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JABIL

DIGITAL HEALTH TECHNOLOGY TRENDS

A Survey of Digital Healthcare Decision-Makers

MAY 2020

dimensional research

INTRODUCTION

Technology is revolutionizing the way people work, live and even play…it's also changing the way we monitor, manage and receive healthcare.

Healthcare trackers, wearables, smart devices, sensors and their associated apps and platforms are helping to equalize the relationship and shorten the distance between medical professionals and patients, while providing faster and more effective solutions for addressing disease states…. And with less overall expense, too!

Diabetics monitor blood sugar on their phones to stay in range. Wearable technology in athletic equipment, watches and even personal clothing can monitor for cancer or provide heart rate data or screen for other potentially adverse health markers.

The transformation in the industry is driving more efficiency within the greater healthcare system, enabling the shift from volume-to value-based care, and resulting in healthier individuals living in healthier communities. Patients, providers and payers are all participating and benefiting from the improved outcomes facilitated by digital health. What are the dynamics facilitating current trends? And what are the obstacles?

Gaining insight and understanding of the current state of digital health is critical for being able to navigate through its continuing evolution.

We surveyed 421 healthcare professionals identified as having decision-making responsibility at companies with existing or planned digital healthcare products, to better understand the trends, prior experiences and future plans of companies engaging in this exciting and dynamic market.

They answered numerous questions on the status of their own company's digital healthcare solutions, broader industry challenges as well as other issues impacting the evolution of digital health.

KEY FINDINGS

CURRENT STATE OF DIGITAL HEALTHCARE SOLUTIONS

- More than half of participants are developing or plan to develop on-body or wearable devices
- **44%** have their digital health solutions in production, more than twice as many as the **21%** in 2018
- **92%** say they have put a product into users' hands with **43%** saying they have fully launched their solutions
- **41%** say their product development and launch cycles for digital health solutions are less than 18 months
- Nearly **six in 10** healthcare decision-makers say their digital products are updated more frequently than their non-digital solutions

KEY FINDINGS

DIGITAL HEALTHCARE MANUFACTURING CHALLENGES

- Regulatory processes are the most frequently cited reason behind slow development and delivery of digital health solutions
- Largest companies have much greater challenges with payment responsibility/reimbursements, data concerns and privacy
- Research and development decision-makers say their biggest challenge is data concerns (overload, sharing, analysis, etc.)
- Industry hurdles continue to be the bigger barrier in delivering digital healthcare solutions
- Just over half of digital healthcare solution providers say their company has built new teams with technology expertise to support their digital healthcare solutions
- Companies with more than $1 billion in annual revenue are more likely to put in organizational structure to ensure better coordination across the company
- Only a third describe their company as fully capable of delivering digital healthcare

KEY FINDINGS

EVOLVING BUSINESS MODELS

- Value-based care models are quickly becoming the reality, with **31%** of digital healthcare solution providers saying they're already practicing this emerging model
- **73%** of digital healthcare solution providers say they are either already using data-based revenue streams or seriously considering it as an option
- **40%** say they are seriously considering building in personalized healthcare capabilities into their solutions
- **Nine in 10** agree that consumers are the driving force behind innovation in healthcare
- **89%** agree that healthcare manufacturing companies need to act more like consumer technology companies
- Almost **60%** say that their company's culture is holding them back from delivering digital solutions as quickly as users want them
- **47%** think manufacturing companies with healthcare expertise will lead innovation in the digital health industry
- Digital healthcare solution providers are split on interoperability approaches
- **97%** report they would look to external partners in overcoming challenges in regulations, data management and supply chain

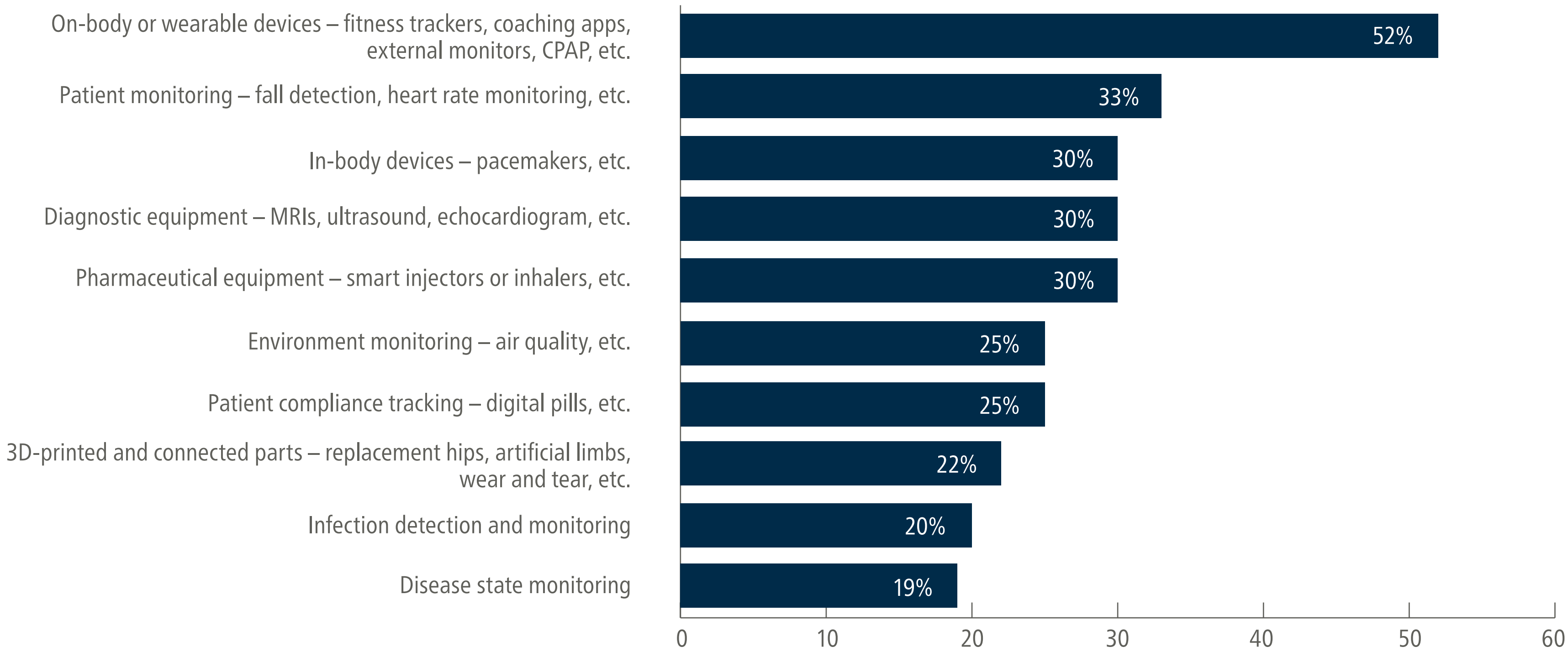
CURRENT STATE OF DIGITAL HEALTHCARE SOLUTIONS

WIDE RANGE OF DIGITAL HEALTHCARE SOLUTIONS ARE BEING DEVELOPED AND PRODUCED

Connectivity is pervading every aspect of our lives. As this technology becomes a part of many new devices, the efficiency and productivity gains are undeniable. Connectivity in the healthcare industry can truly change how we live.

The potential types of digital healthcare devices are as diverse as the medical conditions and treatment options. More than half of digital healthcare solution providers indicated that they are developing or planning to develop on-body or wearable devices as they begin their digital health journey. The next biggest category is patient monitoring.

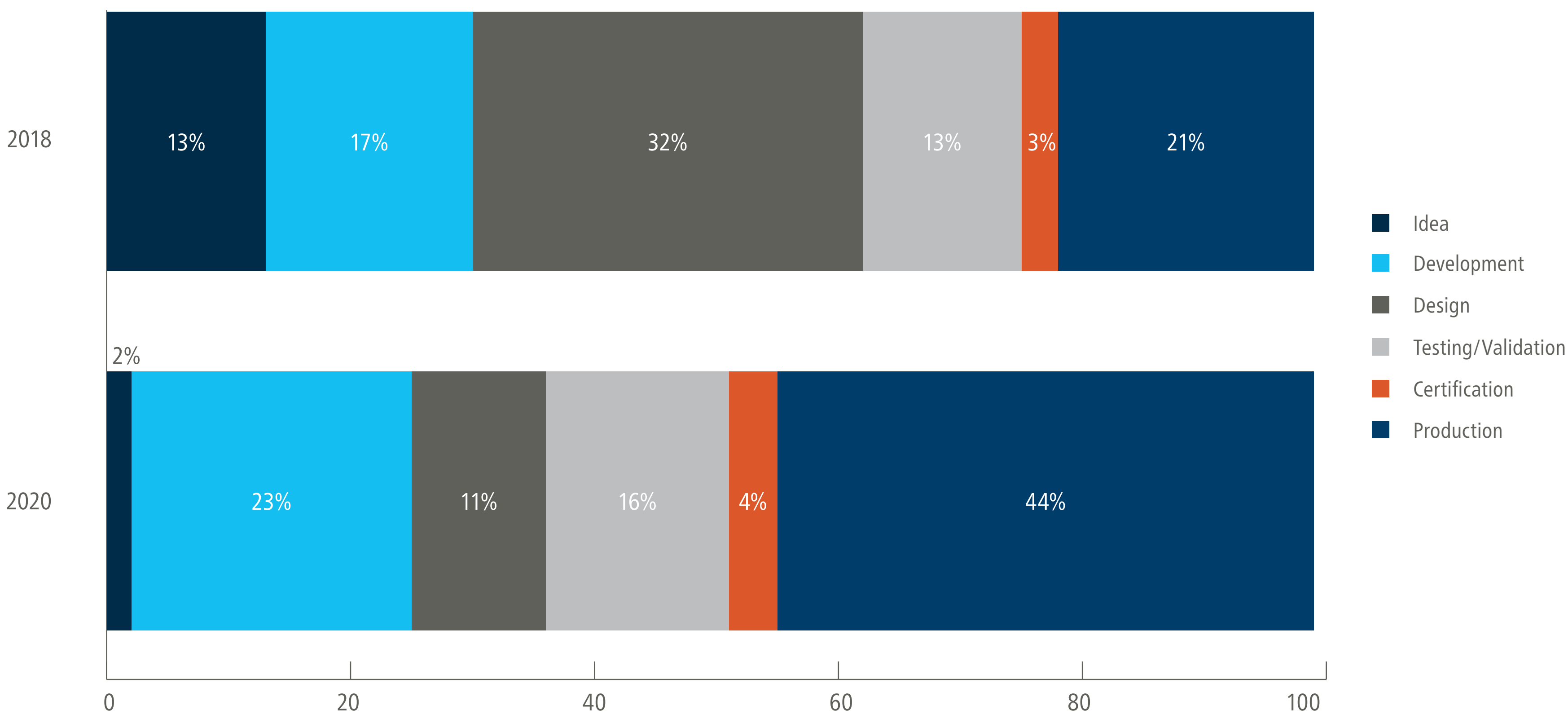
What type of digital healthcare solutions does your company develop or plan to develop? Choose all that apply.



PROGRESS IN DIGITAL HEALTHCARE SOLUTIONS IS UNDENIABLE

More than twice as many companies have digital health solutions in production than in 2018. When Jabil commissioned the first study, only 21% of digital healthcare solution providers said they were producing their own solutions. Since 2018, many ideas have come to fruition, and 44% are in production today.

What is the status of your company's development of digital healthcare solutions?

