



# How will advances in technology put the consumer at the center of health care?

A NextWave Health report  
**England | 2019**

■ ■ ■  
The better the question. The better the answer.  
The better the world works.

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Building a better  
working world

“

Use the basics in technology — such as letting me email a simple request to the GP practice for a prescription and respond electronically rather than waste GP time with an appointment.

(Consumer)



# Executive summary

As the concept of health broadens to embrace integrated and seamless systems of health, care and well-being, digital health technologies will deliver new ways in which to understand and interact with patients, families and caregivers. Opportunity exists for disruptive innovations that connect or close the loop between elements of the health system to truly place the consumer at the center of health care. This lies at the intersection between care as usual, technologies that deliver care remotely, and consumer-oriented personal health technologies. Maturing consumerism and transformative digital technologies align to create a powerful force for change.

In this study on the future of health, EY finds that looking forward, both physicians and consumers anticipate that the health system will be very different from that of today. In the next decade, a maturing health consumerism and digital advances will significantly redefine the health industry into an interconnected and digitally driven system. Health and care will be underpinned by digital technologies such as artificial intelligence (AI), genomics, personalized medicine and remote monitoring, and new entrants will bring profoundly different approaches as they enter the industry.

In recent research,\* we signal that participatory health – or the empowerment of consumers (in part through disruptive digital

health technologies) to make smarter choices and pursue responsible behaviors – is a profoundly disruptive force for change in health care. In 2018, EY undertook further research with 178 physicians and 2,031 consumers in England to better understand their perspectives on how digital health technologies are reshaping the delivery of health and care. In this survey, physicians included GPs/primary care practitioners and specialists and respondents worked in a variety of practice settings, including solo, group and hospitals. In this report, the term “physician” is used as a generic description of the medical profession surveyed. (See “About the study.”)

This study finds that both physicians and consumers believe that emerging health technologies will substantially enhance the consumer experience, support improved health and underpin the patient-provider relationship.

However, technology uptake in the health industry lags when compared with other industries such as retail, travel and financial services. Although physicians and consumers see digital transformation coming, our study finds that they are taking their time to adopt and adapt.

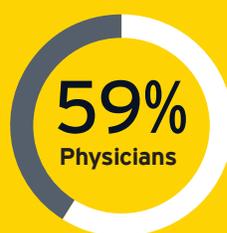
## Highlighted findings



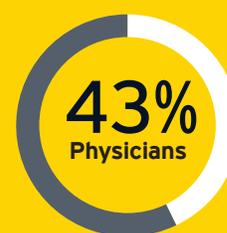
of consumers rate England's health system performance as “Excellent” and “Very good.” 40% of physicians say this is so



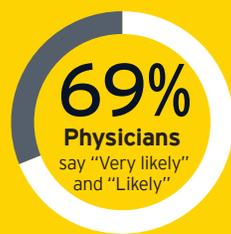
7% of consumers have experienced a virtual consultation; 59% of those who have not are interested in doing so in the future (those who say “Extremely/Very/Somewhat interested”)



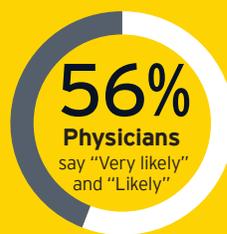
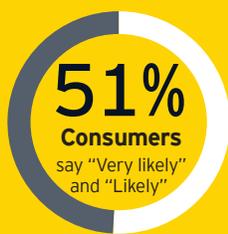
of physicians consider video consults to be effective ways of delivering better and more efficient outcomes for patients. Only 13%\* of physicians currently offer virtual visits (\*small number, indicative only)



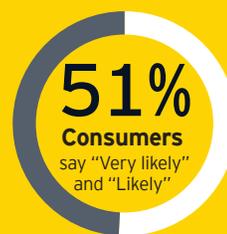
of physicians don't believe patient-generated health data will reduce physician burden



In the next 10 years, companies from outside the health industry will bring profoundly different approaches to health care



Artificial intelligence technologies will be commonly used in the next decade for diagnosis, medical imaging analysis and medication management



\* EY. *Health reimagined - a new participatory health paradigm*, 2015 available from <https://www.ey.com/au/en/industries/health/ey-health-reimagined-a-new-participatory-health-paradigm>

EY. *The cross-currents of convergence deliver participatory health*, 2016 available from <https://www.ey.com/Publication/vwLUAssets/EY-healthcare-the-cross-currents-of-convergence-deliver-participatory-health/SFILE/EY-healthcare-the-cross-currents-of-convergence-deliver-participatory-health.pdf>



# Closing the gap



A divide exists between consumers (digitally engaged and disengaged) and also between consumers and the physician community as they adopt digital health technologies at their own pace. Digitally engaged consumers welcome a consumer-centric system that is more convenient and delivers a better patient experience. For consumers, value is defined in terms of utility, cost and end-to-end experiences across their entire health care journey. And, consumer value is increasingly derived from digital health technologies that systematize and simplify the experience of health and care. A clear appetite exists for a system shift to incorporate digital advances that support greater personal involvement. There is consumer interest in tech-enabled approaches to care beyond the traditional.

Consumers are inclined to self-service through internet research and take steps to acquire more knowledge about health and treatments. Those who use personal health technologies do so to manage personal information and to monitor lifestyle and wellness. Digital organizational tools that remove some of the pain points in interacting with the system, such as making physician appointments online, are welcome improvements.

Physician technology priorities are clinical relevance, ease of use and patient safety. They use clinical support tools and many say that patient-generated health data contributes to better outcomes

and more efficient care. Many believe that virtual care will increase productivity and that a proportion of their current patient population could be managed virtually, in real time. At present, however, they do not appear to have incorporated tech-enabled care tools that engage with consumers outside of the clinical setting into practice-as-usual. As consumer demand for and adoption of tech-enabled care reaches the tipping point, physicians will be challenged to respond – or will be out-competed and left behind.

