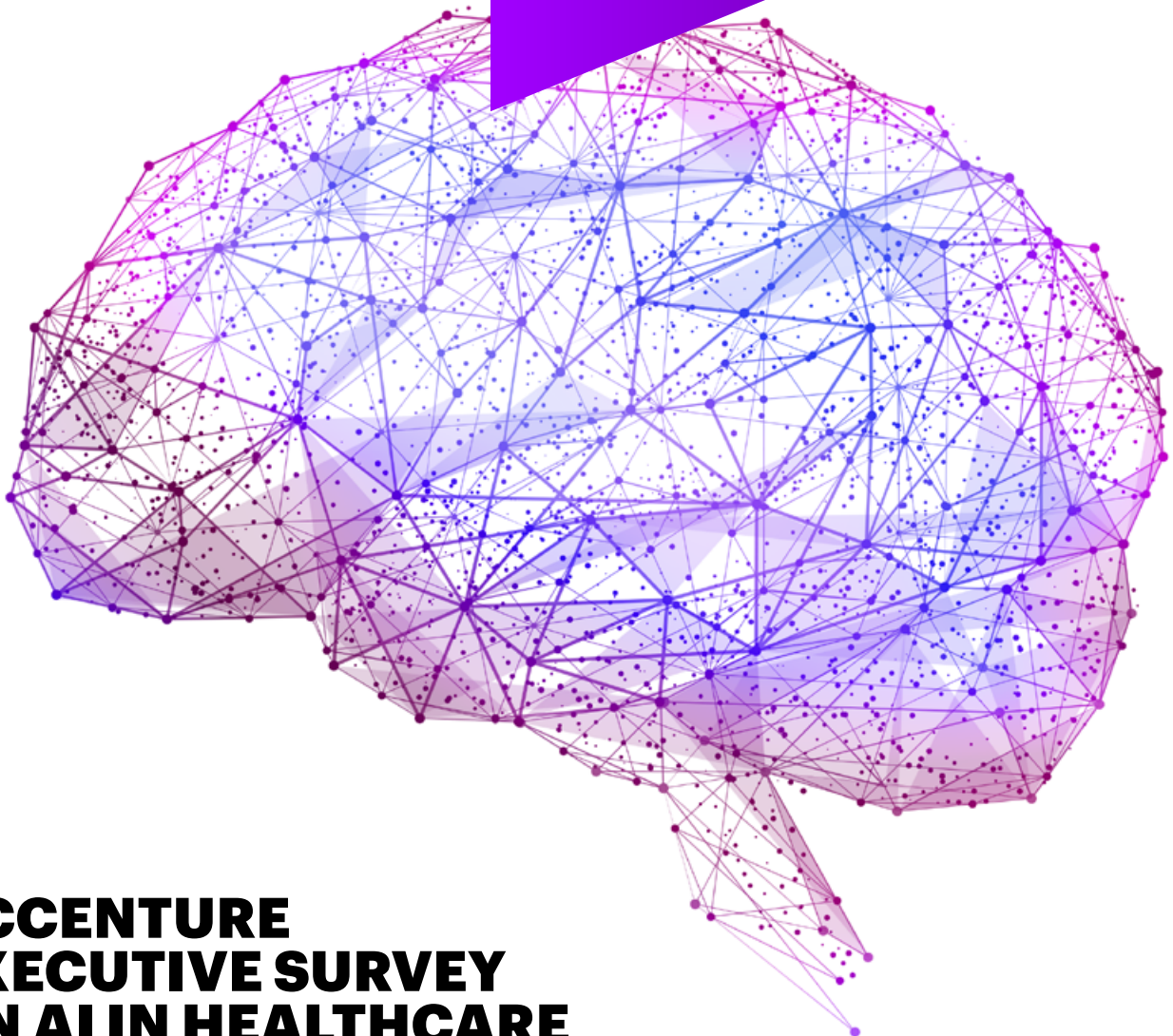


# INJECTING INTELLIGENCE INTO HEALTH CARE



**ACCENTURE  
EXECUTIVE SURVEY  
ON AI IN HEALTHCARE  
UNITED KINGDOM**

# ARTIFICIAL INTELLIGENCE (AI)

Artificial intelligence (AI) in healthcare is a constellation of technologies that allow smart machines to extend human capabilities by sensing, comprehending, acting, and learning to perform administrative and clinical healthcare functions—thereby allowing people to achieve much more than they would have without the machines. These technologies include natural language processing, intelligent agents, computer vision, machine learning, expert systems, data analysis software (such as IBM Watson Health), data-based diagnostic tools, chatbots, and voice recognition (similar to Amazon’s Alexa or Apple’s Siri in the consumer market). This survey does not include automation, computerisation, or robotics in the definition of AI.

