**INTO
THE NEW**

THE POST DIGITAL ERA IS UPON US
DIGITAL HEALTH TECH VISION

Are you ready for what's next in healthcare?

accentureconsulting

DIGITAL IS NO LONGER A DIFFERENTIATOR

It has become part of everything we do as people and as businesses. However, its *impact* on the expectations of individual people is changing.
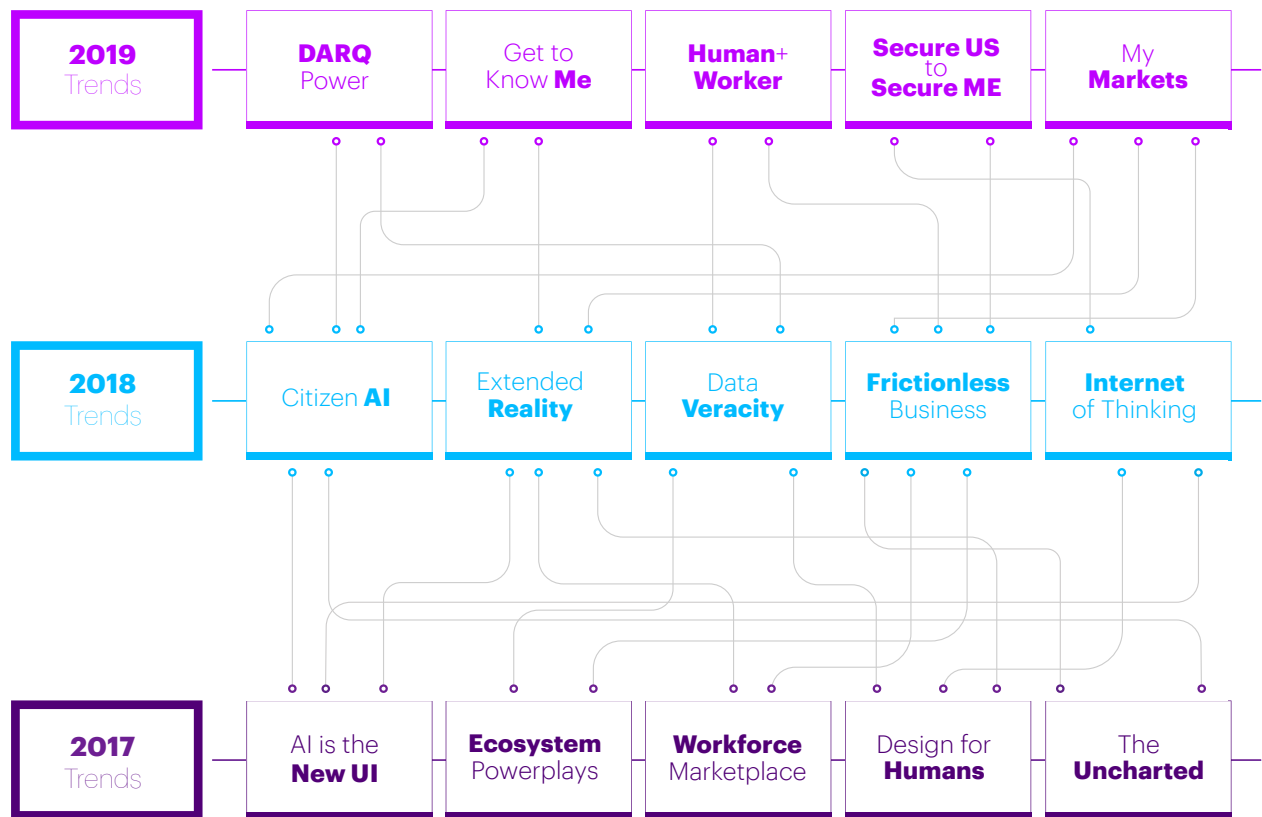
People are increasingly expecting healthcare on their own terms, and they expect digital to be the enabler. From using data to understand meal preferences of a patient in hospital, and delivering those meals exactly when they want them, to delivering information through the right channel based on selected preferences—digital can support delivery of healthcare when, where and how people want it.

Healthcare is in a unique place in the "post-digital" world. The industry has recognized that digital must become part of everything it does. And while investments in social, mobile, analytics and cloud (SMAC) technologies are progressing and demonstrating value, leaders must look toward what's next to differentiate in this new era. There is no longer a separation of digital and non-digital. The future will be about full adoption of SMAC and embracing new technologies to transform outcomes and ultimately change lives. Planning today for the post-digital world is critical as healthcare enterprises continue on their digital transformation journeys.

This year's Accenture Digital Health Tech Vision highlights five emerging trends that will shape healthcare enterprises over the next three to five years: *DARQ Power, Get to Know Me, Human+ Worker, Secure US to Secure ME* and *MyMarkets*. In each trend, you will see how the maturity of digital technologies across business and society is raising expectations, abilities and risk in healthcare. Fortunately, it's an era of equally tremendous possibility.

THE BIG PICTURE

Accenture's Digital Health Tech Vision comprises a three-year set of technology trends, which includes our reports from **2018** and **2017.** It's important to recognize that this year's trends are part of a bigger picture. As healthcare companies continue to grow as digital businesses, they will need to keep up with the latest technologies, as well as continue to master those that have been maturing. These technologies will collectively inform how enterprises build the next generation of business and create paths toward future growth.

2019 Trends	**DARQ** Power	Get to Know **Me**	**Human+** **Worker**	**Secure US** to **Secure ME**	My **Markets**

2018 Trends	Citizen **AI**	Extended **Reality**	Data **Veracity**	**Frictionless** Business	**Internet** of Thinking

2017 Trends	AI is the **New UI**	**Ecosystem** Powerplays	**Workforce** Marketplace	Design for **Humans**	The **Uncharted**

94%

of healthcare executives report that the pace of innovation in their organization has accelerated over the past three years due to emerging technologies.