For consumers, digital health technologies can open the door to knowledge, improved health literacy and growing capabilities in managing their health and care. What this foreshadows is a very different way of delivering health and care. This requires a fundamental shift in current practice models, industry culture, facility operations and in business models to incorporate such technologies for better patient outcomes, personalized care and better patient experiences.

Acceptance and use often lag behind the capabilities of emerging technologies. Closing this gap is important. Patients' access to technologies often depends upon physicians' willingness to recommend them and to encourage and support patients to acquire the health literacy skills necessary to participate in a patient-centered system.

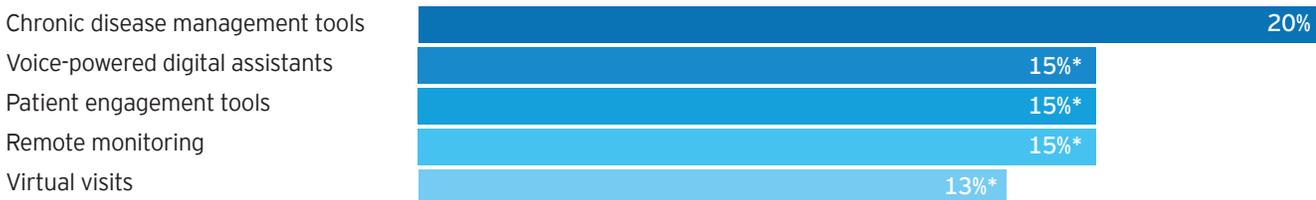
## Physicians

**Do you currently use any of the following digital health technologies in your (practice/workplace)?**



Physicians are currently using technologies that augment clinical expertise and practice – for example, decision support for patient safety and clinical excellence and secure communications with other providers. Tools that engage with patients outside of a clinical setting are those least used at present.

## Other technologies in use



Physicians (n) = 178  
 \* Small sample, indicative only

Access to relevant information enables consumers to ask questions and to make informed choices. We found that consumers actively seek health information using the internet to search for general content on health, wellness and healthy living and to research a diagnosis or condition.

More than one-third (35%) of consumers surveyed specifically search online for diagnostic or treatment information to discuss with their care provider. Close to half (45%) of those with an ongoing health condition searched for information to discuss with their care provider.

**In the past 12 months, consumers have looked online for ...**

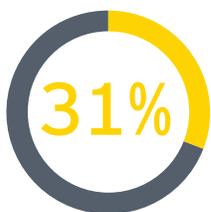
- 54%** General research on an illness, injury or health problem
- 40%** Information to work out what health or medical condition they/family might have
- 38%** Information on healthy living (diet, fitness, smoking, etc.)

## Consumers

**Have you used any of the following health technologies (either currently or have done so in the past)?**



**1** Looked online for information on possible diagnoses and treatments to discuss at a medical appointment



**2** Made an appointment online for a doctor, health professional or hospital visit



**3** Used a personal activity tracker (e.g., Fitbit™, Garmin™)



**4** Communicated with a doctor or other health professional electronically



**5** Ordered prescription drug refills using apps on a phone

**Fewer than 15% of consumers ...**

- 13%** Completed a registration form online before visiting a doctor, health professional or hospital
- 9%** Used an at-home diagnostic test kit and sent the information to a medical professional
- 9%** Used a smartphone connected device and sent the information to a medical professional
- 7%** Shared health data from a phone or fitness tracker at a medical appointment
- 7%** Sent a photo of an injury or health problem to a medical professional using a computer or mobile device
- 7%** Consulted a medical professional by video on a computer or mobile device rather than in person

Consumers (n) = 2,031

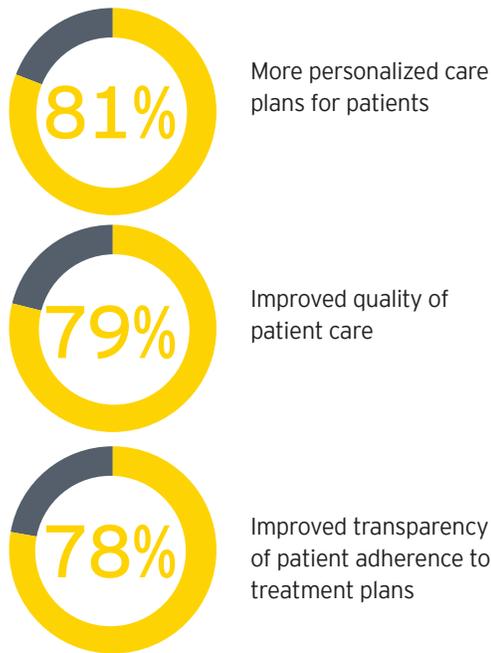
Physicians expect that some data originating outside of a clinical setting (patient-generated health data or PGHD) will likely deliver better clinical outcomes and more personalized care.

Around two in five (43%) say PGHD is unlikely to lower physician burden. Physicians fear being overwhelmed by low-value data and a sharp increase in expectations and demand, driven by vast data inflow and burgeoning consumer devices.

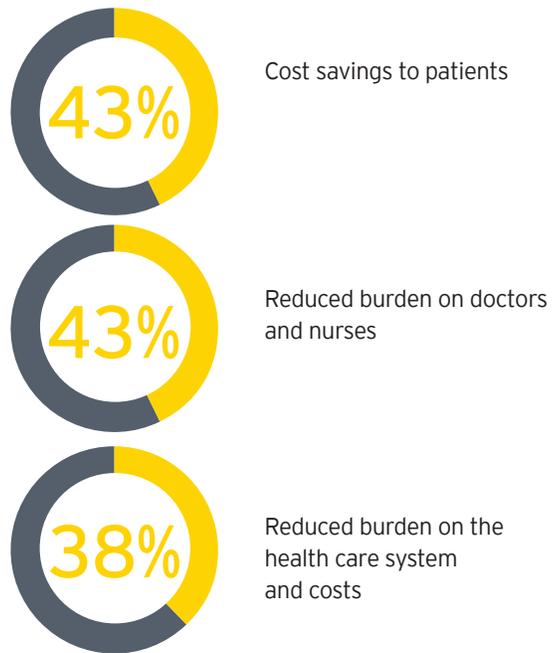
## Physicians

### How likely is it that consumer/patient-generated health data (e.g., from mobile phone apps and sensor devices) will result in the following?