# ACCENTURE EXECUTIVE SURVEY ON AI IN HEALTHCARE

Accenture commissioned **Oxford Economics** between July and August 2018 to do a six-country survey in Europe and Asia-Pacific among 180 C-level health executives and assess their beliefs about market maturity, practical and clinical challenges to the adoption of AI in healthcare. Respondents were evenly split across health payer and health provider organisations, as well as public and private sectors. Respondents were either in the roles of CIO, CTO, CDO, CExO, CEO or CCIO or direct reports. They included 30 executives from each of the following countries: Australia, Finland, Norway, Singapore, Spain and the UK. Where relevant, the survey uses select findings from the **Accenture 2018 Consumer Survey on Digital Health** and **Accenture Australia's recent study on Person-centred Segmentation for a Better Healthcare System**.

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# THERE IS NO DOUBT ANYMORE – AI IS FINALLY BEING EMBRACED BY THE HEALTHCARE INDUSTRY

**Enthusiasm for AI among C-level health executives is encouragingly high, as is adoption of AI technology, according to respondents in six European and Asia-Pacific countries. At the same time, those executives are being appropriately cautious about the types of AI they are choosing to implement.**

The Accenture 2018 Executive Survey on AI in Healthcare shows that an impressive 72 percent of health leaders polled say they are either piloting or planning AI adoption. Perhaps even more impressive: 93 percent of health execs confirmed they have AI projects on their agenda, with just seven percent saying they are minimally or not at all focussed on AI (see Fig. 1). Investments should increase over the next few years – 40 percent of respondents are (quite or highly) focused on increasing their use of AI-assisted applications.

UK respondents to the survey are not only 11 percent more likely than the six-country average to say that AI has been implemented in one area or across the business, but they are 17 percent more likely to have realised value in terms of operational efficiency, cost savings (16 percent more likely), and expanded patient reach (17 percent more likely). In terms of focus on AI, the UK is just above par – with three percent more respondents focused or highly focused on AI.

One slight concern is that the **Accenture 2018 Consumer Survey on Digital Health** indicated that patients are expecting greater reach from AI, which places the UK at greater risk of disappointing patients than other countries. This will need to be mitigated (see Fig. 2).

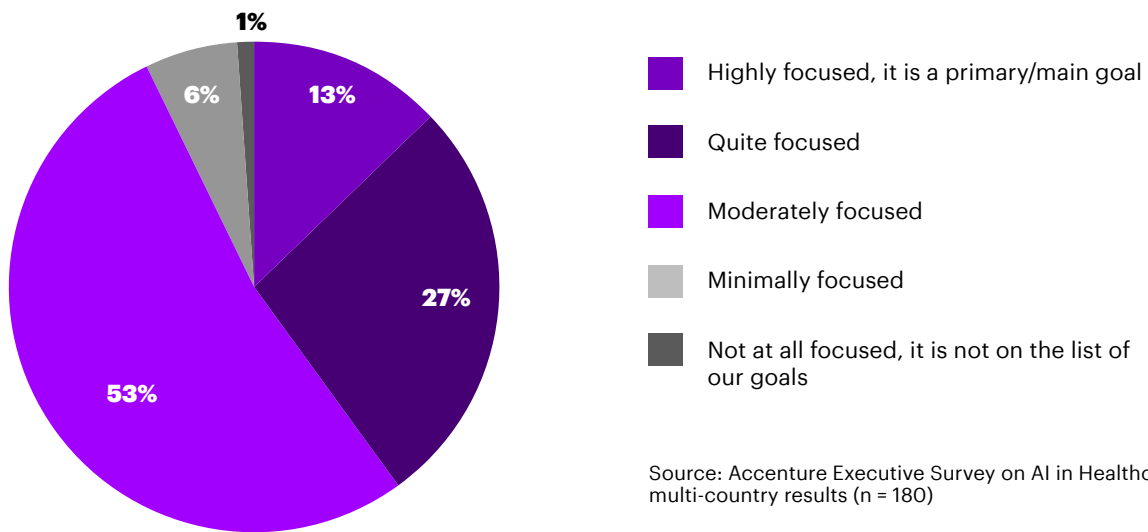
Organisations with higher annual revenues/budgets are more likely to have implemented AI and to have realised a range of benefits from AI, in terms of operational efficiency, increased cybersecurity, analytical capabilities, and cost savings. Smaller organisations are still struggling with skills gaps, while their larger peers are grappling with issues like ethical concerns, data privacy, and lack of legislative clarity.