80%

of healthcare executives agree SMAC has moved beyond adoption silos to become part of the core technology foundation for their organization.

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DARQ POWER

Understanding the DNA of DARQ

New technologies are catalysts for change, offering extraordinary new capabilities when applied appropriately.

The next set of emerging technologies—**D**istributed ledger technology (DLT), artificial intelligence (**A**I), extended **r**eality (XR) and **q**uantum computing—can spark a step change that allows businesses to reimagine entire industries.
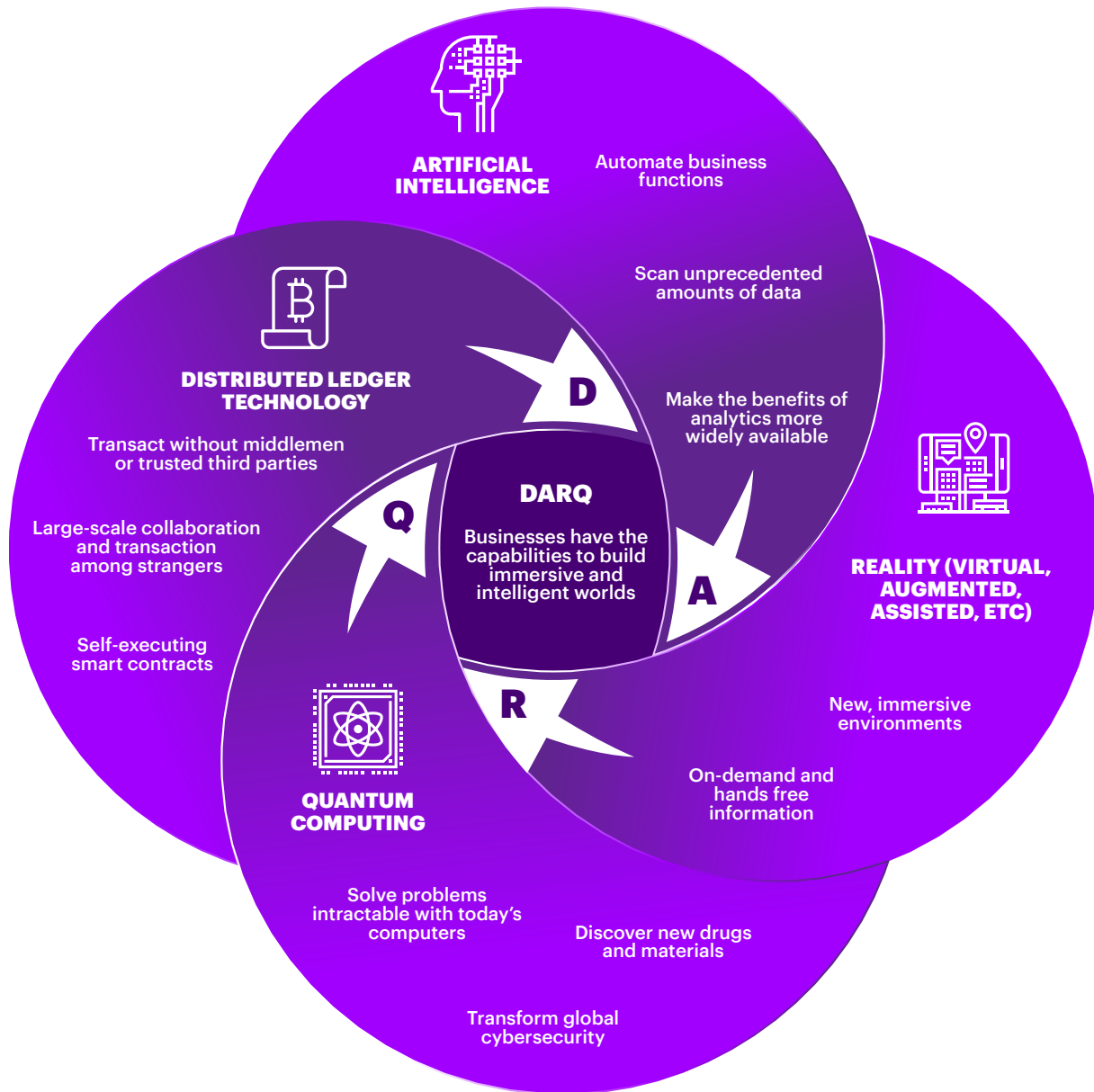
Years ago, social, mobile, analytics and cloud (SMAC) technologies emerged, allowing businesses to understand their partners and consumers at unprecedented depth. Healthcare enterprises are adopting SMAC as part of their digital transformations, but they have not come as far in adoption maturity as other industries. The adoption of SMAC in healthcare also varies by industry sector. Payers have embraced SMAC to a greater degree than providers over the past decade. A majority of providers are just beginning the journey as they are in early stages of their digital transformations.

The imperative has become stronger for healthcare organizations to adopt technologies that create a digital foundation for the future. Accenture's Disruptability Index, which analyzes disruption across 20 industries, puts healthcare among the most vulnerable to future disruption.[1] Those most vulnerable to disruption are under pressure to scale new technologies. Some are mastering the new as part of their core business while others are experimenting to learn how these technologies can **deliver new sources of value. The most successful healthcare organizations will be those that recognize change is in motion.**[2] While driving the use of SMAC technologies to maturity in their application to healthcare, they will be thinking about—and planning for—the future impact of DARQ technology on their enterprises.