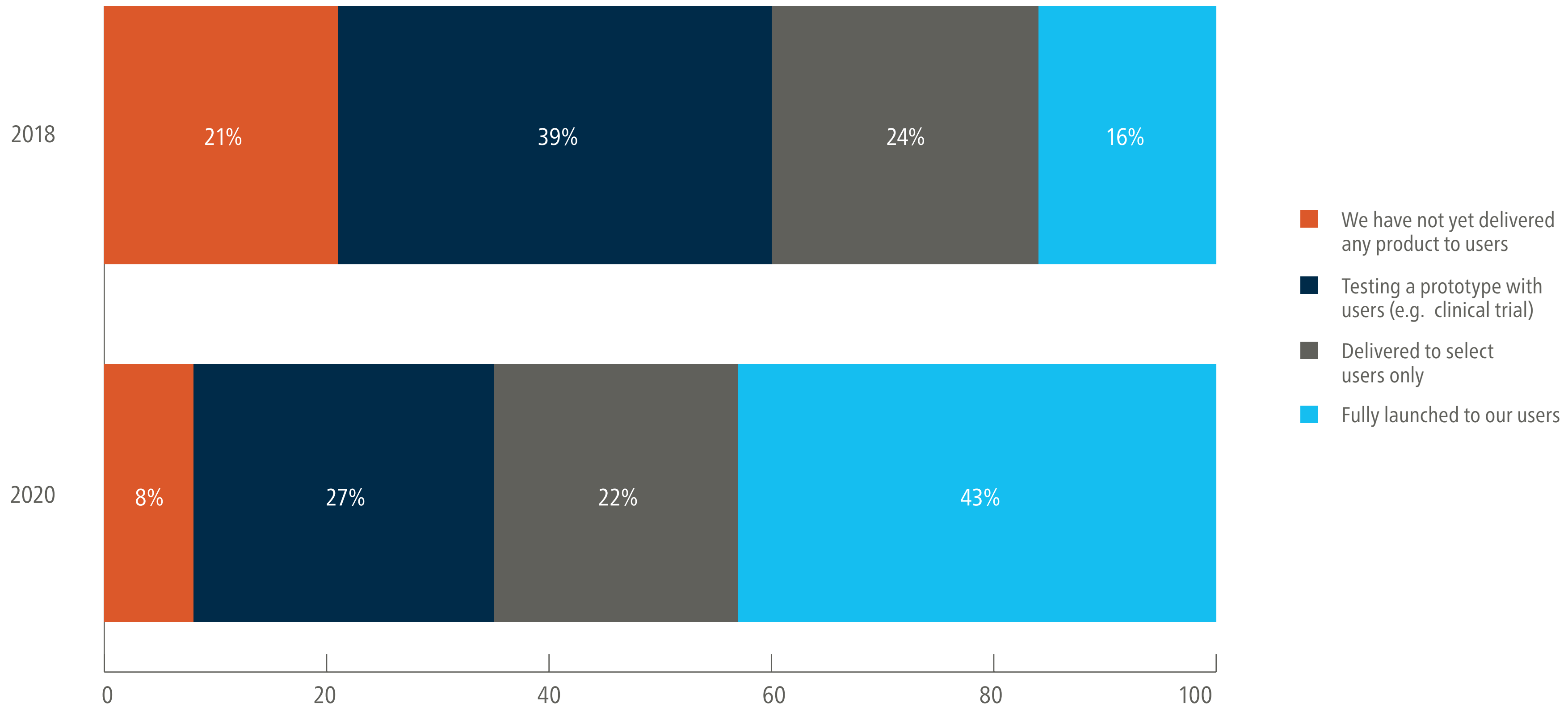


**All percentages may not add up to 100 due to rounding*

ALMOST THREE TIMES AS MANY COMPANIES HAVE FULLY LAUNCHED THEIR SOLUTIONS SINCE 2018

In 2018, 79% of digital healthcare solution providers affirmed that they had put a product into users' hands, whether it was as a prototype or a full launch. Today that number has risen to 92%, with 43% saying they have fully launched their digital healthcare solutions to consumers.

What is the status of your company's digital healthcare solution delivery to customers?

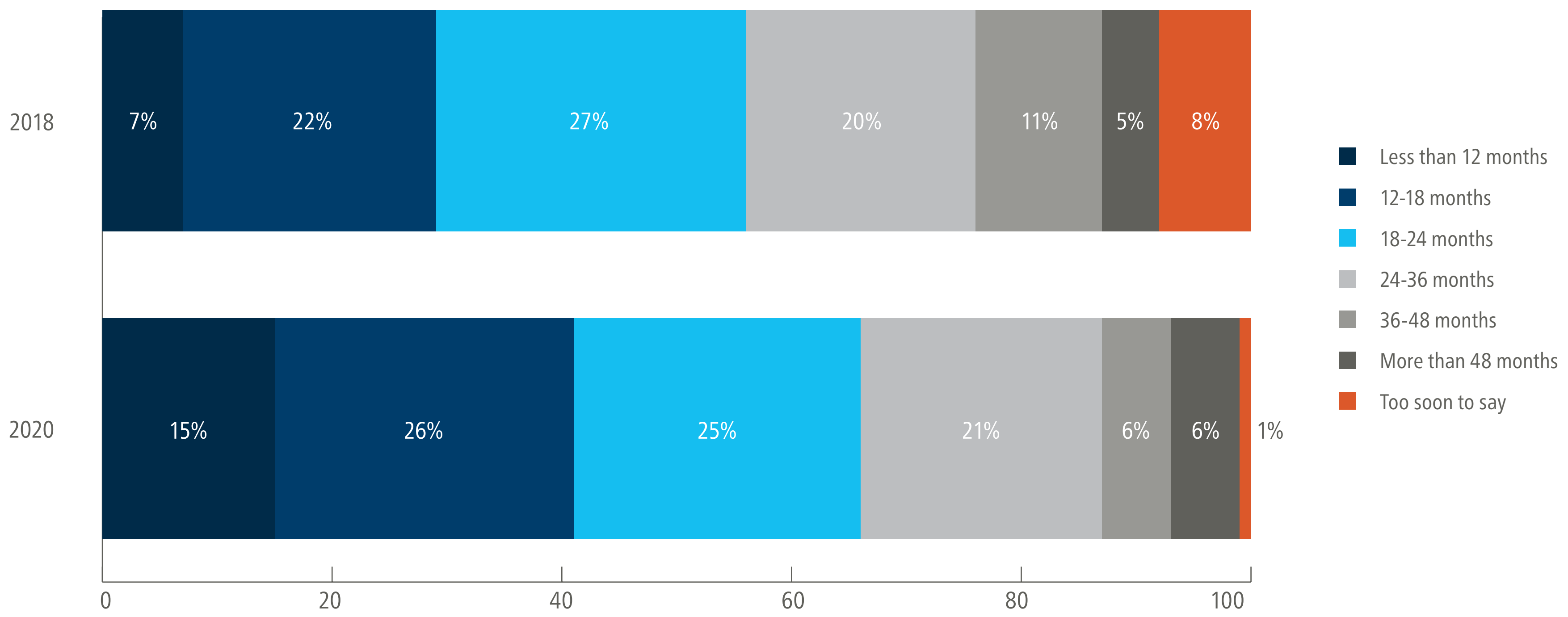


LAUNCH CYCLES FOR DIGITAL HEALTHCARE SOLUTIONS HAVE SHORTENED SUBSTANTIALLY

In the last study, digital healthcare solution providers unanimously agreed that digital health was lagging other industries and their product development and launch cycles were simple proof. Since then, healthcare solution providers have taken steps to better align their digital product development cycles with customer expectations. Today, 41% say their development and launch cycle for digital health solutions are less than 18 months, whereas only 29% said the same in 2018.

Today, the market indicates that healthcare solution providers need to iterate every two to three years, not once a decade, or risk losing market share. On top of that, you need to do this in a regulated market whose momentum is increasingly towards a value-based model.

On average, how long is your company's product development and launch cycle for digital healthcare solutions?

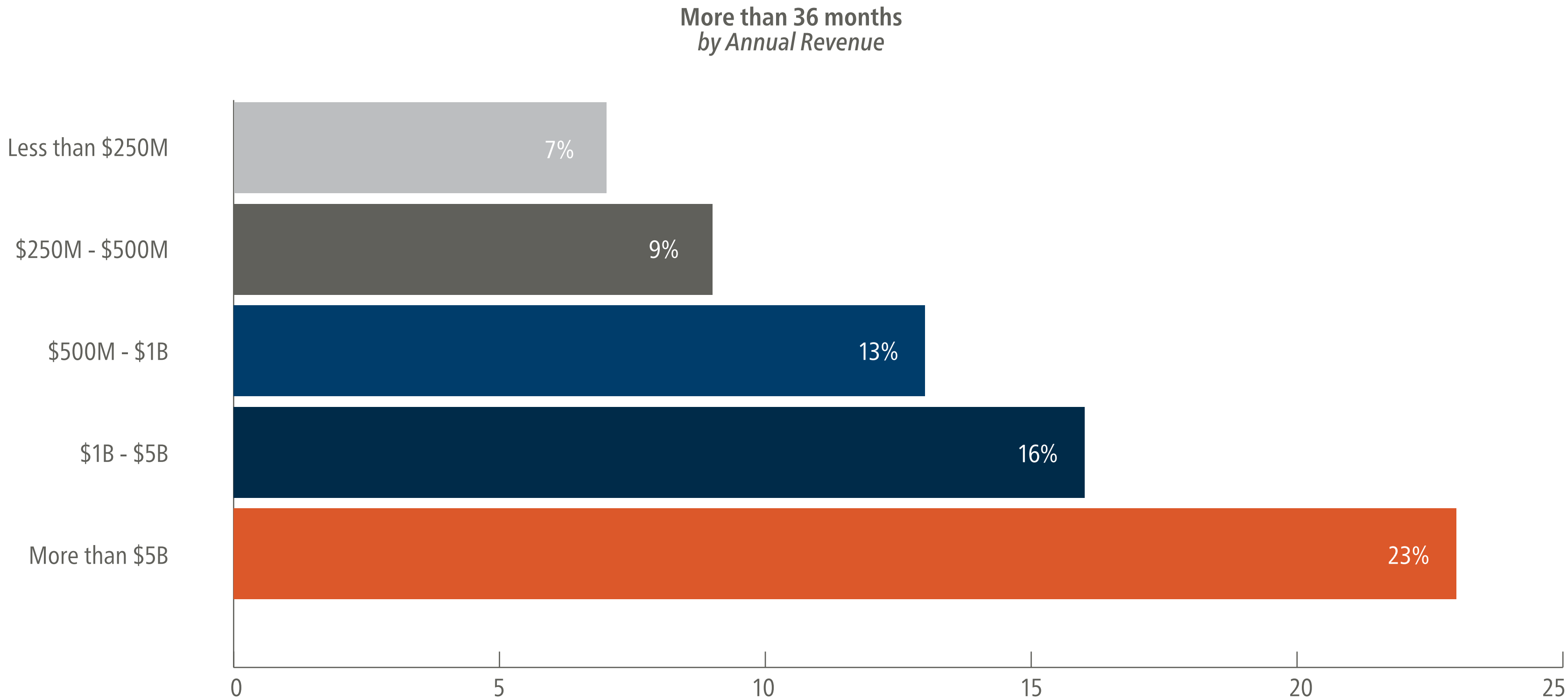


LARGEST COMPANIES STILL EXPERIENCE SOME OF THE LONGEST PRODUCT CYCLES

Although healthcare solution providers have made significant strides in shortening their digital product development and launch cycles, some larger companies still deal with timelines longer than 36 months.

Nearly a quarter of companies with more than $5 billion in revenue still have product development and launch cycles of 36 months or more.