In terms of actual adoption, the numbers are also quite encouraging, with 27 percent of respondents saying AI has already been implemented in some or all areas of the business. While most health executives are in the planning stages of AI projects, some believe they are pretty advanced with implementations. Eleven percent say AI is well integrated into operations, though many may only be using one or a few applications of the technology.

Results indicate that AI is more likely to be implemented (in some areas or across the business) among organisations headquartered in the UK (37 percent) than in other countries. Spain trails the pack at 17 percent.

**FIG. 1: CURRENT FOCUS ON INCREASING PROPORTION OF AI-ASSISTED APPLICATIONS ACROSS SIX COUNTRIES SURVEYED**

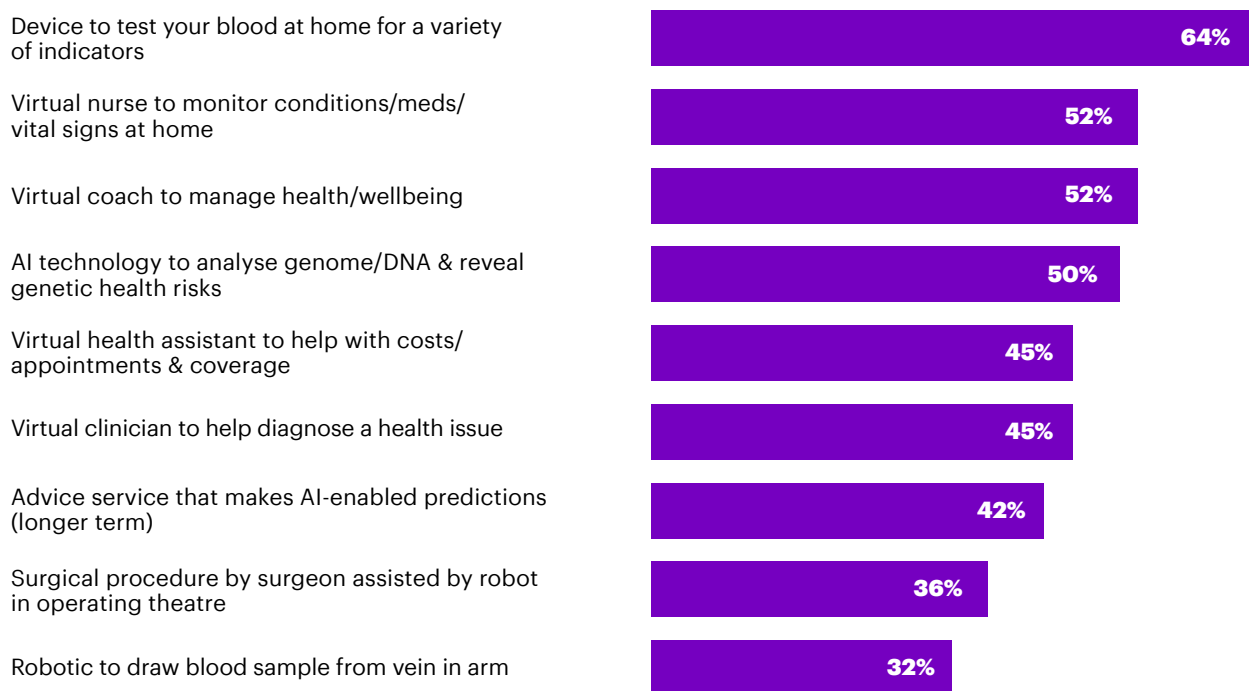
**To what extent is your organisation currently focused on increasing its proportion of AI-assisted applications?**