SEEING INTO THE DARQ

DARQ technologies and some of the capabilities they enable

ARTIFICIAL INTELLIGENCE

Automate business functions

Scan unprecedented amounts of data

Make the benefits of analytics more widely available

D

DISTRIBUTED LEDGER TECHNOLOGY

Transact without middlemen or trusted third parties

Large-scale collaboration and transaction among strangers

Self-executing smart contracts

Q

DARQ
Businesses have the capabilities to build immersive and intelligent worlds

A

REALITY (VIRTUAL, AUGMENTED, ASSISTED, ETC)

New, immersive environments

On-demand and hands free information

R

QUANTUM COMPUTING

Solve problems intractable with today's computers

Discover new drugs and materials

Transform global cybersecurity

DARQ technologies are poised to become the foundation for next-generation products and services. Healthcare leaders in the DARQ-driven future will be prepared to combine and exploit those competencies as the technologies reach enterprise-level maturity.

Even before DARQ technologies have reached full maturity, healthcare enterprises can see the value on the horizon. Whether lowering the cost of care, improving labor productivity or enabling better experiences for consumers and partners, regardless of training or intent, DARQ potential runs deep. To take advantage of the transformational new capabilities that DARQ technologies will offer, payers and providers must explore the possibilities now:

DLT

In the future, distributed ledger technology, such as blockchain, will be an important part of healthcare payments and identity management. Healthcare enterprises can reduce waste, save costs and increase quality of care by using DLT to create a trusted set of data so that people can act on the information rather than having to go back to the source of truth to verify its authenticity. DLT shows great promise for qualifying individuals for insurance benefits, identifying patient payment obligations and credentialing providers, rather than clinicians having to go through a similar process across multiple care settings. **The Professional Credentials Exchange** (ProCredEx) is a distributed ledger program that cuts—for providers and organizations vetting providers—the time, cost and complexity associated with the credentialing process.[3] The **Synaptic Health Alliance** intends to use DLT to create a cooperatively owned provider data exchange to collect and share changes to provider data, starting with demographics.

AI

When asked to rank which of the DARQ technologies will have the greatest impact on their organization over the next three years, 41% of healthcare executives ranked AI number one. AI has perhaps the greatest number of emerging use cases in healthcare. The constellation of artificial intelligence technologies is already having tremendous impact on labor, a substantial line item in healthcare. AI is used in contact centers, for payment activities, medical chart reviews and it can help patients take part in self-service.

Healthcare organizations are using the full collection of AI technologies to change how we interact with doctors. AI will augment diagnoses—it can already identify diseases based on **facial features,**[4] retina scans, X-rays and speech—and it can even help patients to self-diagnose before they walk through the doors of the doctor's office.

Froedtert Health and the Medical College of Wisconsin Health Network partnered with **Buoy** to deliver an interactive digital tool that allows users to enter their symptoms and receive—in real time—personalized analysis and recommendations for care options. Buoy uses an algorithm to listen and calculate input, and it gets smarter as more people use the tool.[5]

XR

Interestingly, extended reality shows the highest adoption of DARQ technologies with 38% of healthcare organizations having adopted XR across one or more business units. XR allows machines to operate cognitively, as humans do, and it allows people to interact naturally with technology. The technology makes immersive experiences commonplace and it solves for time and distance, making each factor less relevant.

Cedars-Sinai is using **XR for pain management**. By using XR to teach patients how to better cope with pain through breathing techniques and positive thinking, they were able to reduce pain by 24% after 10 minutes.[6] **Cleveland Clinic** and **Zygote Medical Education** are **using virtual reality to move clinical anatomy curriculum out of the cadaver lab** and into a virtual environment. Students can use their mobile devices to access precise 3D models of anatomy and connect with peers all over the world.[7]

QUANTUM

Healthcare organizations will be making quantum leaps in the future, using the technology to crunch complex data sets, such as DNA data, to enable more personalized medicine and interactions. For instance, quantum tech gurus at Accenture and **1QBit** collaborated with biotechnology innovator **Biogen** to develop a first-of-its-kind **quantum-enabled molecular comparison application** that could significantly improve advanced molecular design to speed up drug discovery for complex neurological conditions such as multiple sclerosis, Alzheimer's, Parkinson's and Lou Gehrig's Disease.

All four DARQ technologies are, or will be, powerful on their own. But as they advance, they will push each other forward further. Already, early pairings reveal game-changing combinatorial effects for healthcare.

89%

of healthcare executives are currently experimenting with one or more DARQ technologies.

68%

of healthcare executives believe the combination of DARQ technologies will have a "transformational" or "extensive" impact on their organization over the next three years.

AI IMPROVES OUTCOMES

The **Symphony Post-Acute Network incorporated AI and machine learning to improve care for its 80,000 patients**, using a cloud-based AI engine to drive predictions and recommendations based on its existing patient data.[8] The resulting insights led to **a drop in readmission rates from 21% to less than 19%**—a huge reduction in a key success metric in healthcare, at a cost savings of more than $13,000 per patient.[9]

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TREND 2:
GET TO KNOW ME
Unlock unique consumers and unique opportunities

The sets of technologies people use are now so integrated into their lives that they have become a part of their identities.

Data captured in the digital and physical worlds, along with related data sets (e.g. demographics, sociographics), can converge to create a technology identity for an individual. Healthcare leaders can use people's technology identities to create a new generation of offerings and experiences.

The digital revolution introduced technology identities as part of an emerging feedback loop, one that first began to show potential via personalization efforts. Thanks to ecosystem connections, healthcare organizations are increasingly using these identities to deliver more personalized and individualized services. For instance, **Kinsa's connected thermometers let customers track their fevers via a smartphone app; Clorox paid to license the information,** using it to direct ads to US ZIP codes where people had more fevers (and potentially more need for disinfecting wipes). No personally identifying information was ever shared.[10] Now, in the post-digital era, organizations have greater opportunity to use technology identities and insights to shift from one-off transactions to ongoing customized relationships with individualized experiences.

