Marketing and communicating the programme to the ecosystem has been very productive.
- Through access, companies have gained brand recognition.
- There have been big improvements in developing a portfolio of contacts with specialisms.
- There is a strong team of NHS staff who are highly motivated as they help to move the NHS forwards towards a more digital future.
- Long-lasting relationships are being developed between some of the best companies and NHS.
- The variety of products is a key strength of the programme (e.g. from nurse coaching to a peer support app for young people coping with anxiety).
- The Accelerator is differentiated from commercial accelerators due to the variety and length of support.
- The rationale for the programme is clearly evidenced by the number of applications generated.
- Interest in the approach has been expressed from overseas observers.
- It is predicted to meet all its output targets.

WEAKNESSES

- Although attracting a large number of applicants is a strength, this can also slow the selection process, generate low-calibre applicants, and present too many similar products.
- Potentially, larger companies may not recognise the benefits from joining the drive towards digital health if it is targeting SMEs.
- There has been is a high staff turnover, which can result in slowing progress and rather than building on skills, can damage continuity and stall progression.
- Lots of effort is expended on trying to create the right conditions for partners to have ownership of their role and fully contribute to the programme.
- There was an expectation mismatch between what the start-ups thought they were getting and what they received.
- Although there were very few complains about ERDF 'bureaucracy' a few felt that wet signatures can slow programme progress.
- The limitation that companies need to be in London to qualify, and the cost of locating within the city boundary, could prevent the supply of high-calibre businesses. Quality SMEs on the outskirts will lose the opportunity to participate in the Accelerator.

- There can be long waiting periods before companies see progress which may affect the company's desire to work within the NHS environment.
- There is no longitudinal follow-up which deprives future programmes from checking on progress and full impact but also losing information on lessons learned.

ANNEX THREE: TWO CASE STUDIES

Case Study:

DIMEC is innovating, overcoming barriers and improving healthcare within the NHS



We both have an entrepreneurial attitude, myself being a problem solver, and Chris bringing business acumen.

Andrew Bailey, Co-Founder

DIMEC was founded by two pharmacists, Andrew Bailey and Chris Turner, who first met during their pharmacy studies at Keele University. After working in practice for several years in hospital and community settings, they identified weaknesses in pharmaceutical data systems, and recognised an opportunity to improve and modernise patient prescription delivery processes. They came together and established DIMEC in 2013, with an entrepreneurial vision to improve delivery systems through an app and online pharmacy. The app would enable full prescription data connectivity, improve process efficiencies, enable ease of use for both clinicians and patients, and reduce costs for the NHS.

The initial business model focused on an online pharmacy based at Keele University, with a longer-term view towards building their digital app service. During its first iteration, DIMEC operated as a wholesaler, buying and selling over-the-counter medications, prescription pet foods and other products. It joined the NHS GP System of Choice programme to integrate their online pharmacy service into the NHS data system. Whilst they were still developing their idea of an app service, they were also establishing themselves within NHS systems. The main barrier for Chris and Andrew was that they did not possess the knowledge and skills to build a complex app themselves so sought to expand by applying for 'angel' investment. After pitching over 100 times, DIMEC received their first external investment from three separate investors, totalling £100,000. Early in 2017, the app went live in the NHS, gaining contracts to service 64% of the nation's GP patients through EMIS and Vision suppliers.

"Before the Accelerator we had several changes to our business model, and often struggled to balance maintaining cashflow, waiting for NHS integration and working locum shifts as pharmacists!"

However, the business faced a regulatory barrier to their model. Local health authorities (CCGs) were phasing out the manual ordering approach that DIMEC had previously deployed, which created both challenges and opportunities for the business. The model had to be changed to offer pharmacies subscription-based sales through their app, but they struggled to get enough pharmacies to sign up. While on the programme, functionality was approved that enabled patients to nominate a pharmacy, resulting in DIMEC becoming the first app to allow patients to choose any pharmacy across the UK. Acceptance onto the the Accelerator at the end of 2017 came at an ideal time for DIMEC. Although they had a proven and potentially high-value service, they faced cashflow challenges in solving an imperfect alignment with the NHS regulations, as well as increasing competition from other operators.