Ratings: "Very likely" and "Quite likely"



Ratings: "Not very likely" and "Not at all likely"



### Physician thoughts about PGHD:

“

Likely to generate data which a health care professional will need to look at, i.e., it will generate MORE WORK for health workers.

“

Use of digital technology by elderly patients. Lack of motivation in some patients.

“

Where is the evidence this is any benefit? Fuzzy data. No resource for following large amounts of probably non-useful data.

“

Increase in patient demand, e.g., can inundate you with BP every hour and want an opinion on results same day.

Physicians (n) = 178

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People need to be more responsible for their own health care and well-being. Education is vital as is reducing missed and wasted appointments across all areas.

(Consumer)



For physicians, digital organizational tools and devices that enable remote monitoring and data exchange between consumer and clinician are likely to deliver better and more efficient patient outcomes.

Consumers want to participate - technologies that support remote care and self-management can release physician time for valued one-on-one interactions.

	Physicians To what extent might these technologies deliver better and more efficient outcomes for patients?  "Very effective" and "Quite effective" (n=178)	Consumers Would you consider using these technologies in the future?*"Very interested" and "Extremely interested" (consumer base)
Patients making an appointment online to see a doctor	85%	62% (1,381)
Patients completing doctor or hospital registration details online before their visit	80%	51% (1,761)
Patients using a sensor device that connects to their smartphone to check or monitor health	69%	39% (1,852)
Electronic communications (email, text, social media) between patient and physician	65%	41% (1,748)
Patients using an in-home diagnostic test and sending the information to the doctor	63%	44% (1,847)
Patient sending a photo to their doctor of an injury/health problem via computer or mobile device	61%	37% (1,892)
Consulting with patients by video on computer or medical device	59%	35% (1,901)

\* Asked of consumers who have not previously used these technologies

Consumers value their face-to-face relationship with their health professional, but the right levers – including lower cost, time savings and greater convenience – would encourage consumers to engage digitally with their care providers.

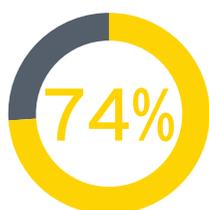
For physicians, technology adoption decisions are driven by confidence with respect to patient safety and clinical relevance.

## Physicians – health technologies adoption evaluation criteria

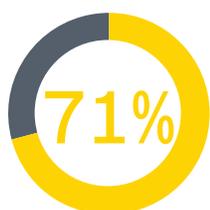
**How important are each of the following when evaluating whether to select digital health technologies for use in your (practice/workplace)?**

Ratings: "Very important"

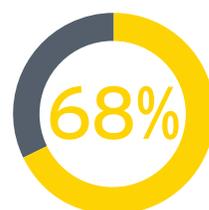
### Physicians



Patient safety



Integrates into doctors' workflow and improves efficiency



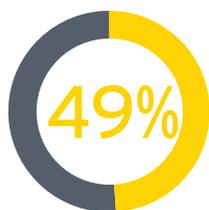
Validated evidence-based tool

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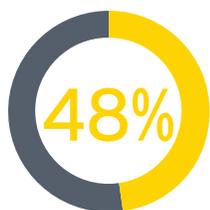
## Consumers – incentives to use digital health technologies

**What would encourage you to engage more with your doctor or health professional using digital technologies?**

### Consumers



More efficient (e.g., saves time and money)



More convenient (e.g., do things when it suits me)



More appropriate (e.g., for things that don't need to be done in person)

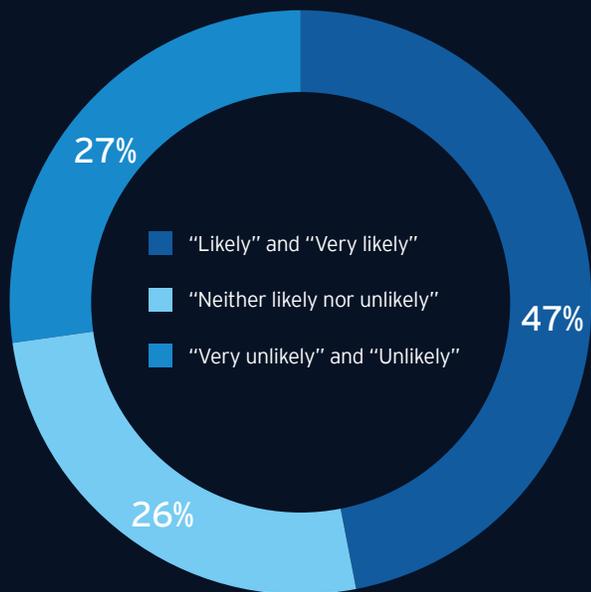
Physicians (n) = 178; Consumers (n) = 2,031

If telehealth services were available to manage patients at a distance in real time, close to half of (47%) physicians say it would enable them to be more productive and to look after more patients overall.

And, many believe that a proportion of patients in their practices today could be cared for virtually, reimbursement permitting

## Physicians

How likely would being able to manage patients at a distance in real time allow you to look after more patients overall?



Physicians (n) = 178

If reimbursement for virtual care was commensurate with in-person visits, what proportion of patients in your (practice/workplace) today could be satisfactorily cared for by using virtual consultations?

Proportion of patients in current practice who could be managed virtually	Physicians who say they can virtually manage a proportion of patients in their current practice % of physicians (n)
0%	2% (3)
1%-5%	8% (15)
6%-10%	13% (24)
11%-15%	8% (14)
16%-20%	15% (27)
21%-30%	20% (36)
31%-40%	10% (17)
41%-50%	12% (21)
>50%	12% (21)

Physicians (n) = 178



Health care in  
the next decade  
will be quite  
different from today



England's health care system is rated highly by many but draws faint praise from others. Physicians in particular are less favorable about system performance than consumers, with 40% of physicians rating overall system performance as "Excellent" or "Very good" compared with a little over half (55%) of consumers. For many physicians and consumers, there is room for improvement across many domains of health care, including customer service orientation; the balance between primary care, hospitals and community care; and that it lags in the introduction of digital health technologies.