When healthcare organizations gain the ability to create one-to-one relationships with individual healthcare consumers, they become each individual person's ongoing, trusted healthcare partner. Organizations will achieve this by understanding the technology people use and how they use it, creating the insights needed to integrate seamlessly into the person's life.

WHO ARE WE SERVING?

Healthcare has an ongoing data stream from medical records, technology devices, claims, past preferences for services, biology and more. This data is the cornerstone of delivering personalized healthcare on a person's own terms.

Think of the possibilities for personalized medicine with the help of genetic sequencing. The human genome comprises more than 3 billion DNA pairs. **The genome can be used to identify abnormalities, genetic variants, disorders and more within a matter of hours.** Clinicians can interpret the genomic data to target interventions and therapies for that individual.[11]

Imagine if a healthcare provider has a **"digital phenotype"** for every patient[12] —one snapshot that captures indirect healthcare data from technology-based interactions (e.g. online search history, app usage, social posts) and correlates it with health events. The digital phenotype has the potential to help providers predict health-related behaviors and risks and also diseases for that person and others like them.

For example, a multinational technology company partnered with an academic medical center **to examine the health relatedness of searches in the remote past and within seven days of an emergency room visit**. Interestingly, more than half of those who participated in the study had searched online for content related to their chief complaint within the week prior to their emergency room visit.[13] By tapping into people's digital phenotypes, providers and other allied health organizations can anticipate needs and intervene with care at the time of need, potentially preventing an emergency room visit.

Healthcare startup **Ginger.io** years ago began studying the potential of passively connecting data from an individual's smart phone to ultimately create a personal health profile. Healthcare and academic leaders

quickly began **piloting the technology to monitor and support mental health patients with digital interventions, to identify post-operative patients that require the most follow-up care and to predict the pain levels of patients with arthritis**.[14] Now, the Ginger.io app is using data to provide virtual mental healthcare the moment patients need it via coaches and clinicians.

Imagine if providers could use a person's digital identity to deliver care in context—even beyond traditional location-dependent care settings. When shopping, an app could tell a person with chronic lung disease (i.e. COPD) that it's time to sit down and take a break. When walking into a restaurant, a mobile alert would inform the individual of healthy meal selections to consider on the menu. Each environment provides an opportunity to use those moments that occur to add value in context of health.

Clearly technology identity presents amazing potential for detecting the need for care at home (or on the go) and delivering care where and when people need it, but it also has some pitfalls when it comes to capturing information while maintaining individual privacy.

TRUST IS THE FOUNDATION

There is a gap in expectation between how healthcare is delivered today and how patients think it should be.[15] People want their needs met, but they also want control over their privacy preferences. And as healthcare organizations strive to meet these needs, they must understand that the line between "useful" and "creepy" will vary for each person.

Technology can allow healthcare enterprises to maintain ongoing, experience-driven relationships with individual consumers in ways that were impossible before. But the possibilities come with new ambiguity and complexity—tailoring offerings and experiences to the individual also means figuring out just how much tailoring to do in the first place.

Among them, healthcare organizations must recognize that there are times when consumers want more technology in their lives, but also times when they do not want it at all. Understanding this dynamic is critical to successfully creating ongoing, intensely individualized relationships with consumers.

Healthcare organizations across the ecosystem must proactively take steps to earn trust with consumers by being clear about their intentions related to data privacy, data stewardship and consent. These steps include making sure data is clean and its origin is known. Physical devices must have proper security embedded. Products and services must be designed with privacy in mind. When organizations make privacy a priority and communicate the actions taken, they will build trust and loyalty among increasingly discerning healthcare consumers.

87%

of healthcare IT and business executives believe that digital demographics give their organization a new way to identify market opportunities for unmet customer needs.

86%

of healthcare executives believe that consumers' digital demographics (vs. traditional demographics) are increasingly becoming a more powerful way to understand their organization's customers.

MENTAL HEALTH CARE
MEETS SMARTPHONE

Mindstrong uses artificial intelligence and remote monitoring to continuously measure cognitive function and mood, allowing providers to detect changes and intervene at critical times. Digital phenotyping collects data from a user's smartphone to provide measures of cognition and emotion. Mindstrong uses machine learning to identify which digital phenotyping features might be most useful to clinical assessment. The company has a patient-facing app that allows users to access help through their smartphones, and a provider-facing app that augments care models.

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HUMAN + WORKER

Change the workplace or hinder the workforce

Digital transformations aren't just about technology —they're about people.

Businesses across the healthcare industry are witnessing the rise of a human + machine collaborative workforce where each individual is empowered by their skillsets and knowledge plus a new, constantly growing set of capabilities made possible through technology.

Today's healthcare workers are incorporating technology to perform their current roles in new ways and to adapt for new roles that did not exist in the pre-digital era. However, the workforce is evolving so rapidly with the help of technology, the enterprise supporting the workforce has yet to catch up.

As healthcare organizations continue to innovate and push boundaries, they will need to create new jobs and new roles immersed in technology. They will need to invest in new ways to train and reskill employees for the post-digital age. They will also need to capture institutional knowledge so that it remains in house, rather than in the minds of people who may be transitioning in and out of jobs.

The directive for healthcare? Adapt the technology strategies that successfully created this next-generation workforce to empower them even further. Through mobility, automation, artificial intelligence, extended reality and more, the industry can propel the workforce forward to enable a new era in healthcare.

CREATING THE OPTIMAL
WORKFORCE MIX

The healthcare industry is among the most labor-dependent.[16] Technology offers a new opportunity to lift the weight of processes and allow the workforce to operate at a new level of efficiency. The possibilities in healthcare are vast.