The Accelerator initially added value for DIMEC by allowing the company to consider a range of options for a suitable model. They were able to have conversations directly with senior pharmacists at



various hospitals in London, and senior innovation staff from the Chelsea and Westminster NHS trust. However, DIMEC were unable to conduct a pilot of their software within the trust due to resource commitments elsewhere. At the time, they were also introduced to manufacturers of hospital computer systems, which enabled DIMEC to consider integrating their software within pre-established hospital systems as opposed to working directly with trusts. In 2018, DIMEC sold the online pharmacy arm of their business enabling them to focus on the app. With the app as their primary business, DIMEC's model focused on enabling patients to order repeat prescriptions to online pharmacies, now being delivered by a partner company.

"The programme was really useful for allowing us to look at several different aspects of our business in detail."

DIMEC then began pursuing development of the app through the Accelerator. A pivotal milestone in the company's experience was their meeting with Boots. They were offered an acquisition to incorporate the app into the digital arm of the Boot's pharmacy business. DIMEC were also able to pitch to various Venture Capital firms for investment, where they were successful in gaining offers. Finally, early in 2018, DIMEC were contacted by the Co-op, who were interested in the app to aid the establishment of their own e-pharmacy and made a substantial offer of acquisition.

At this point, DIMEC had several proposals on the table due to the support of the Accelerator, including Boots and Ryse (a venture capital outfit), as well as the Co-op. This put DIMEC in a strong position to choose their next step. The support from the Accelerator provided verification and proof of quality, with valuable mentorship during the decision-making process. Andrew and Chris opted for the Co-op offer, confident that their service could make an impact and add strategic value to the new Co-op healthcare business that was in the process of being established.



If it wasn't for the Accelerator we wouldn't have had the choice of investment options... and the Co-Op offer was validated by previous offers made through DigitalHealth.London Accelerator! The Accelerator was then vital in helping our decision making.



The DIMEC architecture is now part of the Co-op health app, servicing patients nationwide, directly linked to GP clinics. Since joining Co-op, DIMEC has grown from a team of two pharmacists to over 40 staff now servicing more than 70,000 patients nationwide. The value of the contacts and meetings through the Accelerator has provided a long-term impact. Andrew can still speak to senior staff across the NHS's digital operations due to the endorsement secured through the Accelerator. The network created between DIMEC and its fellow cohort of the Accelerator companies is proving to be extremely useful for the future, as the entrepreneurs continue to share ideas with a view to innovating, overcoming barriers and improving healthcare within the NHS.



Case Study:

DrDoctor is providing a better healthcare experience and saving NHS money by connecting hospitals, clinicians and patients

drdoctor



We had found that getting in front of NHS decision makers was very difficult, and certain structures of the NHS make it hard for the organisation to adopt innovative technologies.

Tom Whicher,
Co-founder of DrDoctor



DrDoctor was co-founded by Tom Whicher in 2012 when he was working as a management consultant in NHS hospitals. Tom noticed how slow and onerous NHS paperwork processes could be in tracking and organising patient appointments. He saw an opportunity to utilise mobile technology to improve communications between hospitals and patients. Tom and two fellow co-founders went on to design a digital patient engagement platform to improve the management of patient care across an entire patient journey. The service could implement bespoke digital solutions addressing specific needs and challenges that an NHS trust may face. The digital platform offered several features including digitised patient self-scheduling and appointment management software. The service improves the links between clinicians, administration staff and patients, enabling efficiencies within hospitals and improving patient care experiences.

DrDoctor joined the first cohort of the Accelerator in 2016 when the company employed 14 people, offering only one service for digitalised scheduling. Although the business had a proven product working in several trusts, DrDoctor wanted to explore new ideas.

"We had lots of ideas, but needed focus."

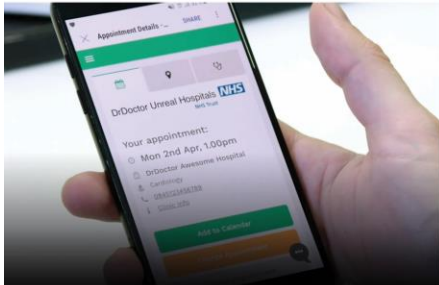
When it was ready to scale up, the company decided to join the Accelerator programme. It recognised that to grow within the NHS it would need to engage and collaborate as much as possible.