We asked survey respondents to think about the English health care system 10 years from now. All of the technologies we put forward for consideration are currently available, either in England or internationally.

Technologies that systematize care delivery systems and processes such as AI, case management and care delivery pathways resonate with both physicians and consumers. The management of chronic, complex diseases will likely be underpinned by digital technologies that enable remote teams to care for people in their homes. Moreover, clinically oriented technologies such as AI-assisted diagnostics, imaging analysis and medication management, and precision medicine are expected to become part of the core business of health care.

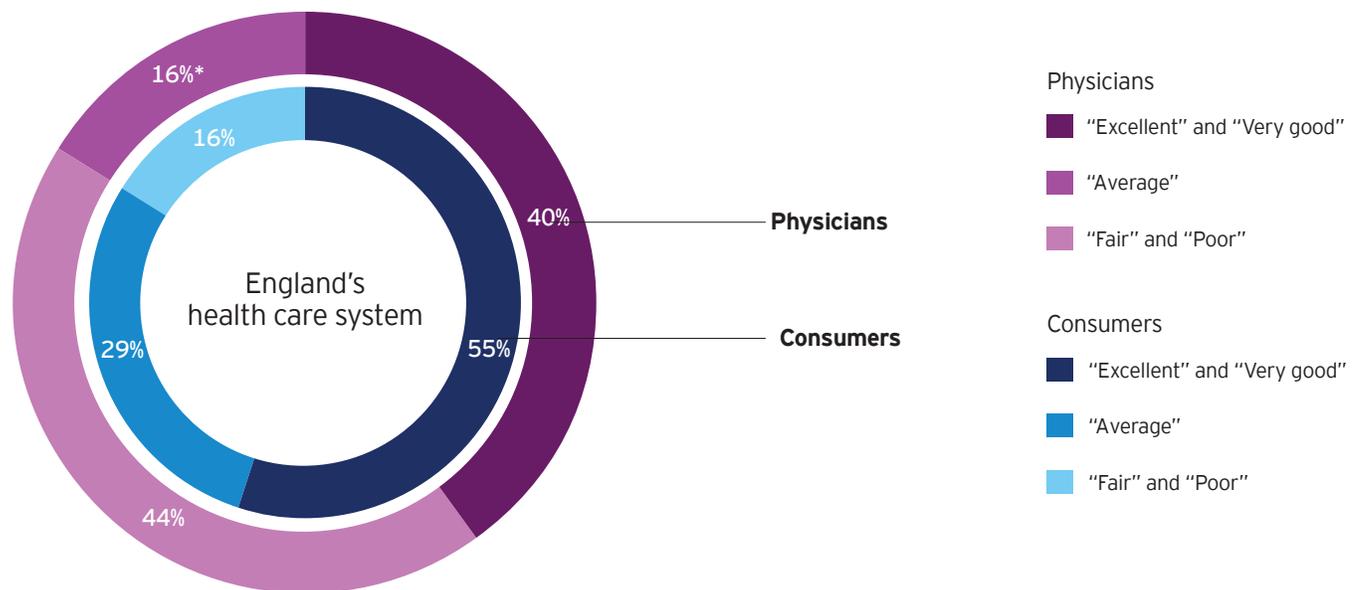
The changing nature of the health industry is also well-recognized. Physicians and consumers believe that new and non-traditional players will enter the health industry, bringing profoundly different ways of approaching the delivery of health and care.

Some types of virtual care are anticipated. For example, physicians (44%) and consumers (40%) see virtual presence technologies as being likely in the next decade. Opinion diverges with respect to virtual hospitals, where fewer physicians (29%) than consumers (41%) see these as being likely in the near future.

Consumers are open to genetic testing and personalized pharmaceutical products and to receiving non-urgent care at alternative locations outside of the current system.

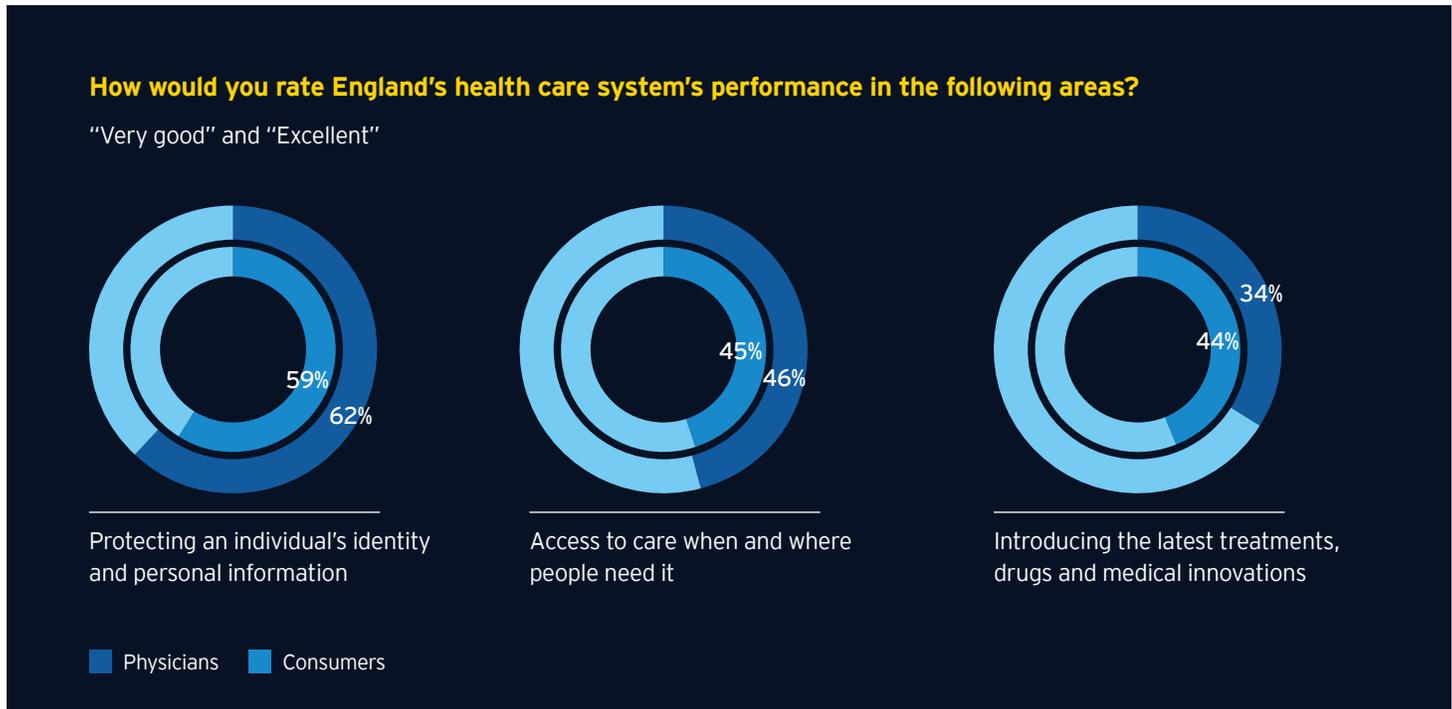
Consumers are more favorable with **55%** rating England's health system performance as "Excellent" and "Very good," compared with **40%** of physicians