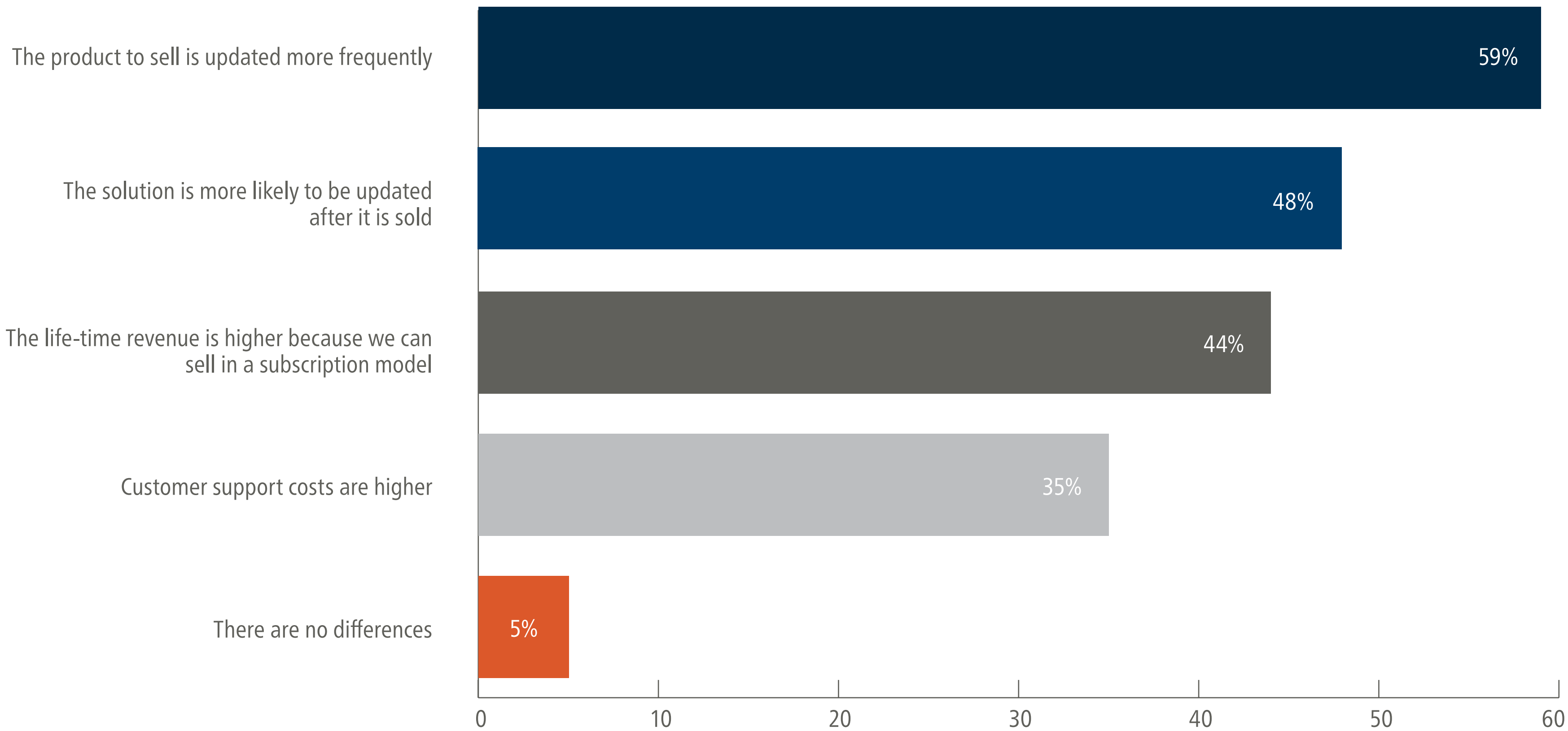
On average, how long is your company's product development and launch cycle for digital healthcare solutions?



95% REPORT DIFFERENT FACTORS FOR DIGITAL AND NON-DIGITAL HEALTHCARE SOLUTIONS

There are some clear differences in digital and non-digital healthcare solutions. Nearly six in 10 digital healthcare solution providers say their digital products are updated more frequently and 48% say the solution is more likely to be updated after it is sold.

How does your company's product lifecycle, from first customer ship to end of life, for digital healthcare solutions compare to non-digital solutions? Choose all that apply.



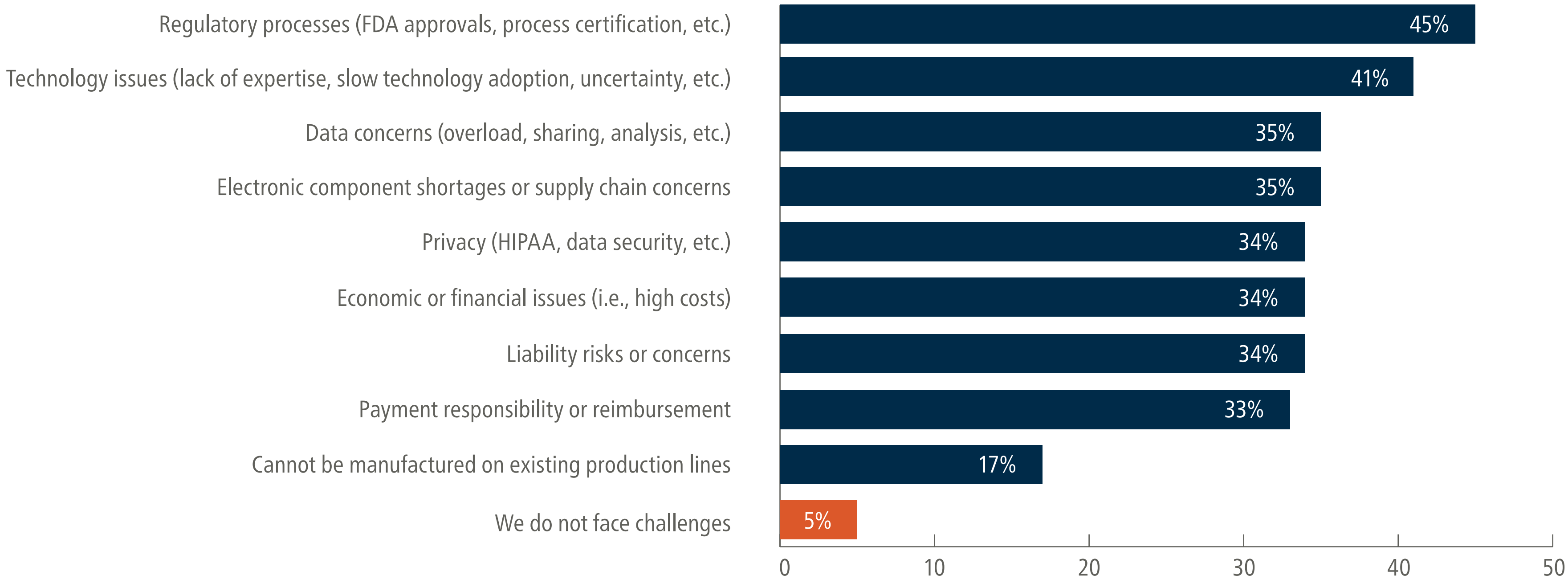
DIGITAL HEALTHCARE MANUFACTURING CHALLENGES

COMPANIES FACE WIDE RANGE OF CHALLENGES IN PRODUCING DIGITAL HEALTH SOLUTIONS

Digital healthcare solution providers who participated in the survey say that the top challenges slowing the development and delivery of their digital solutions are regulatory processes and technology issues. But as you can see clearly from the graph below, challenges are numerous.

Enlisting outside expertise is one of the most effective ways to solve challenges with your solution ecosystem. Partners may have strengths in manufacturing capabilities where existing companies do not choose to invest. Manufacturing partners can bring intelligence and insight from their work across other customers and industries to help avert costly decisions.

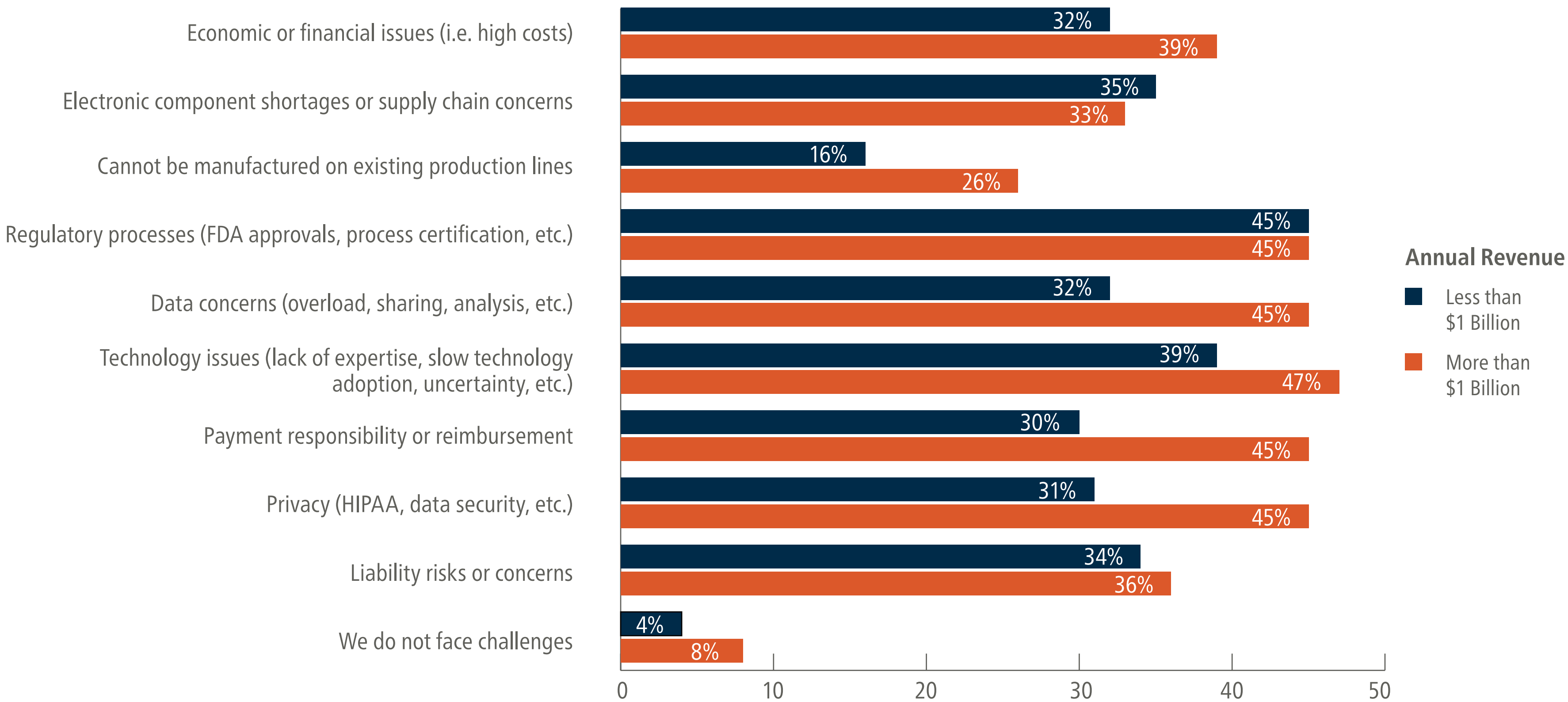
Which of the following manufacturing industry challenges slow the development and delivery of your company's digital healthcare solutions? Choose all that apply.



PRIVACY AND DATA MORE LIKELY TO IMPACT LARGER COMPANIES

A deeper dive into the challenges show some stark differences based on annual revenue. Companies with more than $1 billion in revenue are more likely to face challenges in payment responsibility/reimbursements, data concerns and privacy.

Which of the following manufacturing industry challenges slow the development and delivery of your company's digital healthcare solutions? Choose all that apply.



DIFFERENT ROLES TRY TO TACKLE UNIQUE CHALLENGES

While company size reveals differences in challenges faced, the decision-makers' role also plays into the obstacles they must overcome. Decision-makers in product management are working through technology issues, with nearly half of them indicating it as a challenge. Supply chain decision-makers are more worried about liability risks or concerns, which could be associated with component shortages or end-of-life; research & development is more likely to face challenges in data concerns; and engineering is working through regulatory processes.