The Accelerator appealed to DrDoctor as it was designed to overcome several of the barriers the company had been facing. Specifically, it offered opportunities to meet senior NHS decision makers, and work alongside the NHS to design and integrate innovation with their services.

During the programme DrDoctor received one-to-one support on delivery methods from their NHS navigator. Their relationship with the navigator exceeded their expectations.

"Our navigator was able to provide a bespoke experience and gave us exactly what our business needed."

By meeting senior NHS staff, a key skill the company was able to develop was in building improved business cases that directly met NHS requirements. DrDoctor also had lots of opportunities to present their product and pitch their business offer to potential customers. By attending the Accelerator's workshops and



Programs like the DigitalHealth.London Accelerator are critical to create change within the NHS, and it is so vital that programmes like these are in place. Fantastic!

Tom Whicher,
Co-founder of DrDoctor

events, DrDoctor were able to build contacts, and gain better understanding of the NHS's regional and national contexts. This helped DrDoctor ensure that they could design a product that met both the needs of today and the future.

"Being able to understand changes in the NHS and keep up to date with the organisation enabled us to better refine our solution and offerings to individual trusts."

The most important aspect of support provided within the Accelerator was in improving collaboration. By talking to many people, they were able to explore and improve their model which allowed them to be more innovative within the NHS, ultimately leading to growth in the business.

In terms of outcomes, DrDoctor were successful in gaining six new contracts with trusts inside and outside of London, potentially increasing turnover by £2 million. The company now employs 45 people with significant changes and ambitions in its overall strategy and level of resource.

"We were stopped from going down routes that were unsuitable, which has led to highly focused refinements to our service and maximised our time and resource."

The support from the Accelerator has enhanced the company's growth potential by challenging their ideas at an early stage. A key milestone for DrDoctor was that it enabled the business to build their first two-way integration model with the Chelsea and Westminster Trust, and develop a whole-life value care model with Kings College staff. Both of these developments led to a significant increase in capacity to provide support with other trusts and means DrDoctor are now able to reduce more inefficiencies within NHS trusts.

"We are able to rebalance cost-outcome equations for NHS trusts, and help them deliver better quality of care at a lower cost."

The fact that DrDoctor were part of the Accelerator's first cohort meant that they did not know what to expect from the programme but left being extremely satisfied. DrDoctor said that the Accelerator team were highly passionate and generous, "always willing to go slightly further than required to reach out to their wider networks." One of the biggest impacts of the support has been the network that DrDoctor has been able to establish, with the team still in contact with the people they met over three years ago. "You don't create change in healthcare by working on your own".

DrDoctor are continuing to expand their business, with links to every single hospital in the UK.

"We have only just scratched the surface of what is possible. We are especially excited about the follow up experiences and being able to sell at a lower cost is also phenomenal."

Since the Accelerator, Tom has been invited to become an NHS Innovation Fellow, providing advice to companies on how to innovate within the NHS from local to national levels.