### How would you rate the overall performance of the health care system in England?



Physicians (n) = 178 Consumers (n) = 2,031 \* Small sample, indicative only

Across the many domains that make up a complex health care system, physician and consumer performance ratings suggest that certain attributes of England's health system – including innovation, public education, customer service orientation and introducing digital health technologies – could improve.



**Other areas of health care system performance**

"Very good" and "Excellent"

	Physicians	Consumers
Customer service orientation (e.g., positive experiences, convenience)	34%	47%
Educating the public on important health issues (e.g., obesity, diabetes)	31%	49%
Having the right balance between hospitals, primary care and community care	26%	41%
Introducing digital health technologies	21%	42%

Physicians (n) = 178   Consumers (n) = 2,031

Consumers are willing to try new forms of care: genetic testing, retail health care in alternative venues for non-urgent matters and personalized medicine appeal to over half of consumers.

Robotics, virtual hospital care and search engine tracking for an enhanced consumer experience are rejected by many.

## Consumers

### To what extent do the following statements accurately reflect your views?

I am willing to ...

	<b>"Completely" and "Very willing to"</b>	<b>"Somewhat" and "Not at all willing to"</b>
Have non-urgent care from a health professional at a mini-clinic in a department store, supermarket or pharmacy	<b>57%</b>	<b>19%</b>
Undergo genetic testing to see if I might develop certain diseases or disorders	<b>50%</b>	<b>22%</b>
Be treated via on-demand e-visits for common acute symptoms (e.g., cough) instead of in-person visits	<b>45%</b>	<b>26%</b>
Take medications made-to-order for my genetic profile	<b>45%</b>	<b>23%</b>
Have a health condition treated with a high-tech product, e.g., smart pills that travel in my blood and transmit messages to my phone	<b>38%</b>	<b>32%</b>
Be treated via a virtual hospital – one with no beds, that delivers basic and advanced medical care through digital consultations and remote patient monitoring	<b>33%</b>	<b>34%</b>
Receive a diagnosis, drug prescription or undergo surgery by a robotic device	<b>32%</b>	<b>36%</b>
Allow global search engines and social networking sites to store my personal information and track what I do online to get a better user experience	<b>26%</b>	<b>51%</b>