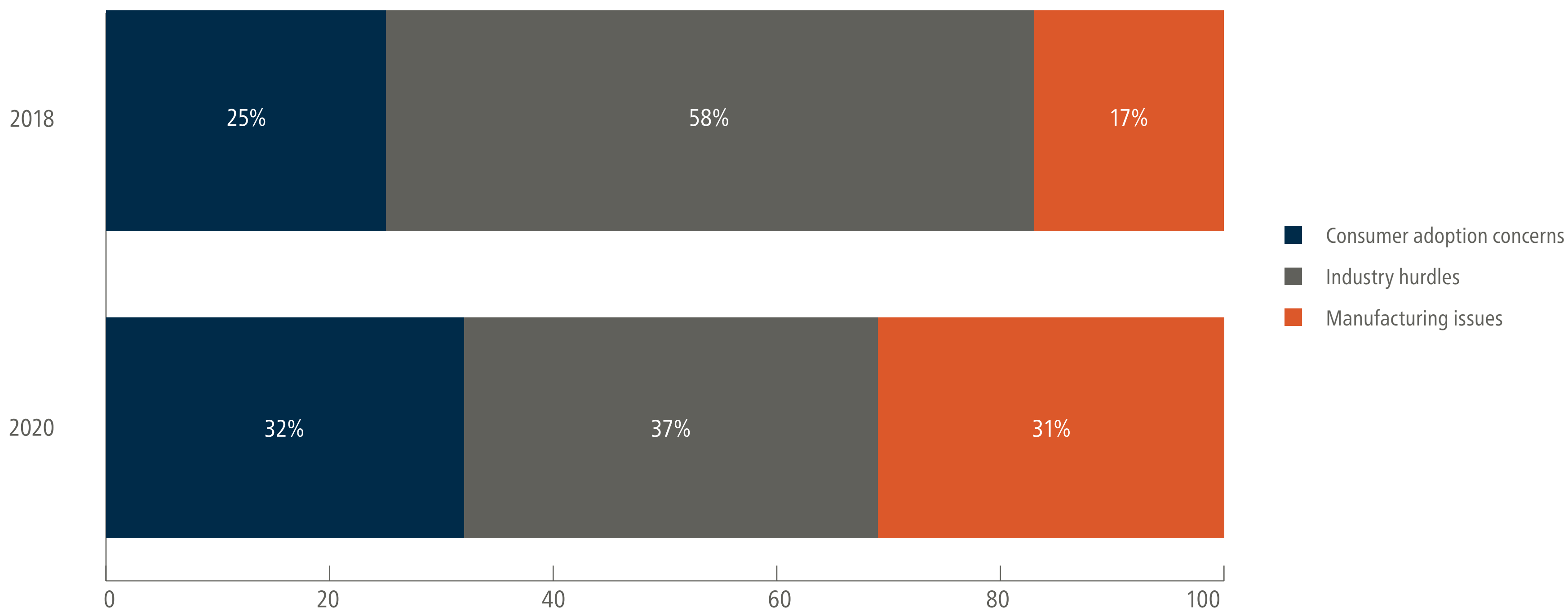
Which of the following manufacturing industry challenges slow the development and delivery of your company's digital healthcare solutions? Choose all that apply.

ROLE	Product Management	Supply Chain	Research & Development	Engineering
MOST FREQUENTLY REPORTED CHALLENGE	Technology issues *(lack of expertise, slow tech adoption, uncertainty , etc.)*	Liability risks or concerns	Data concerns *(overload, sharing, analysis, etc.)*	Regulatory processes *(FDA approvals, process certification, etc.)*

FEWER REPORT INDUSTRY HURDLES AS MAIN BOTTLENECK

At this unique inflection point for healthcare businesses and their management, the challenges are daunting but certainly not insurmountable. In fact, the opportunity presented by today's market is exceptional. Compared to two years ago, fewer decision-makers are experiencing challenges with industry hurdles and have evened out the barriers they face in other categories. Since industry hurdles are likely the first obstacle solution providers face, it's normal to see these barriers shifting to manufacturing and consumer adoption issues.

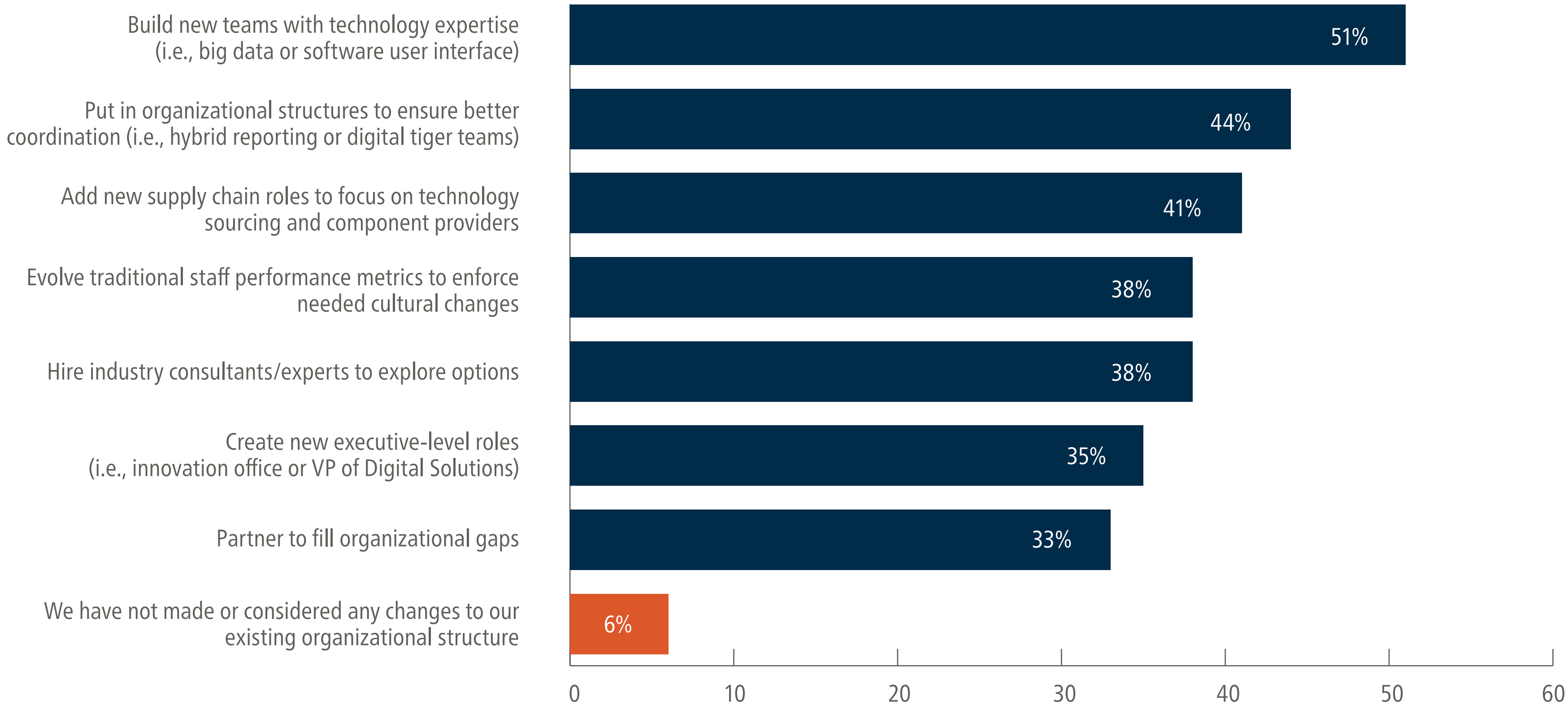
Which of the following creates the biggest barrier to delivering digital healthcare solutions? Choose the one answer that most closely applies.



94% HAVE LOOKED TO ORGANIZATIONAL CHANGES TO SUPPORT DIGITAL HEALTHCARE SOLUTION DELIVERY

With numerous challenges at bay, 94% of decision-makers say they have made organizational changes to support their digital health solution development. Just over half say they've built new teams with technology expertise and 44% have put in organizational structures to ensure better coordination across departments.

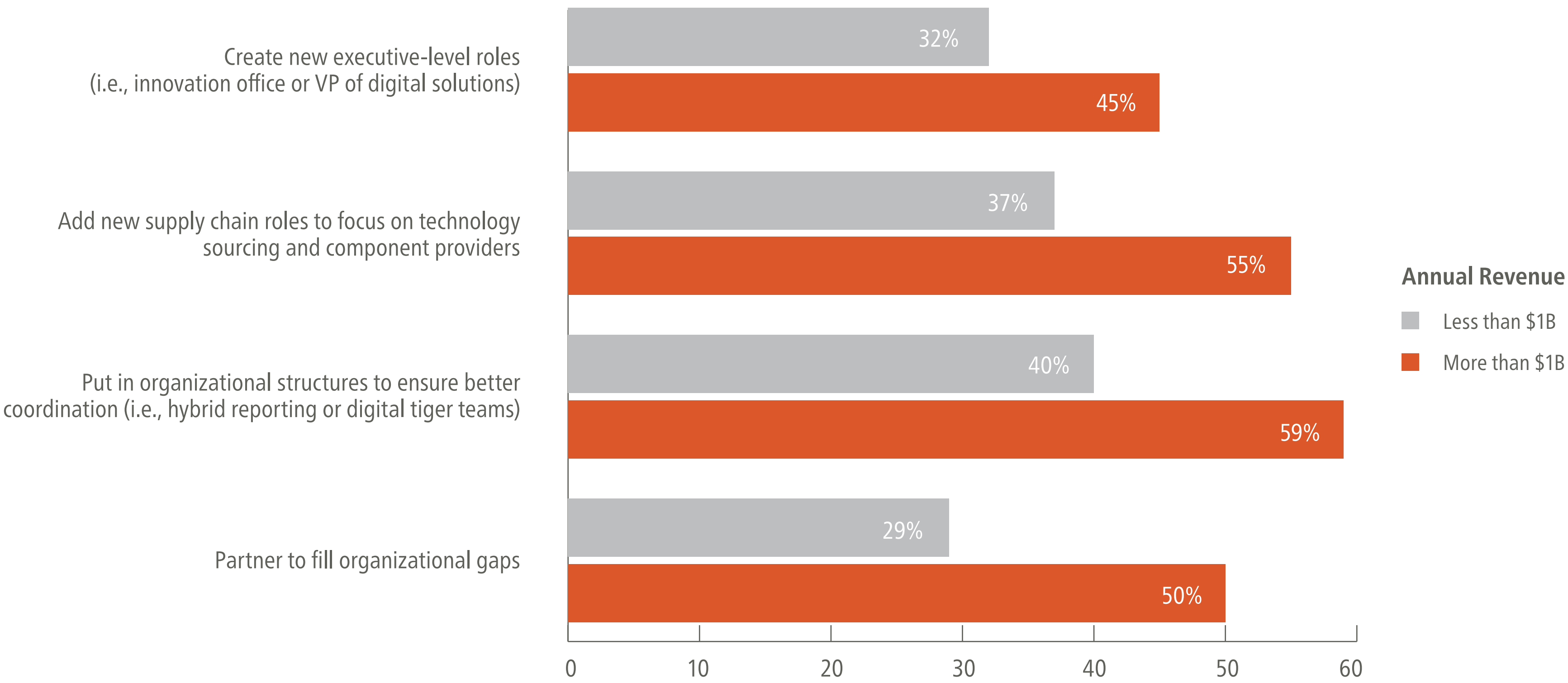
Has your company explored or implemented any organizational changes to support your digital healthcare strategies and solution? Choose all that apply.



LARGEST COMPANIES MOST LIKELY TO ADD SUPPLY CHAIN ROLES, MODIFY ORGANIZATIONAL STRUCTURES AND DEVELOP PARTNERSHIPS

Larger companies are more likely to make organizational changes to support their digital healthcare strategies and solutions. Specifically, companies with more than $1 billion in annual revenue are more likely to put in organizational structures to ensure better coordination (59%); add new supply chain roles focused on tech sourcing and component providers (55%); develop partnerships to fill organizational gaps (50%) and create new executive-level roles to navigate strategy (45%).