Imagine AI helping to scan structured data, such as medical claims; semi-structured data, such as XML; and unstructured data (e.g. medical records, email) in seconds to perform a clinical review which would otherwise require a human to read hundreds to thousands of pages. Extended reality and artificial intelligence can help surgeons with presurgical planning and provide a critical overlay of information during a procedure.

On the payer side, **Sensentia** uses AI to simplify health insurance information. The solution parses structured and unstructured data to answer (with 99+% accuracy) the health insurance questions that members ask call center agents in plain English. This means faster, more accurate information for members and fewer members calling back.
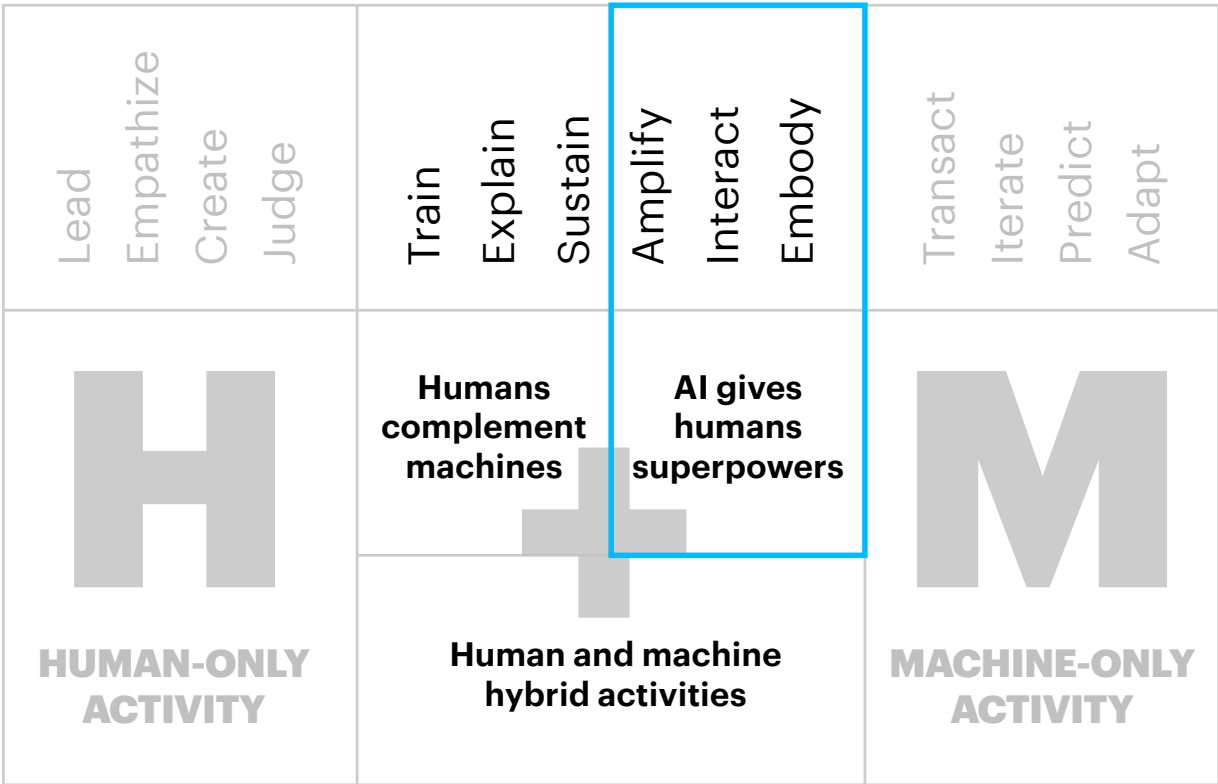
With Sensentia, **WellCare** has seen customer satisfaction rise due to 30% lower average time to handle a call and 16% fewer repeat calls. Looking ahead, WellCare is exploring using the solution to help its sales organization find the right product for the right person, and to provide a higher level of self-service by improving online and mobile search.

Voice-assisted technology can answer questions and provide advice[17] to caregivers looking after family members in a home care setting. Human resources managers can use natural language processing to identify potential candidates online or use analytics to better understand skills gaps among employees.

It's not about technology doing the work, it's about technology augmenting the work of people. **Humans plus machines yields a better result**[18] than either one alone. For instance, **humans are less consistent, fast and reliable.**[19] Machine learning allows the brain of the system to continuously learn by all of the data it absorbs—volumes of data no human could ever retain or process. Humans can validate the results that technology provides and spend more time on tasks that require problem solving and critical thinking.

Together, humans + machines produce better results

Lead Empathize Create Judge	Train Explain Sustain	Amplify Interact Embody	Transact Iterate Predict Adapt
H	Humans complement machines	AI gives humans superpowers	**M**
HUMAN-ONLY ACTIVITY	Human and machine hybrid activities		MACHINE-ONLY ACTIVITY

Source: "Human + Machine: Reimagining Work in the Age of AI;" Harvard Business Review Press,
https://www.accenture.com/us-en/insight-human-machine-ai

LET KNOWLEDGE FLOW

Quick access to information is essential to an agile and efficient healthcare enterprise. But as human+ workers are more flexible and fluid, this leads to increasingly distributed knowledge. Workers will no longer bring 20 years of institutional knowledge to an organization or role; they will float across a variety of virtual and in-person care settings and be working side-by-side technology that can close any knowledge gaps.

Knowledge can no longer travel with the people; it has to live within the organization. This will require technology strategies that bring knowledge management into the human+ era. With the right approach, healthcare organizations can redefine the phrase "institutional knowledge," making it a true responsibility of the organization itself.