Consumers (n) = 2,031

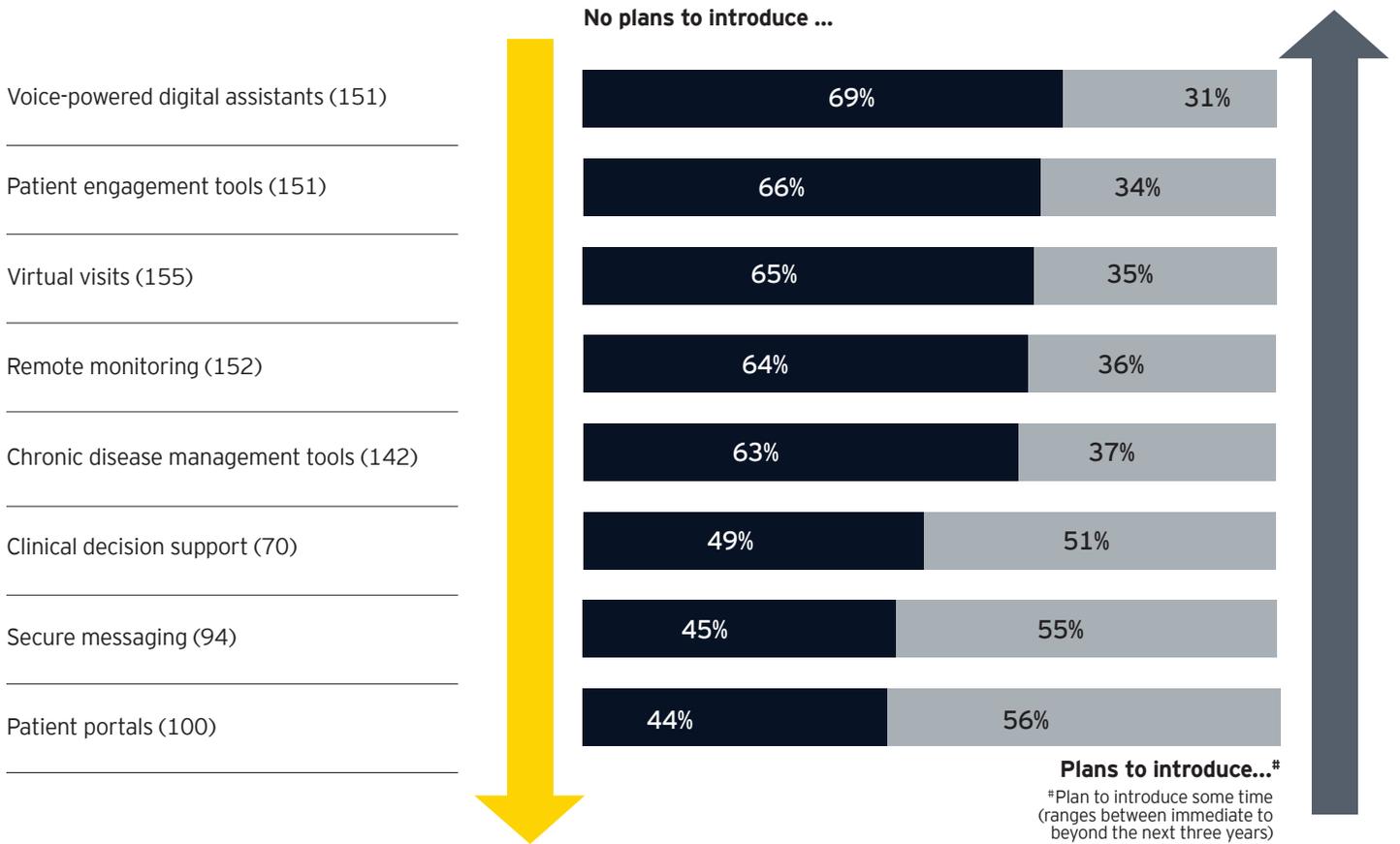
\* Ratings of "Neutral" are not shown

Physicians are planning to get on board and introduce a range of health technologies, including patient engagement tools, patient portals and chronic disease management tools, in the near future.

## Physicians

**Do you plan to introduce any of these digital health technologies in your (practice/workplace)?\***

(base)



\*Question answered by those who indicated they did not currently use some/all of the listed technologies. Bases vary.

Digital technologies are seen to hold promise for the future – in particular, enabling complex patient care at home. In the next decade, AI-technologies are expected to become commonplace and smartphones to form a primary interface between consumer and provider.

Even though virtual services (e.g., virtual hospitals, virtual reality) are considered by many as less likely to become incorporated into the core business of health care in the next decade, there is a degree of anticipation surrounding such offerings.

## In the next decade ...

**To what extent do you believe the following will likely occur in the health industry in England in the next 10 years?**

Ratings: “Very likely” and “Likely”

	Physicians	Consumers
Companies from outside the health industry will enter the health industry with profoundly different approaches to health care	69%	51%
Digital technologies will enable care teams to remotely coordinate complex patient care	65%	56%
Smartphones will become the primary interface in the health system, allowing people to manage and improve their health and wellness anywhere and at any time	60%	50%
AI-technologies will be commonly used for diagnosis, medical imaging analysis and medication management	56%	51%
Precision medicine technologies such as DNA sequencing will become a routine part of preventive primary care	44%	52%
Virtual presence (e.g., through a virtual reality headset) will be a substitute for a health professional being physically present	44%	40%
Virtual hospitals with no beds will deliver both basic and advanced medical care (e.g., stroke evaluation) through digital e-consultations and remote patient monitoring	29%	41%

Physicians (n) = 178; Consumers (n) = 2,031



Maturing health care consumerism and transformative digital technologies will align to create a powerful force for change

## Digital solutions are diffusing through the health care system – although, as we found, slowly and unevenly.

Digitally-savvy consumers are running ahead of physicians in their enthusiasm for consumer-facing digital health technologies. Accustomed to on-demand and self-directed experiences in other areas of their digital lives, consumers look for something more from the health sector. They welcome the flexibility and choices that technologies bring to meet their growing expectation of convenience, personalization and navigation support along their lifelong health journey.

Physicians' priorities lie with clinical and practice support tools. Physicians expect that digital health technologies will likely improve productivity and deliver better patient outcomes; however, use of patient-engagement technologies is currently low. Nevertheless, there are signs that physicians are planning to get on board. In the near future, many are looking to introduce technologies that support the patient journey to health and wellness such as remote monitoring, chronic disease management tools and, for some,

virtual visits. Barriers to overcome center around overload of low-value data, clinical validity, and the lag in payment and regulatory systems to keep pace with shifts in technology and demand.

In the next decade, the core business of health and care is expected to be anchored around digitally enabled models of care, including remote delivery, AI supported diagnostics and analytics, and interactive person-centered tools. Connecting, combining and developing meaningful insights from the volumes of data generated through these tech-enabled models will be a powerful tool in delivering patient-centered, intelligent and connected health care.

As health care consumerism further matures, it will be important to bridge the gap between what consumers want and what is available to them. Physicians as trusted advisors are key to educating, steering and supporting the consumer through their health journey. This requires a shift in practice, skills and remuneration structures to support physicians incorporating this into routine practice.

The rapid acceleration of the pace of change is working in favor of the consumer – it's time for physicians to catch up.

### As new forces reshape the health industry, four questions to consider are:

- 1 Value will be increasingly consumer-defined and built upon digitally based customer engagement. What steps must physicians and others in the industry take to transition from a supply-side view of value to get the patient experience right?
- 2 A new digital ecosystem will demand a new operating model for physicians. How best can physicians reimagine their use of digital technologies to incorporate both their clinical needs and those of patients to address the growing digital divide between consumer expectations and physicians' current service delivery model?
- 3 To survive and thrive means embracing digital technologies or risk being left behind. For decision-makers weighing making small or large digital health technology investment decisions, what does success look like?
- 4 Fight, flight or an opportunity for partnering? Will technology enabled disruptive new entrants force a redesign of existing industry business models? If so, how best to respond?

# Contacts



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For complete report materials, please visit [ey.com/consumerhealthsurvey](https://ey.com/consumerhealthsurvey).