Source: Accenture Executive Survey on AI in Healthcare, multi-country results (n = 180)

**FIG. 2: ENGLISH ATTITUDES TO AI IN HEALTHCARE – OPENNESS TO AI-APPLICATIONS IS HIGH IN CERTAIN AREAS**

**How likely would you be to use the following services?**



Source: Accenture 2018 Consumer Survey on Digital Health, England results (n = 1,043)

# WISDOM OF THE MEASURED APPROACH

While enthusiasm and adoption rates are encouragingly high, health executives are still taking an appropriately measured approach to AI. The popular press, understandably, tends to depict AI in healthcare using exciting concepts like robot doctors. The reality is that healthcare organisations are being more cautious. For now, healthcare AI is being implemented mainly in operational areas, which is less likely to cause anxiety among patients and clinicians and may help to mitigate the typical disappointment cycle often experienced during the adoption of innovative technologies.

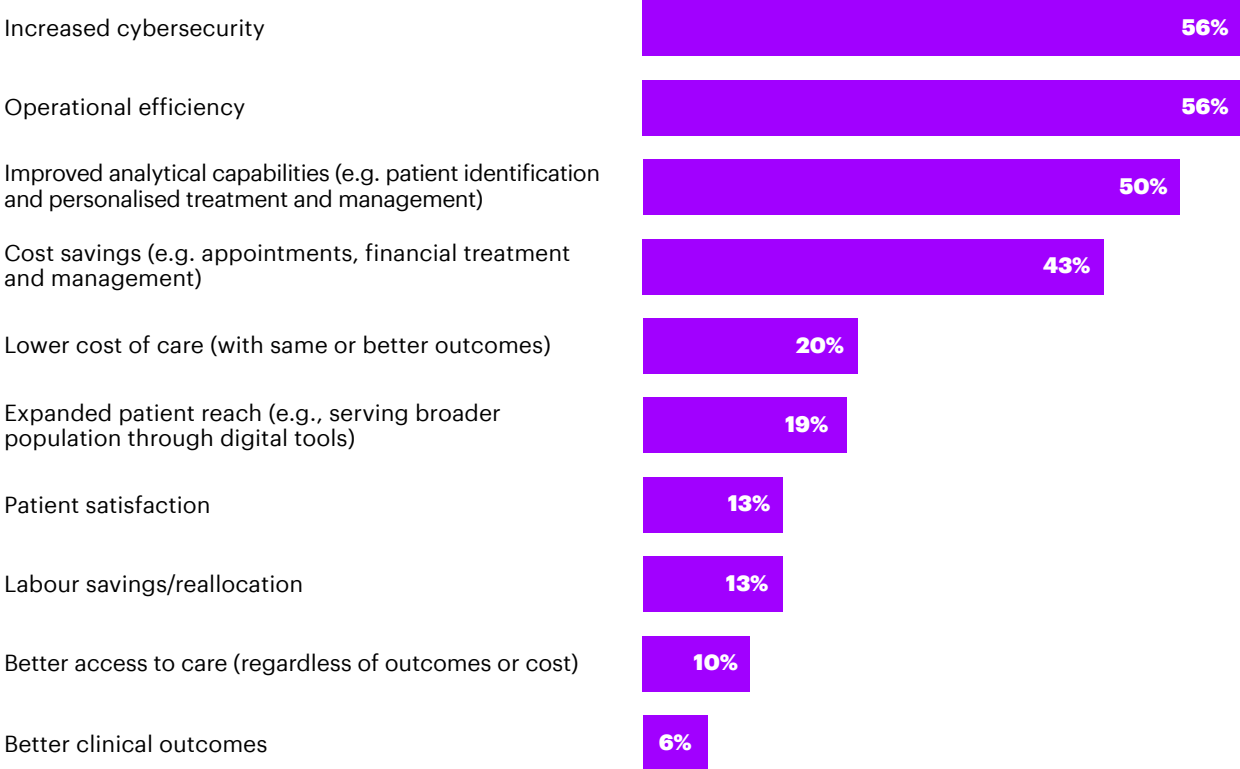
Intuitively cybersecurity is a sensitive area of the business. One might expect it to be left for later as part of this measured approach.