SUPPORTING AND ENGAGING THE WORKFORCE

Workers across industries are shifting jobs. **The median years of tenure with a US wage or salary worker's current employer dropped** from 4.6 in 2012 to 4.2 in 2016. Among those between the ages of 25 and 34, the median tenure with one company is now less than three years.[20] In this era of employee velocity and constantly shifting skills needs, employee training and continuous learning are more important than ever. Seventy-nine percent of healthcare executives believe that the speed at which members of the workforce move between roles and organizations has increased the need for reskilling in their organization.

Investing in the healthcare workforce through learning and reskilling strategies will prepare employees for changing roles. For instance, Accenture developed a chatbot, Ashley, that provides just-in-time knowledge during training sessions to augment the experience and bring a substantial improvement to a learner's engagement and adoption. Such chatbots can reduce query search time by 70-80%, use natural language processing to enable human-like conversations and have the scale to train thousands of employees at the same time.

77%

of healthcare executives agree their employees are more digitally mature than their organization, resulting in a workforce "waiting" for the organization to catch up.

68%

of healthcare executives agree that within the next three years, every employee in their organization will have access to a team of bots to accomplish their work.

EXPERT ADVICE IN REAL TIME

The Mayo Clinic is using a combination of natural language processing and analysis of structured and unstructured data to rapidly process historical clinical notes, radiology notes and other resources to deliver real-time, personalized clinical care recommendations. MayoExpertAdvisor supports clinicians by integrating a wide variety of important information—from lab tests, procedures and medications—to provide patient context and unmatched insight at the point of care to improve patient care.[21]

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TREND 4:

SECURE US TO SECURE ME

Enterprises are not victims, they're vectors

The need for collaboration is as great in healthcare as in any other industry.

Healthcare organizations enjoy the benefits of collaborating with the ecosystem—providers, payers, device companies, equipment manufacturers and more—but those connections increase risk. Through collaboration, businesses are extending, and absorbing, the risk and vulnerabilities of their ecosystem partners. Yet most businesses still look at cybersecurity as strictly an individual effort.

It's an especially tough spot for healthcare organizations because unlike in other industries, they sometimes don't have a choice about with whom they collaborate. It's a mandate.

This heightened level of exposure is good news for the "bad guys" who view ecosystems as an ever-widening attack surface. Healthcare businesses must, in response, evolve their approach and stand up a stronger security posture that factors in ecosystem partners. New models and policies must ensure that the partners and third parties joining the ecosystem adhere to the same standard of security—or higher—that they set for themselves.

It is not easy. As such, 77% of healthcare executives agree that protecting their organization in an ecosystem relies on security practices that they have limited ability to control. Fortifying the security posture calls for factoring in growing ecosystem dependencies. While healthcare organizations already collaborate to deliver best-in-class products, services and experiences, it's time for security to join that effort as well.

EXAMINING RISK

The first step to securing any enterprise is understanding the potential threats on the horizon and the subsequent risk those threats pose. It is becoming increasingly challenging to identify where threats lie, but meanwhile **attacks are increasing in scope.**[22] In a **February 2018 survey**, payers said that cyber attacks targeting payers were up 89% in the previous year,[23] and 65% of providers said cyber attacks remain a "black box" in terms of when and how they will impact the organization.

Even apps that may seem benign or helpful might present dangers. Consider how **Strava,** a fitness app, had to suspend services after it was discovered that **the app's anonymized activity map was inadvertently uncovering classified US military sites** as soldiers tracked their workouts.[24] The data did not present significant risk to Strava or any privacy risk to individuals, as it was aggregated and not personally identifying. But it was this very aggregation, coupled with free access to the information, that generated substantial risk for a subset of the company's customer base—and, in fact, for a large group of non-Strava users as well.

It's immensely challenging for both payers and providers to understand third-party risk. For instance, devices are present in the care environment, and **these can present potentially life-threatening risks**.[25] In a worst-case scenario, a device or piece of equipment could be infiltrated to hurt a patient. Imagine the dialysis pump that delivers a lethal dose. **Devices can also serve as an entry point to harm the provider's entire system.**[26]

Risk resides in data being used on an external device inside a hospital. For instance, healthcare employees often use their own personal devices to share information. How can the enterprise better protect the hospital or health plan from security risks related to those devices?

Many questions remain and the only way to solve them is to work together to find the answers.