***Thank you to Richard Guest and Dr. Sarah Pinto-Duschinsky for their assistance with this project.***

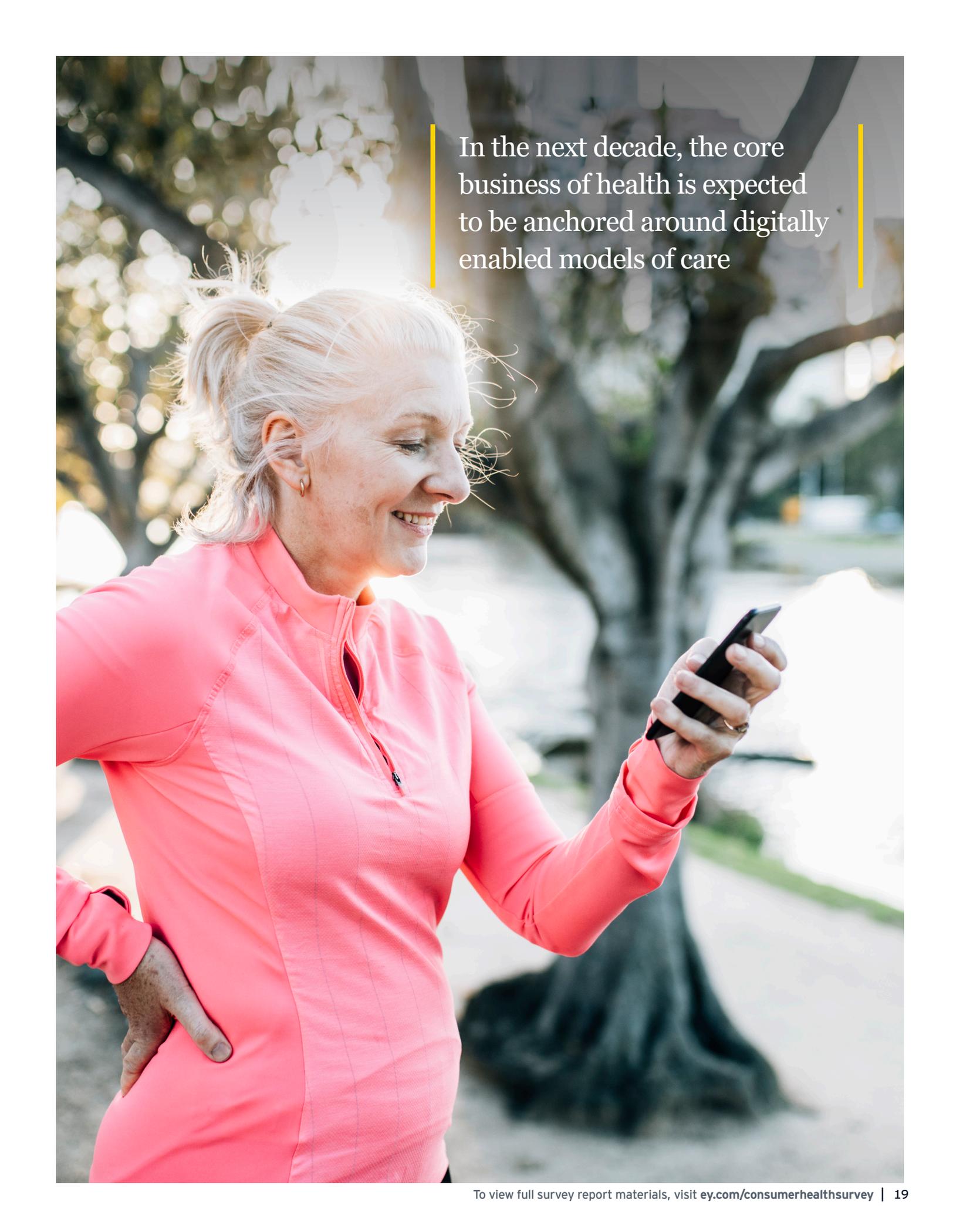
**About the study**

In July 2018, EY surveyed online 530 physicians and 6,113 health care consumers in three locations: Australia (177 physicians and 2,044 consumers), England (178 physicians and 2,031 consumers) and the Netherlands (175 physicians and 2,038 consumers). Physicians included GPs/primary care practitioners and specialists and respondents worked in a variety of practice settings, including solo, group and hospitals. Consumer data were weighted to reflect population and geographic distributions. The survey was translated into Dutch.

In this study, we define digital health technologies broadly as an array of technologies that underpin different ways of delivering health and care to support participation and drive better health outcomes, improve quality of care and optimize business models.

The objective of the study was to examine consumer and physician attitudes and propensity to use digital health technologies for health and wellness, as well as to explore willingness to engage with future health care technologies that are accelerating the changing face of health care. Specifically, to:

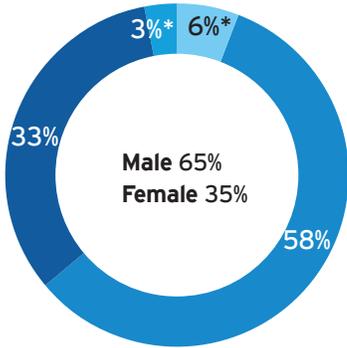
- ▶ Develop an understanding of consumer engagement with the health care sector and health-related technology adoption and usage
- ▶ Develop an understanding of physician attitudes toward and perceived benefits derived from health care technologies
- ▶ Explore perceptions about and willingness to engage with upcoming digital health technologies

A woman with blonde hair tied back, wearing a bright pink athletic jacket, is smiling and looking at her smartphone. She is standing outdoors with trees in the background. The image is framed by a dark grey border with yellow vertical lines on the left and right sides.