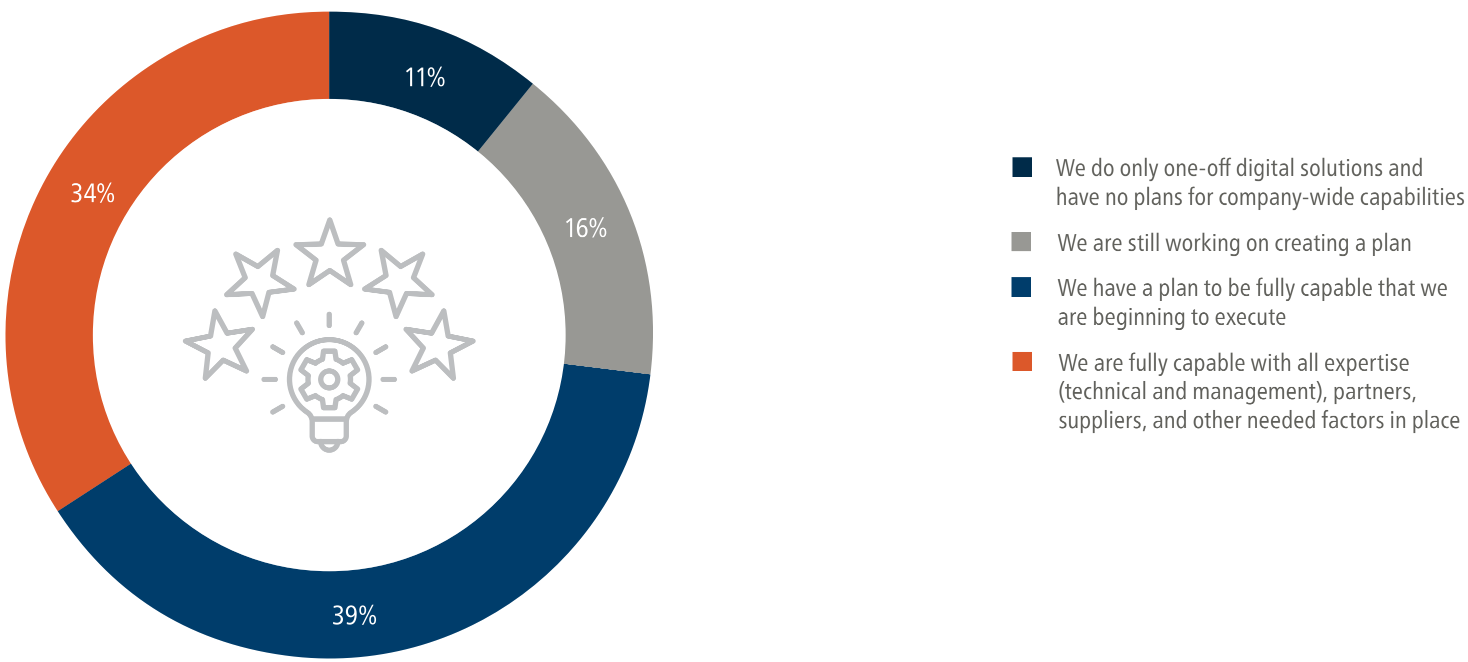
Has your company explored or implemented any organizational changes to support your digital healthcare strategies and solution? Choose all that apply.



ONLY A THIRD DESCRIBE THEIR COMPANY AS FULLY CAPABLE OF DELIVERING DIGITAL HEALTHCARE

Today, we are witnessing the robust build of digital health platforms to aid in both predictive and preventative medicine. The goal is for more patient engagement and care to be shifted outside the hospital. Smarter devices — for patient monitoring, analysis and communication — are expected to greatly improve patient outcomes compared to existing treatment and care models. But only a third of digital healthcare solution providers describe their company as fully capable of delivering digital healthcare. Meanwhile, nearly four in 10 are just beginning to execute their plan and 27% either don't have a plan or still working on one.

How would you rate your company's ability to deliver innovative digital healthcare solutions?



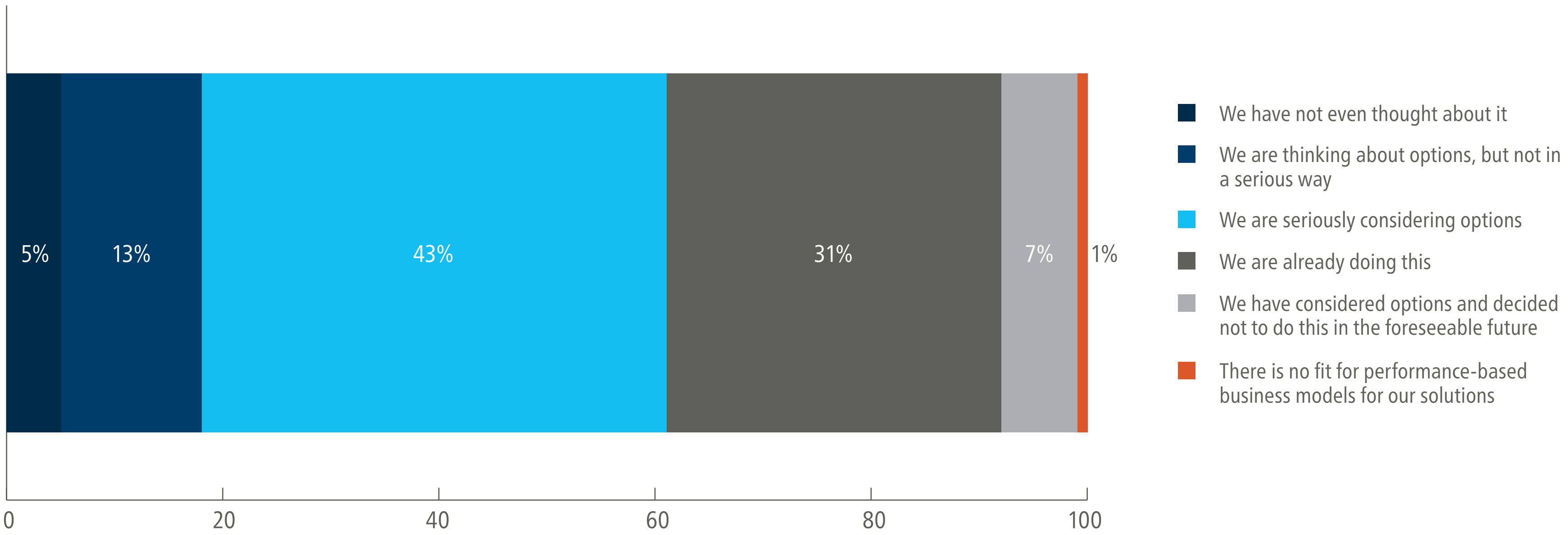
EVOLVING BUSINESS MODELS

VALUE-BASED CARE BUSINESS MODELS ARE QUICKLY BECOMING THE REALITY

Value-based care models (in which reimbursements are driven by outcomes) have the potential to revolutionize patient care and medical infrastructure, but they require data to prove outcomes. Digital healthcare products and the data they produce will become a critical source for patients' health and wellness. The survey shows that most companies are well down the road in making changes to their business model in response to value-based care.

New technologies are turbocharging how the industry is navigating the course set by value-based care. In fact, 31% of digital healthcare solution providers say their company is already addressing value-based care in their business model and 43% are seriously considering options.

Has your company considered alternative business models based on the shift to value-based care? Choose the one answer that most closely applies.



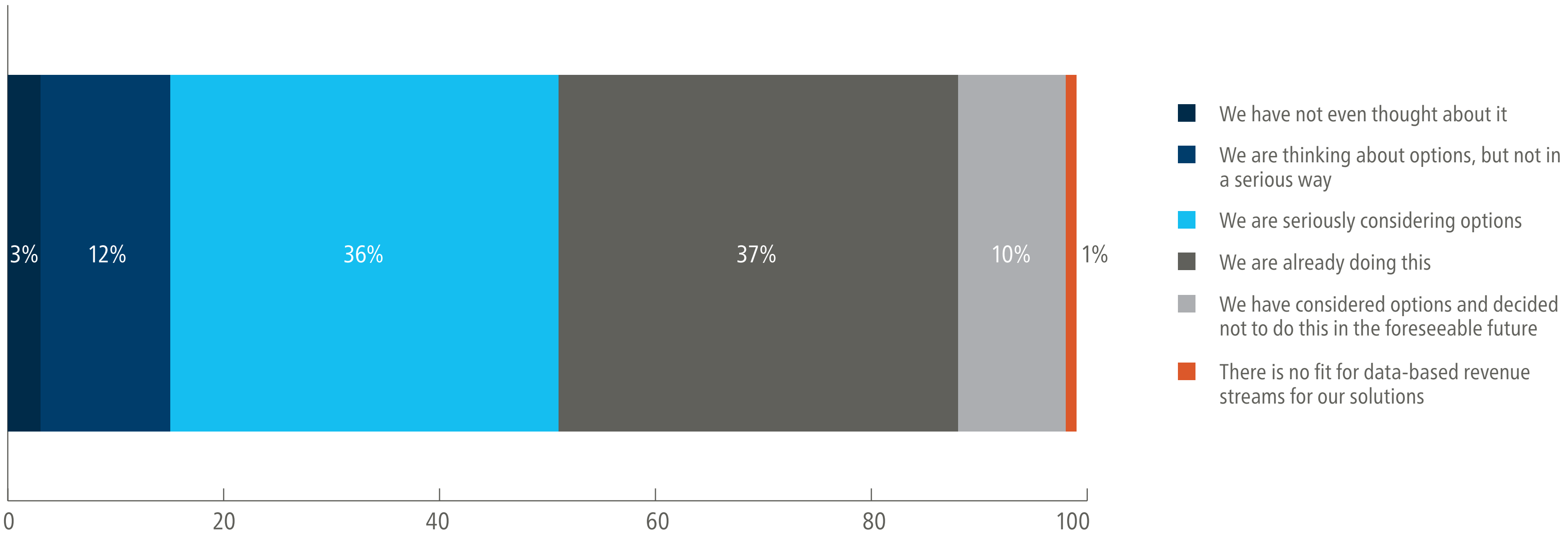
DATA-BASED REVENUE STREAMS ARE A SERIOUS CONSIDERATION OR REALITY FOR MOST

Internet of Medical Things (IoMT) devices can monitor, collect data for the broader ecosystem, communicate with the care provider and facilitate timely interventions while helping to cut down on unnecessary hospital visits. They will enhance patient quality of life and deliver peace of mind by letting people go about their daily routine knowing their provider is in the driver seat.

Given the value in all this data, 73% of digital healthcare solution providers say they are either already doing this or seriously considering options.

One of the potential benefits of digital healthcare solutions is that companies can use the data collected to create additional revenue streams (for example, by selling to research labs or marketing firms).

Has your organization considered adopting any kind of data-based revenue stream?