SECURITY FOR ALL

Health information is particularly sensitive, due to considerations such as data from patients who do not want to disclose health issues to their employers. Privacy and security are coupled in healthcare, presenting even greater complexity.
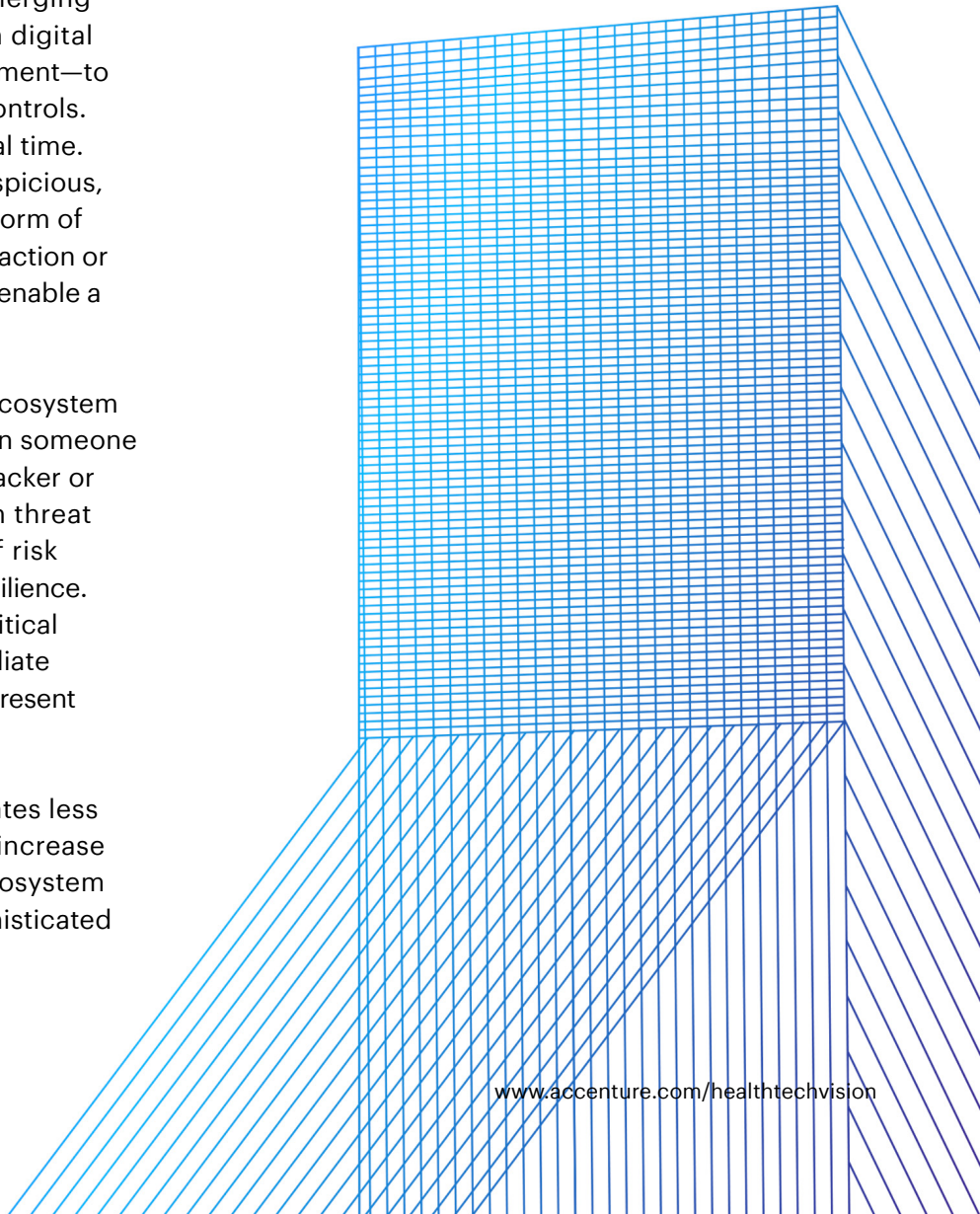
Ecosystem participants bring unique strengths and talents and can work together to improve security. One way to do so is to join forces to conduct a mock attack. The team would create certain issues (e.g. a breach featured on the news, an asset that unexpectedly became unavailable) and test the level of preparedness. The organization's executive, legal, human resources and communications teams would be tasked with reacting to these scenarios.

Such exercises illustrate the fact that threats are on the move. Therefore, the industry can no longer have static models for controls. Risk modeling must be more dynamic, at an interaction level. Healthcare organizations can work with established and emerging players—such as those working in digital identity or privileged user management—to create real-time, decision-based controls. These controls thwart threats in real time. For instance, if an interaction is suspicious, the system would require another form of validation and either block the interaction or require a call from the help desk to enable a different avenue of access.

Threat modeling across an entire ecosystem lets organizations put themselves in someone else's shoes, whether that is an attacker or a partner. Doing so improves both threat intelligence and understanding of risk exposure—and strengthens their resilience. It enables companies to identify critical dependencies that demand immediate hardening, or vulnerabilities that represent potential damage to a partner.

This dynamic type of security creates less friction for consumers, and it can increase trust as patients, members and ecosystem partners know there are more sophisticated security practices at play.

As vulnerabilities increase, so does the burden on already overworked security professionals. Healthcare organizations can stem potential mistakes and oversights by embracing DevSecOps—integrating security teams into DevOps teams to allow for continuous improvements to security. In this way, enterprises can spread responsibility for and ownership of security throughout their organization, giving security teams the agility to address the biggest challenges. By being more strategic with how they position security internally, healthcare organizations can make it a business enabler, rather than a catch-all.

92%

of healthcare executives agree that to be truly resilient, organizations must rethink their approach to security in a way that defends not just themselves, but their ecosystems.

87%

of healthcare executives agree that security in their organization is evolving from a siloed function to a critical component of their strategy, reputation and relationships.

NEXT-GENERATION IDENTITY ACCESS MANAGEMENT

To help large organizations struggling to manage and secure the fluid nature of user privileges, Accenture Security created **Zoran, an identity management capability powered by** **artificial intelligence**. The solution aggregates data from multiple systems and sources to generate a confidence score for each user—low scores indicate potentially risky access and high scores can be considered for automated approvals. The system can also predict and recommend access needs for new joiners in a company, saving time, money and effort in the onboarding process. By transforming the way user access privileges are managed, monitored and controlled, healthcare organizations can reduce the risk and costs associated with the over-provisioning of accounts tied to a user's identity.

"We see enormous potential to transform our current identity access model from a static interface to a dynamic, intelligent and scalable resource that can increase efficiency and reduce costs," said Kurt Lieber, chief information security officer of Aetna. "This type of transformation gives us the ability to make better decisions faster, so the right people get access to the right business resources at the right time."

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MYMARKETS

Meet consumers' needs at the speed of now

Healthcare is more connected than ever in the post-digital age.

Digital expectations have now evolved and a new opportunity to deliver better experiences is on the table: capturing moments. Technology has created a world of intensely customized and on-demand experiences, so healthcare organizations must reinvent themselves to find and capture those opportunities as they come.