However, the volume of data that needs to be processed to ensure effective cybersecurity means that not applying AI early on is riskier than doing so. In the absence of AI, organisations would likely have to prioritise some things and temporarily ignore others, so applying AI to cybersecurity is very much consistent with the measured approach.

The survey indicates that executives believe AI is already leading to benefits – especially in operational areas. Increased cybersecurity (56 percent of respondents), operational efficiency (56 percent), improved analytical capabilities (50 percent) and cost savings (43 percent) are early areas of success (see Fig. 3).

**FIG 3: VALUE OF AI**

**To what extent have you realised value in the following areas as a result of your application of AI?**



Source: Accenture Executive Survey on AI in Healthcare, multi-country results (n = 180)

This result somewhat echoes the **Accenture 2018 Consumer Survey on Digital Health**, where Healthcare consumers in England saw advantages in AI-powered health services – particularly the availability, time savings and personalised insights from AI. When asked whether they would use an artificially intelligent virtual doctor provided by their health service, 51 percent said they would use it because it is available whenever they need it.

Twenty-six percent, however, said they do not understand enough about how AI works, 23 percent said the AI doctor might not understand them properly, and 20 percent said they like visiting their doctor. The AI health applications English consumers are most open to include blood testing devices, virtual coaches and virtual nurses.

In terms of the executive survey, both payers and providers (equally represented in the sample of 180) are focusing their early AI efforts on these operational areas. They are also forecasting significant success in the next three years, with benefits (particularly among providers, as one would expect) moving towards being derived from clinical AI, following on earlier operational projects.





# PEOPLE SKILLS MATTER MOST TO AI SUCCESS

The early successes and obvious enthusiasm for AI among health executives seem to beg the question: “Why aren’t even more AI projects underway?” Part of the answer may lie buried in a second major conclusion of the survey: people skills matter most to AI success, and insufficient skills within the health organisation workforce represent the top barrier to AI adoption and implementation.

Seventy-three percent of respondents place sufficient staff training/expertise in their top three AI implementation success factors (see Fig. 4). Sixty-three percent cite an insufficiently skilled workforce as the number one obstacle to their implementation of AI.

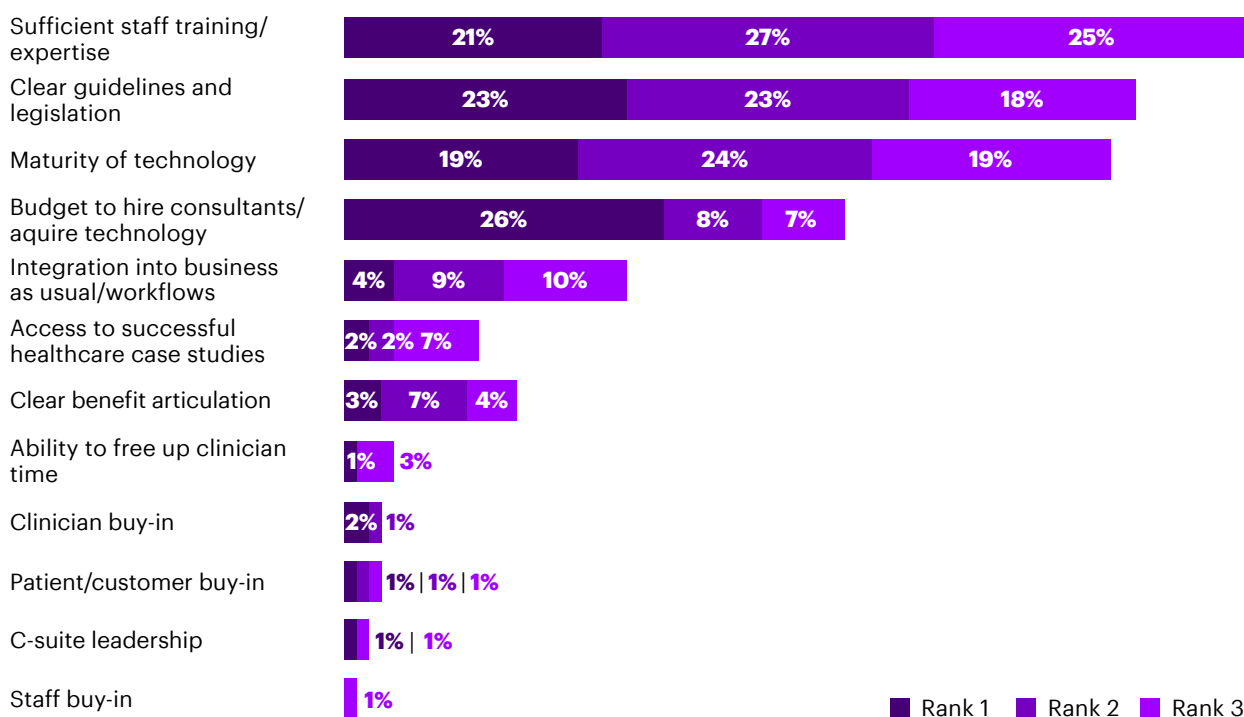
And while the UK is in line with the rest of the countries surveyed – in terms of an insufficiently skilled workforce being the top challenge to