**All percentages may not add up to 100 due to rounding*

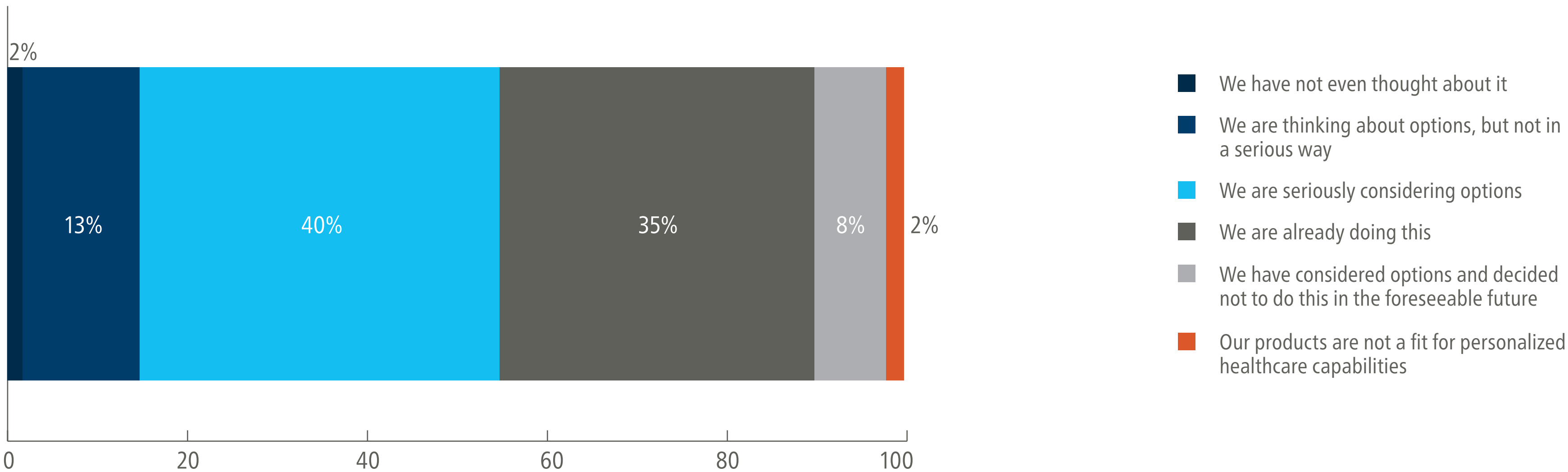
PERSONALIZED HEALTHCARE CAPABILITIES ARE SERIOUSLY ON THE RADAR FOR 3 IN 4

Technology enables another trend in healthcare today: personalized medicine. The potential is there for healthcare consumers to sit at the center of a digisphere of inputs, curating health experiences through their own personal devices into their own personal health cloud. Personalized medicine powerfully syncs with value-based care as well. The result? Less time in hospitals receiving expensive treatments and putting oneself at risk for infection. Precision therapies are meant to reach the right people at the right time and more and more pre-emptively.

Three-quarters of digital healthcare solution providers say they are either seriously considering options or already doing personalized medicine.

One of the potential benefits of digital healthcare solutions is that information can be used to enable highly personalized healthcare where specific courses of action are recommended or automatically taken based on ongoing monitoring of patient status and compliance.

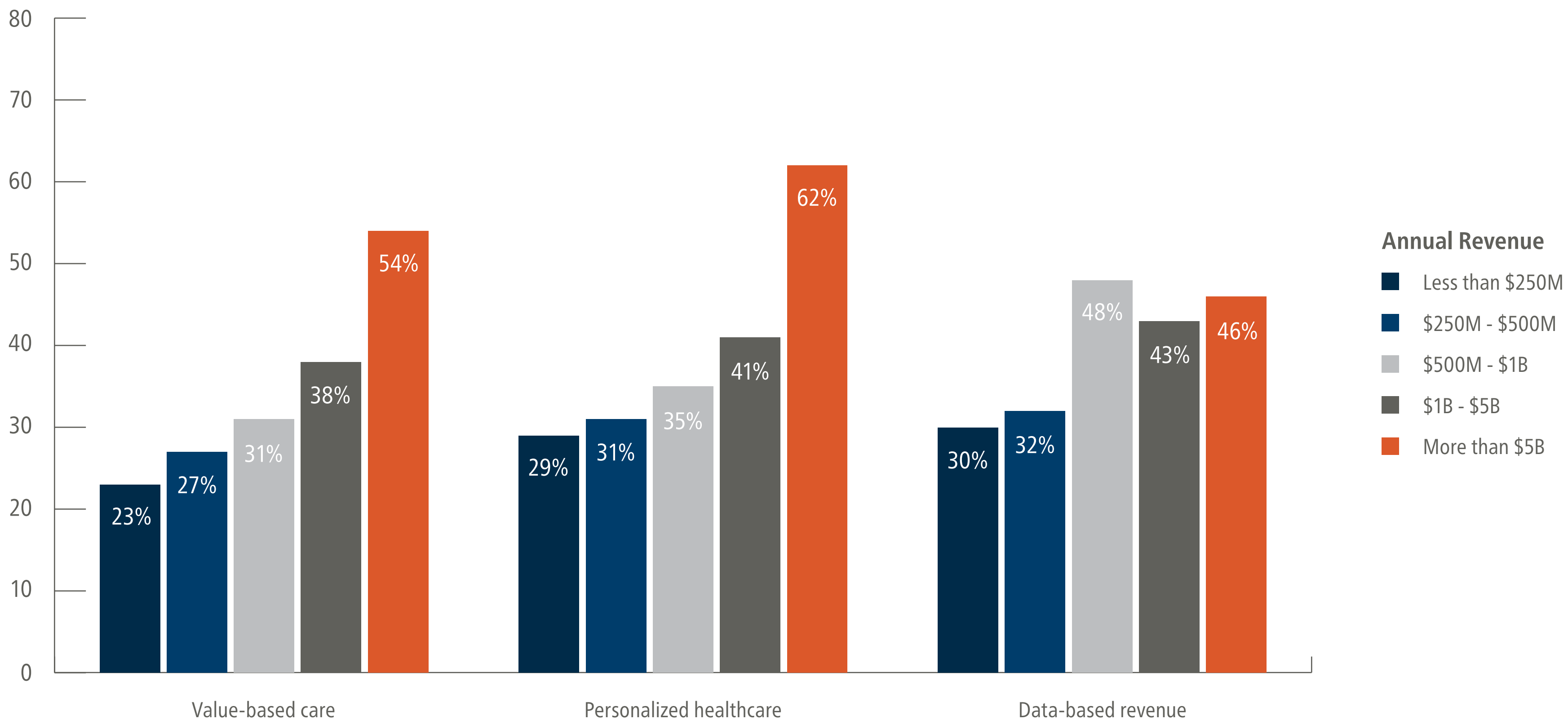
Has your organization considered building in personalized healthcare capabilities to your solutions?



LARGER COMPANIES MOST LIKELY TO BE EXECUTING ON ALTERNATIVE REVENUE STREAMS

Larger companies are putting their resources to work. The larger the company, the more likely they are to be executing on alternative revenue streams such as value-based care, personalized healthcare or data-based revenue.

Practicing additional revenue streams: "We are already doing this."

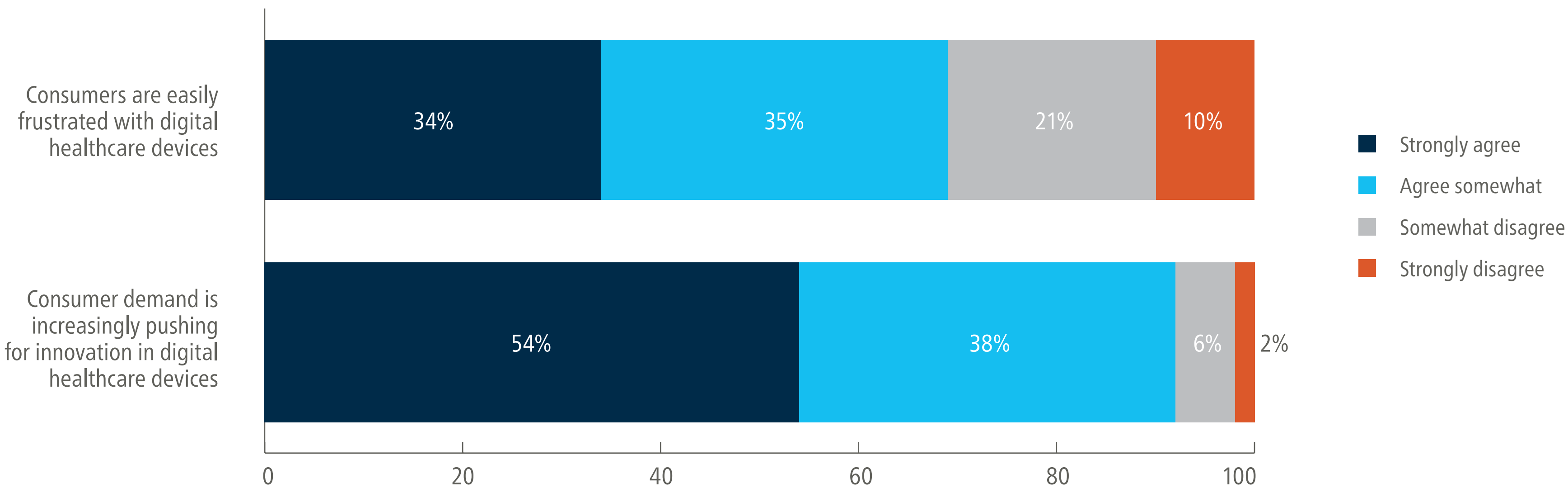


THE DRIVING FORCE OF INNOVATION IN HEALTHCARE: CONSUMER DEMAND

Consumer businesses are driven by the need for constant innovation. To survive in their here-today-gone-tomorrow world, companies have adopted greater agility for managing product lifecycles. Product development cycles for the automotive and transportation markets, for example, are becoming progressively shorter with every cycle. Driven by a culture of innovation and speed, they are now very much in lockstep with consumer electronics, which has historically been one of the fastest paced markets overall.

In these industries it's an absolute necessity that products get to market quickly, and that innovations are in sync with what today's customer wants and needs. Market delays, unintended obsolescence or even under-actualized utility will undermine product value and provide a wide-open gateway for more strategic and nimble competitors. Considering that 69% of digital healthcare solution providers believe consumers are easily frustrated with digital healthcare devices, nine in 10 agree that consumers are pushing innovation in healthcare.

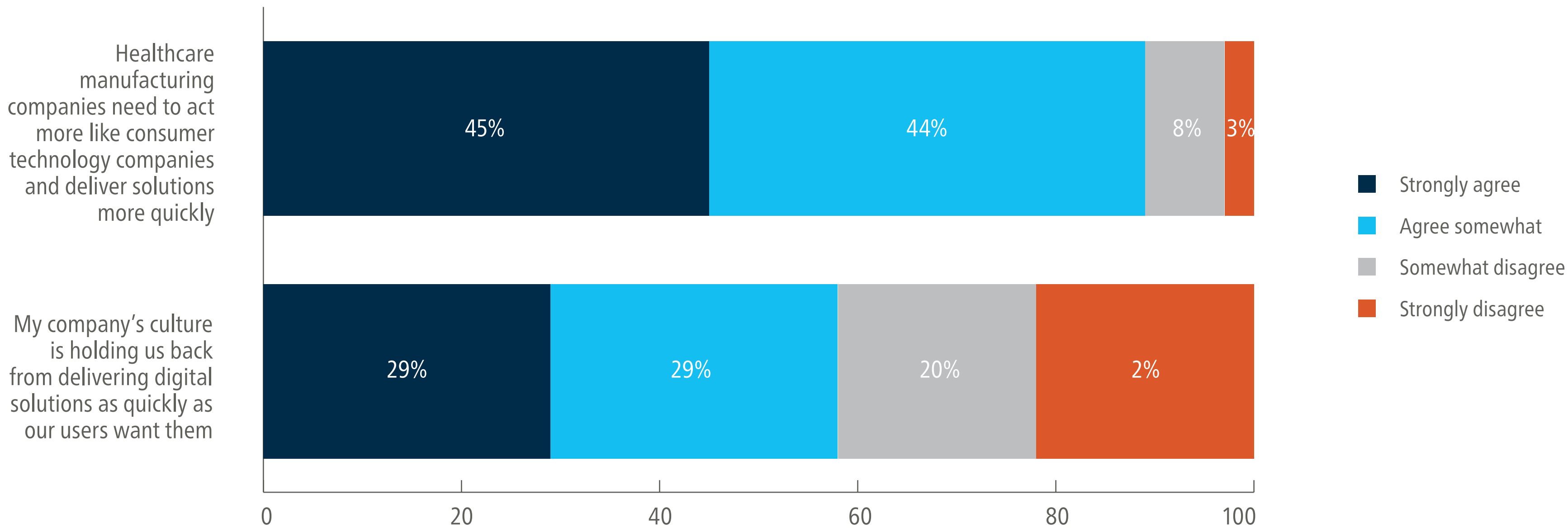
Please indicate your level of agreement with each of the following statements.