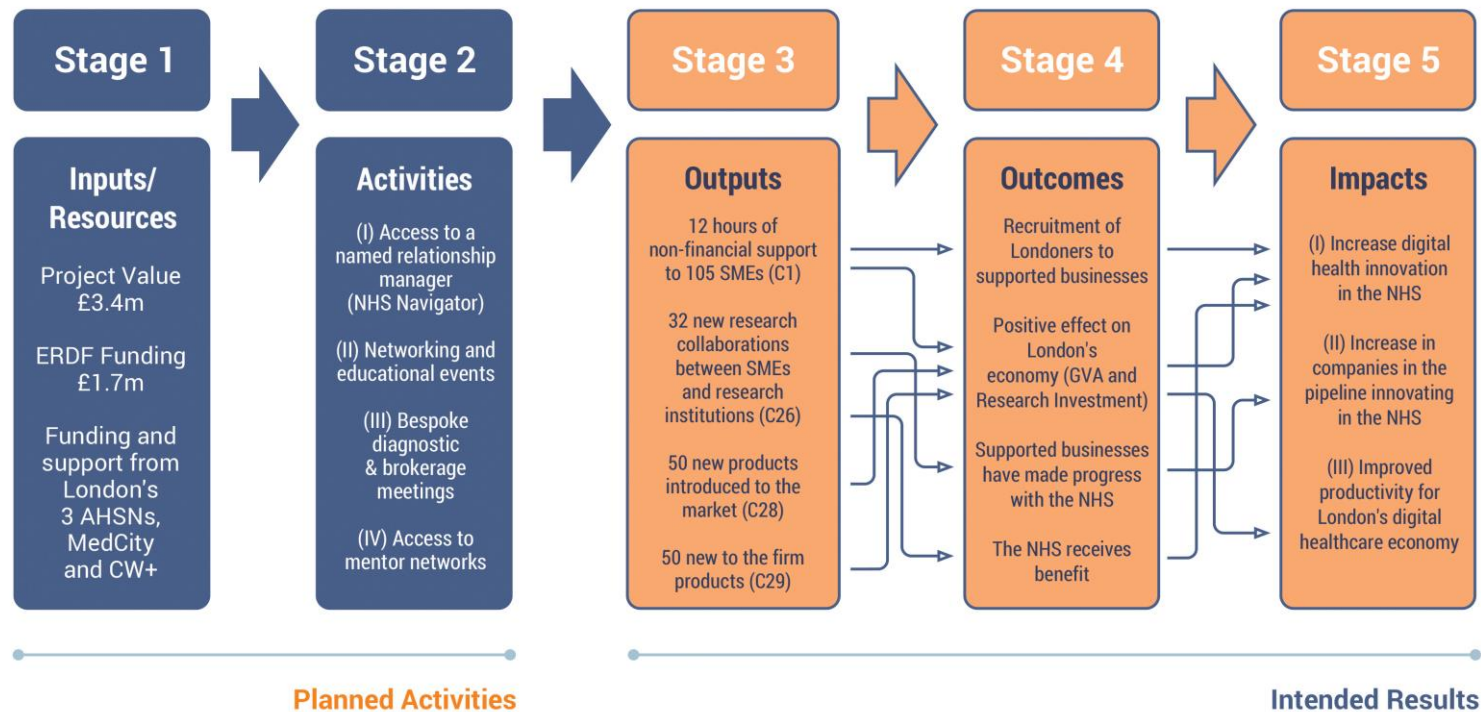
ANNEX FOUR: LOGIC MODEL

DigitalHealth.London Accelerator: Logic Model Overview

Objectives: Support the spread an adoption of transformative digital technologies within London’s NHS through business support to innovative SMEs.

Rationale: To enhance London’s competitiveness in digital health by overcoming market failures related to poor collaboration and co-ordination between private sector businesses and NHS trusts.

Market Failure: Failure being addressed are a) Poor collaboration and co-ordination between SMEs and the healthcare system. b) Complexity of innovating in the NHS. c) The challenge of translating knowledge into new market products and services.



ANNEX FIVE: CONSULTEES

Name	Position	Organisation	Contribution
Rasheed Adekunle	Compliance Manager	DigitalHealth.London Accelerator	Report consultee
Rob Berry	Ex-Commercial Director	UCLPartners	Interviewee
Claire-Frances Fuller	Communications Manager	DigitalHealth.London Accelerator	Report consultee
Sarah Haywood	Ex-CEO	MedCity	Interviewee
Anna King	Commercial Director	Health Innovation Network	Interviewee / Report consultee
Yinka Makinde	Ex-Programme Director	DigitalHealth.London	Interviewee
Katya Masconi-Yule	Programme Manager	DigitalHealth.London Accelerator	Report consultee
Sara Nelson	Programme Director / Ex-Navigator	DigitalHealth.London Accelerator	Interviewee/ Report consultee
Hak Salih	Digital Health Lead	MedCity	Interviewee
James Somauroo	Ex-Programme Director / Ex-Navigator	DigitalHealth.London	Interviewee
James Varley	Commercial Director	CW+	Interviewee
Paul Wallace	Clinical Director for Digital	Health Innovation Network	Interviewee

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