In the next decade, the core business of health is expected to be anchored around digitally enabled models of care

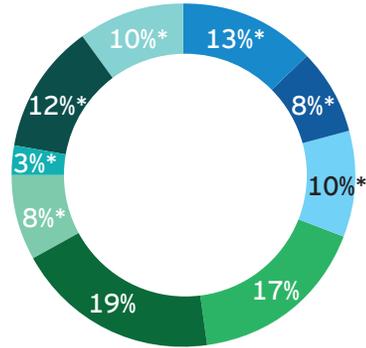
# Sample profile: Physicians

**Age and gender**



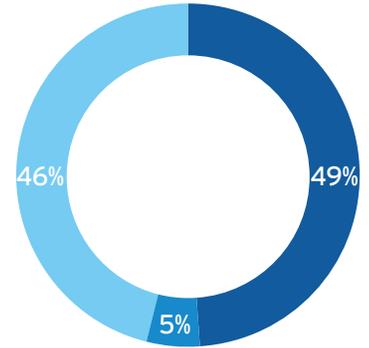
- 18 to 29
- 30 to 44
- 45 to 64
- 65+

**Location**



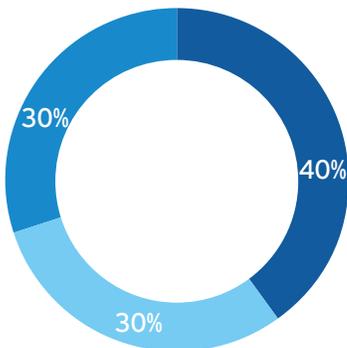
- Southeast England
- East of England
- Southwest England
- Northwest England
- London and Greater London
- East Midlands
- Northeast England
- Yorkshire and the Humber
- West Midlands

**Practice/facility**



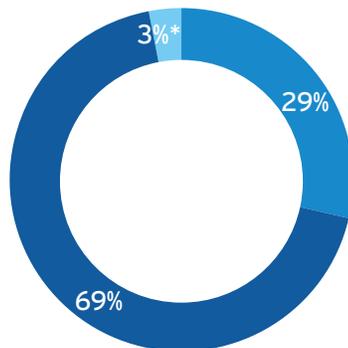
- GP/Primary care practitioner
- Specialist
- Facility-based (public, private hospital, aged care facility)

**Enviorns**



- A capital or large city
- A medium or small-sized city
- A regional town, rural or remote area

**Years of practice**



- Less than 10 years
- More than 10 years
- Would prefer not to say

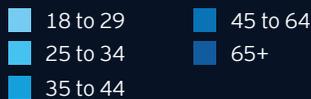
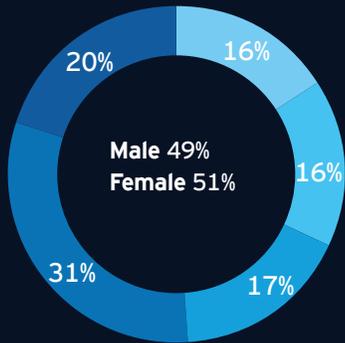
Physicians (n) = 178

\*Small sample

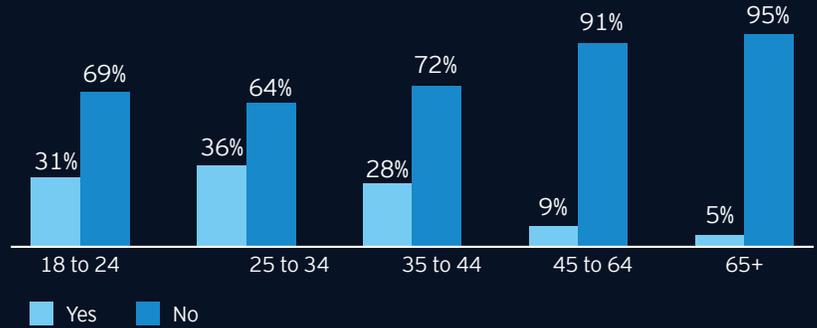
Data are rounded

# Sample profile: Consumers

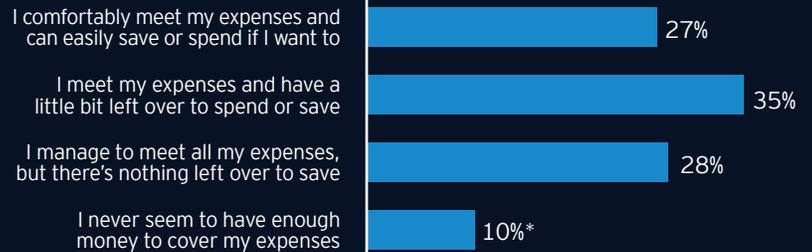
## Age and gender



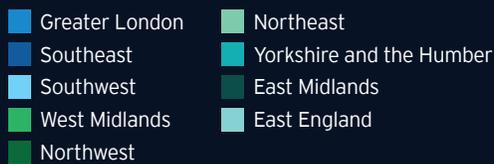
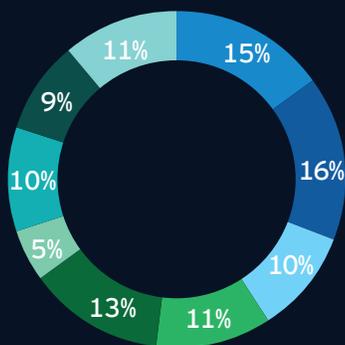
In the last 12 months, have you delayed or decided not to seek medical care because of cost?



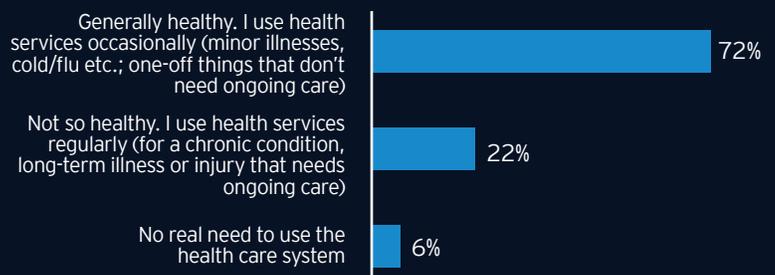
## Current financial situation



## Location



Which of the following would best describe your use of the health care system at this stage of your life?



Consumers (n) = 2,031

Data are rounded

\* Small sample

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