Powerful analytics capabilities allow payers and providers to understand their current and potential markets and identify moments that matter. Sophisticated backend technology can reorient the business quickly and help it pull together the right capabilities and services at the right time to deliver a remarkable experience at a specific point in time. Miss the moment, miss the chance.

Many are investing in the tools it will take, such as AI to predict trends and preferences, and forecasting to identify and act on future opportunities in the moment. Is your business equipped to unlock these momentary markets?

FINDING MOMENTS

Healthcare enterprises must balance the need to look holistically at healthcare services with the need to begin to look at discrete consumer experiences within these services more granularly, right down to a specific moment. Moments offer unique opportunities to better personalize the experience for individuals. Non-traditional players have begun to adopt this mindset and they are seizing opportunities for differentiation.

For instance, **Bind on-demand health insurance** is not pre-packaged for large employee groups. Instead, individuals select the type of coverage they need—at the moment they need it. For instance, a consumer would be able to get maternity coverage they need mid-year because perhaps they weren't planning to have a child. Individuals can have "core coverage" but use a simple app to purchase "add-ons" as needed.

Heidelberg University Hospital in Germany is working with **Siemens** to introduce digital twins to patient care. In one instance, **a cardiologist used a digital model of a patient's heart to test the efficacy of different placements of a pacemaker's electrodes.**[27] This is just the beginning of "in-the-moment" personalization in healthcare, where experts hope to use technology to create whole "living" models of individual patients. These digital twins could help medical personnel evaluate the potential outcomes of different treatments for individual patients.

There are limitless opportunities to meet individual consumer needs in the moment, but healthcare organizations must first know that the opportunity exists. In the era of momentary markets, forecasts and predictive models won't be limited to long-range planning or major trends; they will be used for everything to anticipate key opportunities. The other piece of the puzzle is being able to act on those moments when they arise.

SEIZING MOMENTS

Identifying moments takes creative energy but acting on them requires sound execution. **Digital is the invisible enabler** behind the scenes.[28] Healthcare organizations can put systems in place to take action. Just as an airline app acts on moments throughout a traveler's journey—from online check-in, to meal selection, to advice on things to do after landing—a health app could do the same.

Fjord, part of Accenture Interactive, is working with **Henry Ford Health System** to develop a Care Experience Platform that utilizes connected devices and an emphasis on "whole person" patient data to elevate the care experience. The platform will help patients better navigate their care while streamlining their visits to healthcare facilities and creating more personalized interactions with providers, nurses and hospital staff.

Imagine a patient awaiting physical therapy. A healthcare app could notify him or her of the expected wait time for treatment. If the wait is long, the app could push an offer for discounted coffee at the onsite cafe. During therapy, the app could push notifications to designated family members so they are aware of timing. These small actions during small moments can alleviate the pain of waiting, answer questions before they are asked and enhance customer satisfaction for the patient and his or her family.

For instance, machine learning company **macro-eyes** increases access to care and enhances customer satisfaction through intelligent patient scheduling. Its AI-powered product Sibyl cuts the financial and operational impact of patient no-shows by learning from patient behavior.

Sibyl suggests appointment times based on data, increasing the likelihood that the patient will show and maximizing utilization across the entire schedule. **Arkansas Heart Hospital,** based in Little Rock, is deploying Sibyl to increase utilization, cut patient no-shows and drive a reduction in empty slots by a targeted 50%. Streamlined clinic utilization increases patient and provider experience and decreases the overall cost of care. **The California Primary Care Association** is partnering with macro-eyes to bring Sibyl to its more than 1,300 not-for-profit community health centers across California. The goal is to increase access to care and transform scheduling into an efficiency engine for the safety net institutions that care for California's most vulnerable populations.

In-the-moment experiences can also benefit clinicians. Imagine on-demand production of critical medical supplies for a procedure. Rather than placing an order and waiting for staff to locate and deliver supplies, **they could be automatically 3-D printed**.[29] Clinicians will then spend less time managing their medical supplies and more time on patient care. IoT is also enabling these new momentary markets. Each IoT device is a new channel, a new source of data, and a new way to identify and reach customers. IoT potential will explode in the 5G network. **The Rush System for Health** in Chicago is **leading the way**. The faster and more-responsive

5G mobile network, which encompasses a multitude of communications technologies including cellular, Wi-Fi and intelligent edge services, will be essential to helping this large clinically integrated health system of hospitals and other care providers move at speed.[30]

There are additional opportunities to act on moments beyond the normal boundaries of a healthcare interaction. For instance, when a patient is walking into a restaurant, real-time data pushed to their phone could nudge them in a certain direction, such as making a healthier selection on the menu. Acting in the moment influences behavior, which could ultimately lead to better outcomes and overall health for the individual.

With every healthcare enterprise embracing the importance of digital transformation, organizations need to look toward their next opportunity for differentiation–momentary markets. Internally, this means preparing the organization to be a truly agile company with the capabilities to identify opportunities and deliver exactly what consumers need and want. But as healthcare organizations move in this direction, they must also work to understand where they fit in people's lives. It is all about designing the right services while also choosing the right moments. How will your organization choose them?

87%

of healthcare executives agree that the integration of customization and real-time delivery is the next big wave of competitive advantage.

82%

of healthcare executives agree 5G will revolutionize their industry by offering new ways to provide products and services (e.g., drone delivery, driverless vehicles, faster video transmission).

MEETING PERSONAL GOALS THROUGH INDIVIDUALIZED FITNESS TRAINING

Lifebeam's Vi, described as the first "*personal* personal trainer," delivers customized coaching in real-time. Based on an athlete's individual goals and their in-the-moment metrics, such as heart rate and cadence, Vi will play music at a beat that matches the cadence a runner should try to hit, or advise him or her to take shorter steps to reduce knee strain. Vi connects to other wearables so it can understand a person's patterns, habits and abilities to tailor workouts.

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