AI adoption – UK respondents are 10 percent less likely than the six-country average to cite it as a challenge. There is a great opportunity for the UK to take the lessons learned from these initial projects and roll them out more broadly. A smaller skills shortage, coupled with a better likelihood of realising the value of AI, places the UK in a prime position to realise overall AI success in healthcare.

Any new technology is expected to experience an early shortage of skills. This shortage is exacerbated by the fact that AI does not require just AI skills themselves. A successful AI project demands training, data organisation, data cleansing, explainable AI (so that decisions are transparent), and requires business, data, analytics, and AI experts. It’s not simply a question of writing requirements and creating the code for the AI.

**FIG. 4: SUCCESS FACTORS FOR AI PROJECTS**

**Which of the following factors are most important to successful AI project implementation at your organisation?**



Source: Accenture Executive Survey on AI in Healthcare, multi-country results (n = 180)

# AI IS TRANSFORMING THE BACK OFFICE NOW, PATIENT EXPERIENCE LATER

While substantial benefits are expected in all polled areas (including clinical and patient experience) in the next three years, expectations for significant transformative benefits in the same period are mostly limited to operational areas – particularly increased cybersecurity (45 percent of respondents), operational efficiency (33 percent), improved analytical capabilities (30 percent) and cost savings (21 percent), which are the four top candidates (see Fig. 5).