WHILE CONSUMERS DEMAND INNOVATION, CORPORATE CULTURE IS HOLDING PROVIDERS BACK

Although digital healthcare solution providers overwhelmingly agree that consumer demand is driving innovation in healthcare and 89% say healthcare manufacturing companies need to act more like consumer technology companies, that's not always the case. Almost 60% say that their company's culture is holding them back from delivering digital solutions as quickly as their users want them.

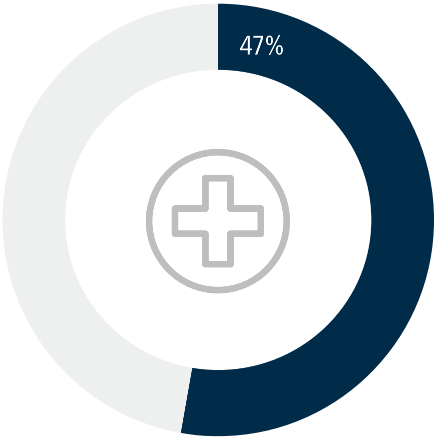
Please indicate your level of agreement with each of the following statements.



MORE PARTICIPANTS THINK MANUFACTURING COMPANIES WILL DRIVE DIGITAL HEALTH INNOVATION

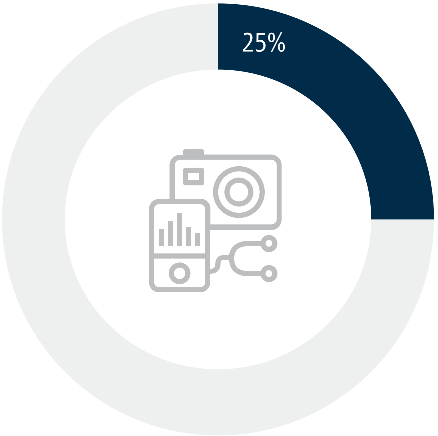
Consumer demand may be the leading force behind the inevitable innovation in healthcare and company culture may be an obstacle to it, but nearly half of digital healthcare solution providers believe this innovation will be led by healthcare manufacturing companies that understand certification and production. Meanwhile, 54% believe “outsiders” like enterprise technology companies or consumer technology companies will lead in innovation.

In your opinion, who will drive transformational technology innovation in the digital health industry? Choose the one answer that most closely applies.



Healthcare manufacturing companies that understand certification and production (i.e. FDA approvals, HIPAA regulations)

Enterprise technology companies that understand data and security (i.e. Cisco, Microsoft, Oracle)



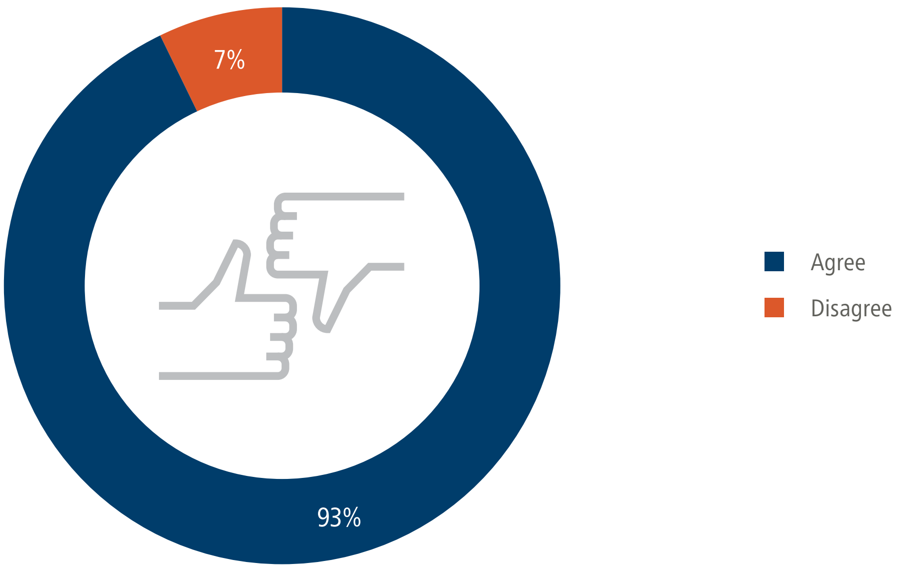
Consumer technology companies that understand user experience and consumer electronics (i.e. Apple, Google)

WIDESPREAD AGREEMENT ON INTEROPERABILITY

More than nine in 10 digital healthcare solution providers agree that digital healthcare's collection and purposing of data should be standardized to enable interoperability between devices and within product platforms.

In the shift from product-centric to customer-centric, interoperability has become non-negotiable. Interdependent technology platforms that collect, combine and share streams of data are emerging to capture value for all stakeholders in the game. Even the FDA is putting wind into these sails.

Please indicate your level of agreement with the following statement.

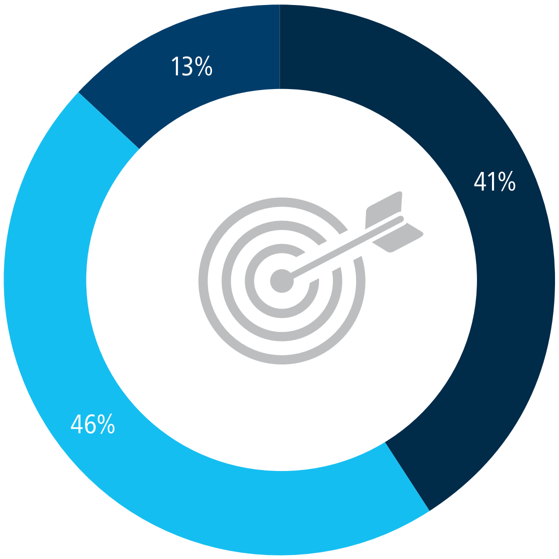


Digital healthcare's collection and purposing of data should be standardized to enable interoperability between devices and within product platforms

DIGITAL HEALTHCARE SOLUTION PROVIDERS ARE SPLIT ON INTEROPERABILITY APPROACH

Although 93% of digital healthcare solution providers agree that digital healthcare's collection and purposing of data should be standardized to enable interoperability, perspectives are split on the approach. Just below half (46%) plan to deliver all needed functionality within their own controlled ecosystem to better control the customer experience. Approximately four in 10 say they prefer to follow generally accepted industry standards that enable interoperability within product platforms. Finally, 13% say they plan to be open and enable their customers to do anything they want.

Which of the following best describes your company's preferred approach when building digital healthcare solutions? Choose the one answer that most closely applies.

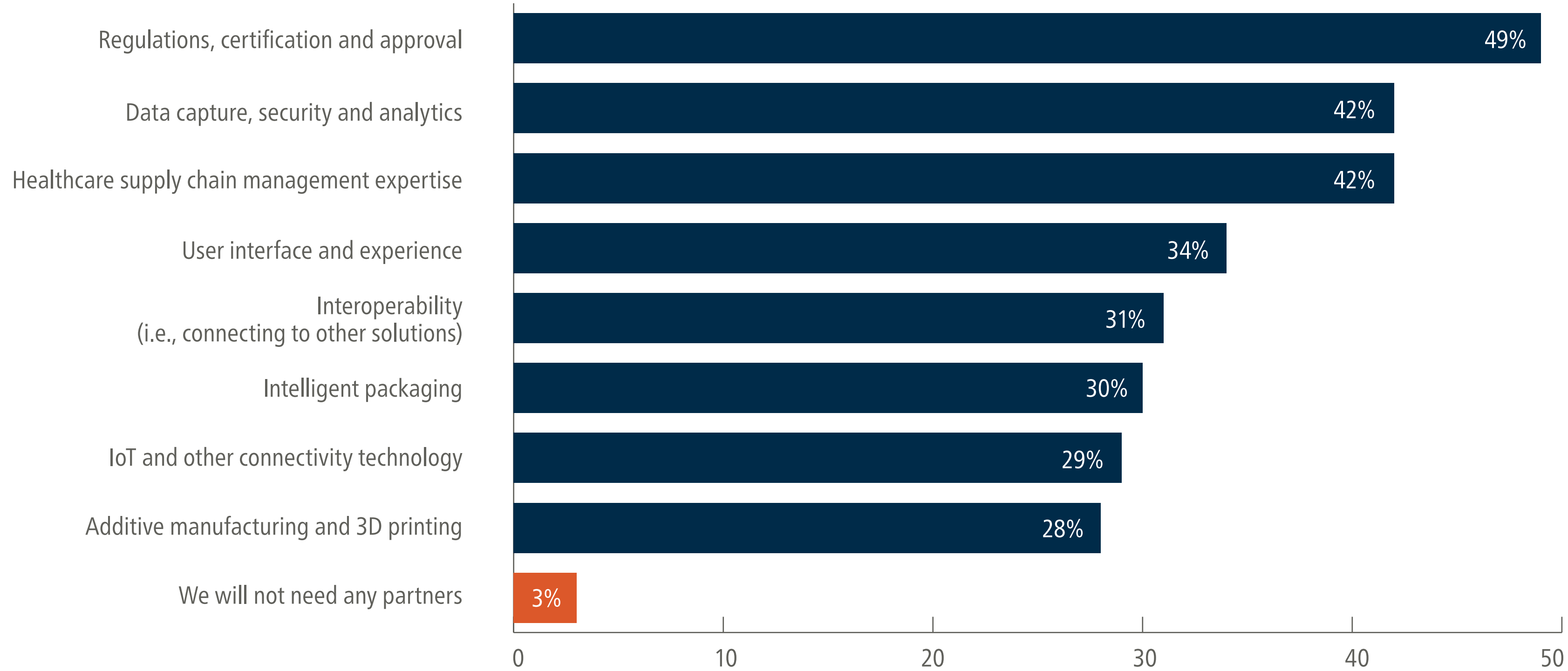


- Follow generally accepted industry standards that enable interoperability within the ecosystem that adopts those (i.e., Android)
- Deliver all needed functionality within our own controlled ecosystem so we have control of the customer experience (i.e., Apple)
- To be open and enable our customer to do anything they want (i.e., Open source)

97% REPORT THEY WILL UTILIZE EXTERNAL PARTNERS FOR DIGITAL HEALTH EXPERTISE

Almost all digital healthcare solution providers indicated that they would turn to their partners for digital health expertise across numerous areas. Nearly half of digital healthcare solution providers say they will need their partners to help overcome challenges in regulations, certifications and approvals. As the connected nature of healthcare evolves, 42% say they will need their partners' expertise in data capture, security and analytics. Similarly, as the healthcare supply chain becomes more modernized, 42% will need expertise in this area.

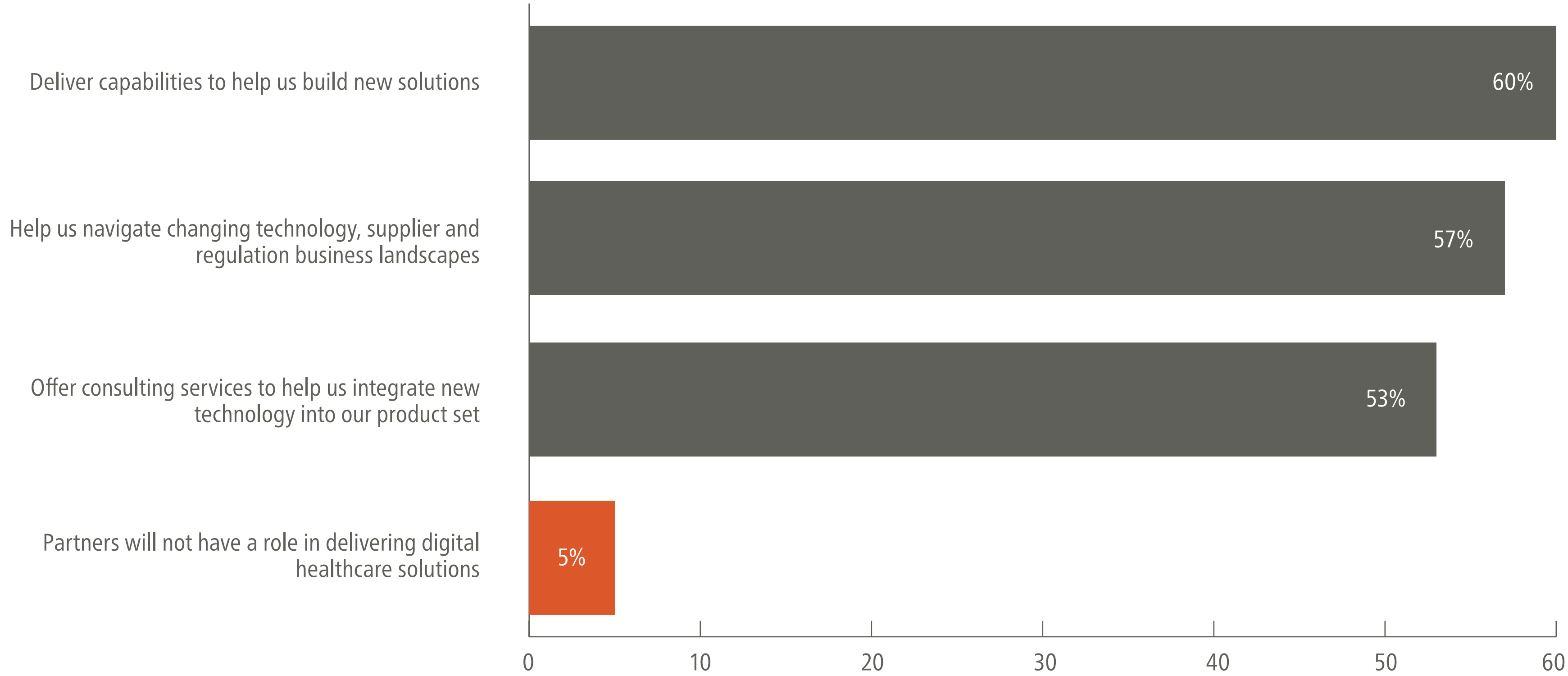
Which of the following digital healthcare manufacturing and product development issues do you identify as challenges for which your company will require outside expertise and partnership? Choose all that apply.



PARTNERS WILL BE EXPECTED TO PLAY A RANGE OF ROLES IN DELIVERING DIGITAL HEALTHCARE SOLUTIONS

Manufacturing partners are expected to play diverse roles in helping companies deliver digital healthcare solutions. Specifically, 60% say they expect their manufacturing partners to deliver capabilities to help them build new solutions. Additionally, 57% say they need help navigating changing technologies, supplier and regulation business landscapes. Finally, 53% will be looking for consulting services to help integrate new technology into their product set.

In the face of accelerating technology innovation, what role do you expect your manufacturing partners to play in delivering digital healthcare solutions? Choose all that apply.



SURVEY METHOD AND PARTICIPANTS

Research Goal

The primary research goal was to understand trends, experiences and plans for production of digital healthcare solutions.

Methodology

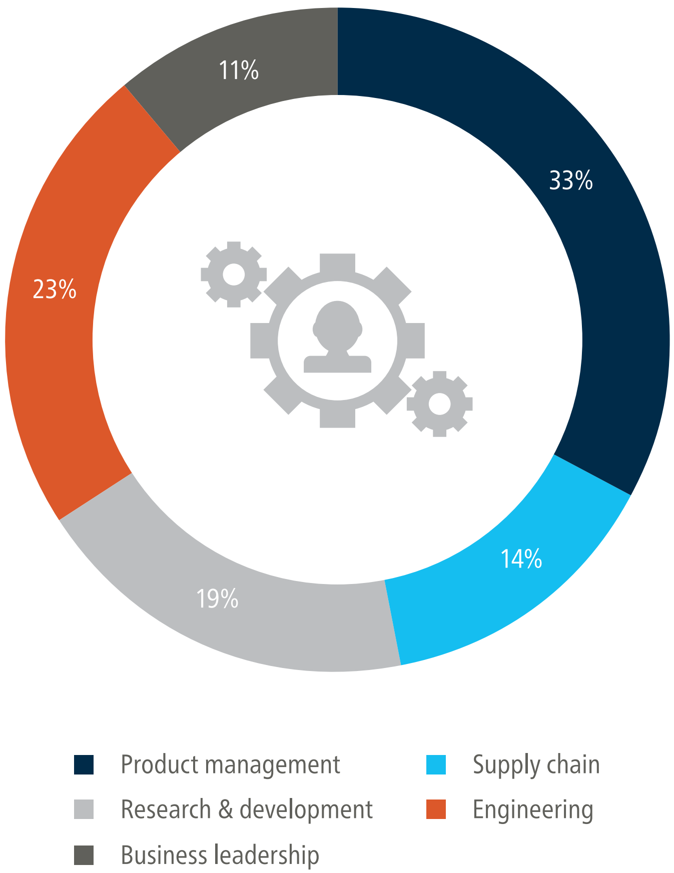
An online survey was fielded to decision-makers responsible for their organization's healthcare solutions. A variety of questions were asked on status of digital healthcare solutions, challenges faced and other issues. Certain questions were repeated from a similar 2018 survey to enable trend analysis.

Participants

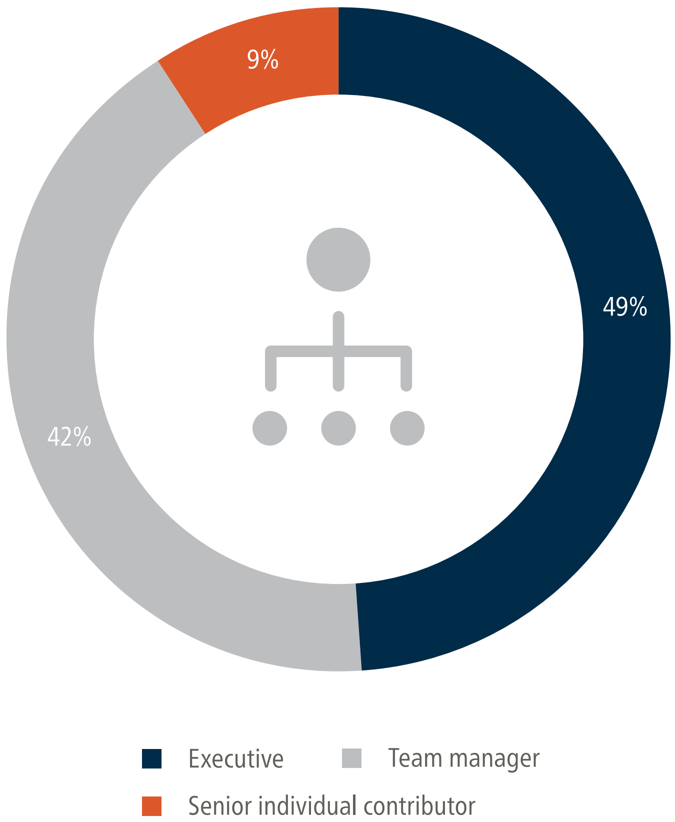
A total of 421 qualified participants completed the survey. All participants worked at companies with existing or planned digital healthcare products in a decision-making role.

SURVEY METHOD AND PARTICIPANTS

Role

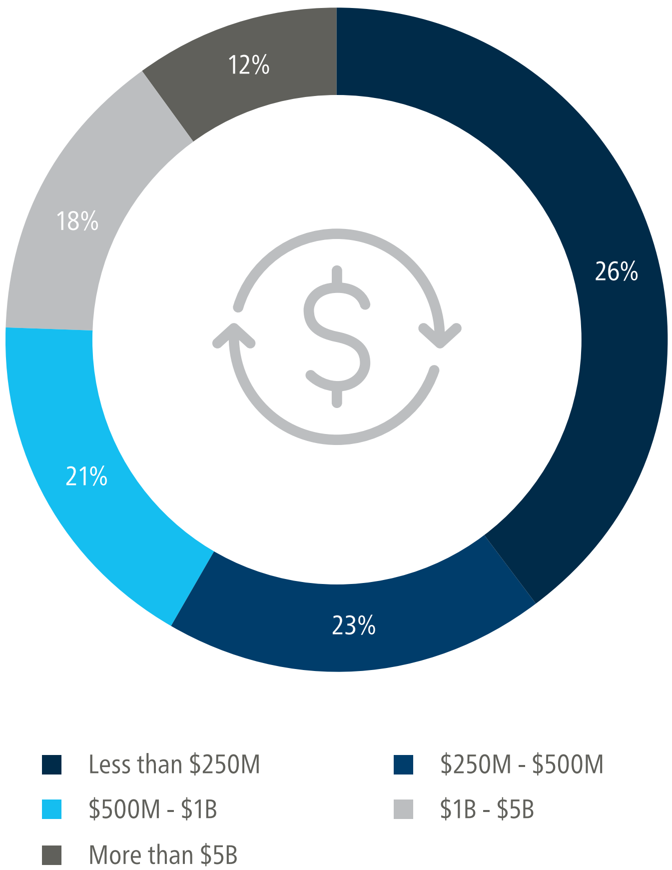


Job Level

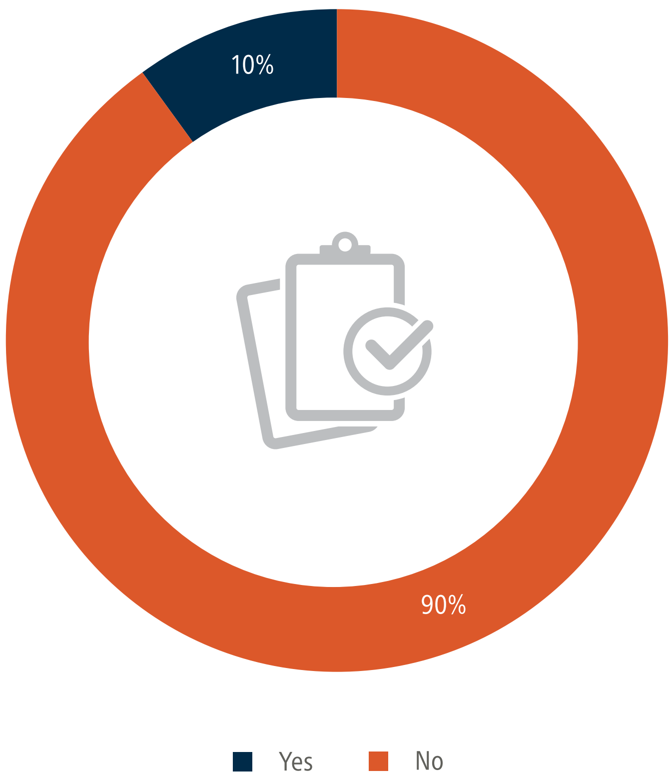


SURVEY METHOD AND PARTICIPANTS

Annual Revenue



FDA Approval



JABIL HEALTHCARE

Jabil Healthcare, formerly Nypro, is now the largest global manufacturing solutions provider in healthcare.

Jabil Healthcare serves five key sectors in the healthcare market: medical devices, orthopedics, diagnostics, pharmaceutical delivery systems and consumer health. In each arena, demand for value-based care solutions is forcing significant changes in the evolution of healthcare products and services and driving digital health innovations. Taking centerstage are Internet of Things (IoT) and digital health platform innovations enabled by connectivity, sensors and miniaturization.

Jabil Healthcare unifies the company's medical industry know-how with deep cross-sector experience in injection molding, electronics, sensor integration and additive manufacturing to help healthcare brands accelerate and scale technology advancements. This integrated line of capabilities across Jabil is brought to bear for its base of healthcare customers, from emerging startups to global enterprises.

It's About Time! For a More Agile Response to the Digital Disruption in Healthcare

❯ READ THE WHITEPAPER

FOR MORE INFORMATION

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JABIL

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