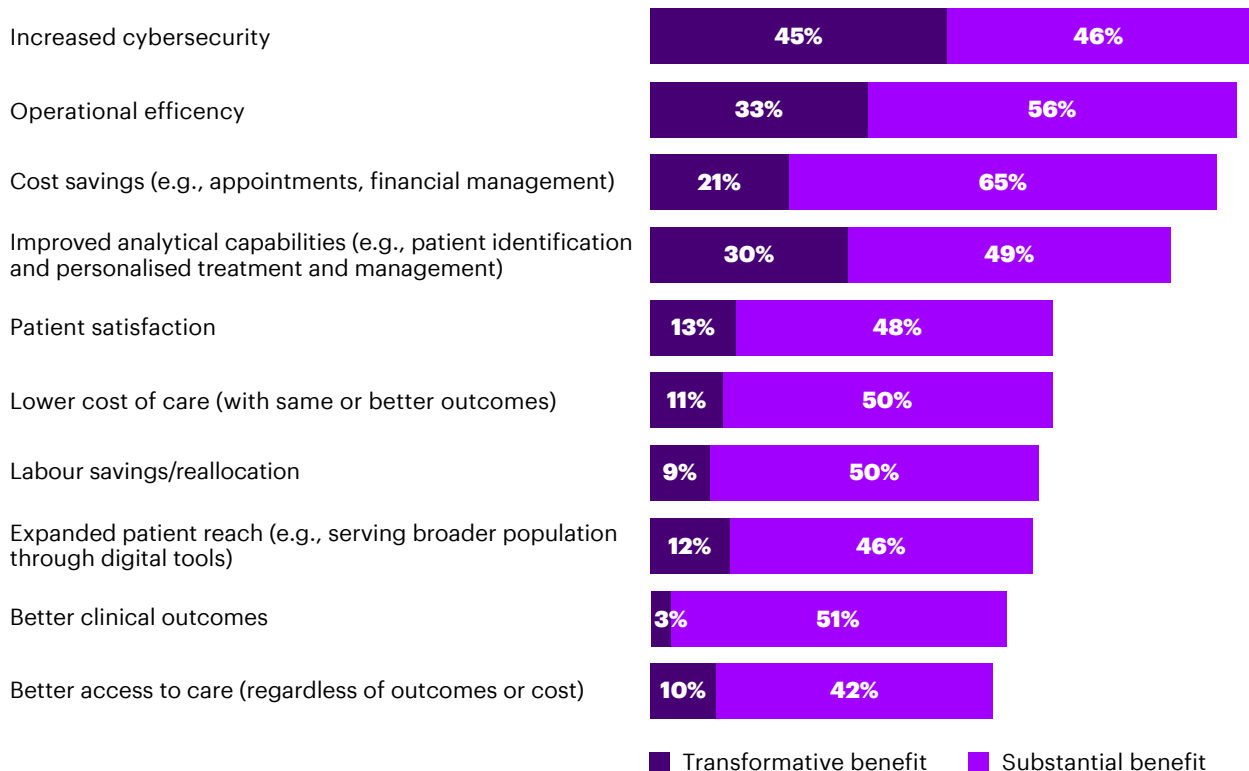
It is critical that leaders keep one eye on the future, while focusing on current needs. Given that the popular press is talking about more publicly visible benefits like chatbots doing triage, and AIs scanning MRIs, there is the possibility of patient disappointment.

Patients don't see back office improvements (even though the results of a back-office data leak would be catastrophic to public confidence), so it may be wise for executives to include some quick, non-clinical but patient-visible wins. While it could be considered a diversionary activity, it allows executives to keep their patients at the centre of AI awareness and advocacy, even though it would ideally have been grouped with the other patient-facing projects, from a technical point of view.

The truth is that doctors, nurses and pharmacists – like all human beings – make mistakes. While both humans and AI should always strive to improve, as long as AI makes fewer mistakes than humans, it's still improving patient outcomes.

**FIG. 5: VALUE OF AI**

**To what extent do you expect to realise value from AI over the next three years?  
“Substantial/Transformational benefit” responses**



Source: Accenture Executive Survey on AI in Healthcare, multi-country results (n = 180)

But the question remains – what is our tolerance from a medical, legal and ethical perspective for “AI mistakes”? According to the **Accenture 2018 Consumer Survey on Digital Health**, while artificial intelligence isn’t commonly used yet, consumers in England are certainly open to changing that picture. Though current exposure to AI in healthcare is low (just seven percent), consumers’ openness is high. Around half of respondents from England say they are open to using an AI doctor for a range of services. 24-hour availability (51 percent) and the time saved from travel (40 percent) are the main drivers behind this view.

For organisations operating at scale, AI – especially sophisticated AI – can provide service agents that deal with complex consumer requests, thus keeping the consumer’s interests central while keeping costs sustainable. The consumer outcome should always remain paramount.

**The UK has a great opportunity to use healthcare AI well – it is better placed to cope with the skills challenge, and has implemented AI more deeply and broadly than other countries.**

In summary, the survey has shown that executives have a strong focus on AI, and are already realising concrete value from implementations. The value is not yet coming so much from the patient interface, but from the back office. Executives absolutely need to focus on increasing AI skills among staff, and will likely need to turn to external talent to make rapid progress and exploit AI’s huge potential. With this measured approach, health organisations will position themselves well to lead the market with respect to AI in healthcare. AI’s most transformative aspects lie in making healthcare more affordable and productive, as opposed to just making healthcare better.

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