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Digital transformation and interoperability are critical to health plan well-being

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HFS Research interviewed senior executives from several mid-sized health plans who are decision makers and privy to their plans' digital transformation and interoperability efforts. HFS leveraged its primary research to collaborate with NTT DATA and develop a perspective reflecting lessons and opportunities for mid-sized US health plans (regionally based plans that cover less than five million lives) with unique business profiles compared to national health plans.

The key learnings are:

- Mid-sized health plans are using digital transformation to digitize manual processes to address their tech debt and disrupt member and provider experiences to attract higher reimbursements. However, addressing process debt remains a critical opportunity.
- Adoption of technologies and siloed business processes have exacerbated interoperability challenges. Regulations to address interoperability are being inspired by public-private partnerships that are developing standards. However, the speed of adoption of standards and the need to address interoperability agnostic of regulations requires attention given the overweighted impact of interoperability on growth.

A vision worth embracing

Societies seek to live long, healthy lives in safe, secure spaces with affordable resources. Private-public partnerships are essential to foster ideation and innovation to address these societal needs. Private enterprises innovate, enable technologies, and deliver services, and governments develop and enforce regulations. The benefits of technology enablement intelligently align with societal aspirations for high-quality longevity. NTT DATA embraces this vision to deliver value to its stakeholders.

The rationale for digital transformation

The perspective explores technology enablement through digital transformation and reducing process debt across the triple aim of care (cost, health outcomes, and experience). The focus is on the health plans' challenges, deployed solutions, and realized outcomes. Consequently, health plans are examining the types of practical problems they need to address, real-world outcomes, and, more importantly, the opportunities they are missing.

Mid-sized health plans use digital transformation to address two facets of their business.

- The first is operational, driven by the need to digitize manual processes and rationalize technical debt.
- The second is to create new value, such as disrupting member and provider experience and enhancing their star ratings.

While there has been progress, including accelerating the adoption of emerging technologies in certain operational areas like data management and care management, there continue to be opportunities to address their process debt (60% of health plan leaders indicated opportunities across the value chain) and rationalize their non-clinical per-member, per-month (PMPM) IT spending. Still, the results have been encouraging across the dimensions of financial outcomes, member experience, and care management, but there is a long journey ahead, given the scale of unaddressed opportunities.

> "…interoperability is incredibly complex and initially really onerous on plans, and part of that has to do with the fact that much of the data is unstructured.
>
> — VP of Innovation, East Coast regional health plan

Interoperability is critical to curing healthcare

A significant flaw in the US healthcare system is the lack of interoperability across the ecosystem. While the sophistication of systems increases, it does so in silos, diluting the true value and translating into higher costs (increased per-capita spending) and suboptimal health outcomes with rapidly declining life expectancy and reduced access to care. Private-public partnerships are making some headway. Health Level Seven International (HL7) and the Global Consortium for eHealth Interoperability energize collaborative enterprise solutions while federal regulations such as Interoperability and Patient Access and Price Transparency incent standardization across the industry. These efforts are still new, and outcomes have not changed the cost trajectory or even the adoption of Fast Healthcare Interoperability Resources (FHIR) APIs, for instance. However, similar efforts with healthcare providers show that 84% of non-federal acute care settings have adopted FHIR APIs. That bodes well for the healthcare market, though acceleration and urgency are needed in spades.

Health plans have a method for addressing their vision of digital transformation

The challenges attracting digital transformation can be broad, but health plans have a defined contour. They are well-positioned to adopt and enable emerging technologies to support their digital transformation efforts. Digital transformation efforts are being delivered over time, with the low-hanging, less-complex projects seeing the light of day sooner than the results of more complex challenges.

Two key challenges attract digital transformation

The 21st-century landscape for health plans is strewn with unprecedented opportunities and challenges driven by regulations, emerging technologies, competition, and evolving consumer expectations. The contours of addressing the challenges and opportunities through technology enablement has generally been referred to as ***digital transformation***, an umbrella term covering various initiatives health plans have identified to lead them in their journey.

While there is still relative fluidity and inconsistent understanding of digital transformation, health plans have generally framed digital transformation as the approach to address two sets of objectives:

- Operational: Digitizing and automating current processes to improve speed and accuracy while reducing administrative costs. An effort at rationalizing systems (reducing the need for call center agents to parse through 50-60 applications or modernize legacy platforms), simplifying work (integrating channels of communications), and addressing the technical debt (moving to the cloud).
- Creating new value: Leveraging data to develop actionable insights that can improve the total experience (demystifying claims and explanation of benefits/EOB, accurate and timely payments) for all stakeholders (members, providers), enhance CAHPS score to improve or maintain star ratings and reimbursement, and find new revenue drivers (organic and inorganic).

> “Digital transformation is helping customer experience agents have relevant information at their fingertips instead of parsing through 50-60 applications…digital transformation is demystifying EOBs…digital transformation is reducing the barrier to serve members.
>
> — Chief Operations Officer, Midwest community health plan

Health plans carry significant technical debt and have explored addressing it through capital-neutral or capital-light means. Digital transformation has been an incremental and strategic approach to testing emerging technologies (e.g., blockchain, artificial intelligence [AI], robotic automation) that could address their technical-debt challenges. That appears intuitive, but there are significant challenges.

Two key challenges that aren't attracting digital transformation

Legacy processes must be re-engineered to address contemporary challenges before enabling technologies to address them. In an HFS Research study of 100 health plans, 60% of the respondents indicated significant improvement opportunities across the health plan value chain, including payment integrity, complaints, appeals, eligibility, and enrollment, as indicated in Exhibit 1. Health plans do not currently appear to prioritize reducing process debt, despite recognizing the challenges.

Another indicator of ample digital transformation opportunities is reflected in the configuration of technology and business spending. Non-clinical PMPM costs are a good indicator of opportunities when IT costs are higher than business operations for financial institutions such as health plans, as in Exhibit 2.

Exhibit 1: A plurality of health plan leaders see opportunities across the health plan value chain that could be addressed through digital transformation

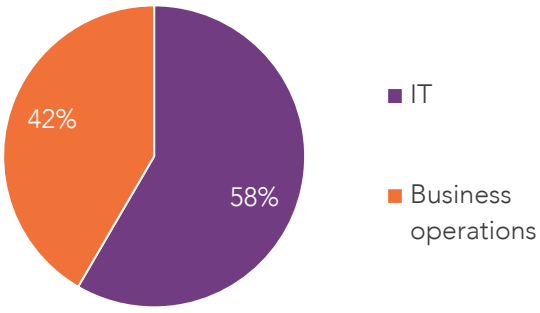
Which of the following processes in your organization need significant improvements?
Percentage of respondents

Claims administration	Member management operations	Provider management	Health and care management	Health intelligence
Payment integrity 71%	Eligibility and enrolment 65%	Provider credentialing 62%	Population health and wellness 64%	Quality and compliance reporting and analytics 60%
Complaints and appeals 65%	Health, wellness, and care 59%	Contracting 58%	Case management 62%	Risk adjustment 60%
Claims processing 61%	Benefit management 57%	Provider finder 57%	Care coordination 55%	Market analytics 57%

Sample: 100 US health plan CXOs
Source: HFS Research, 2021

Exhibit 2: Health plans attribute ~60% of non-clinical PMPM costs to IT

What are your current PMPM administrative costs by value chain?
Average across respondents



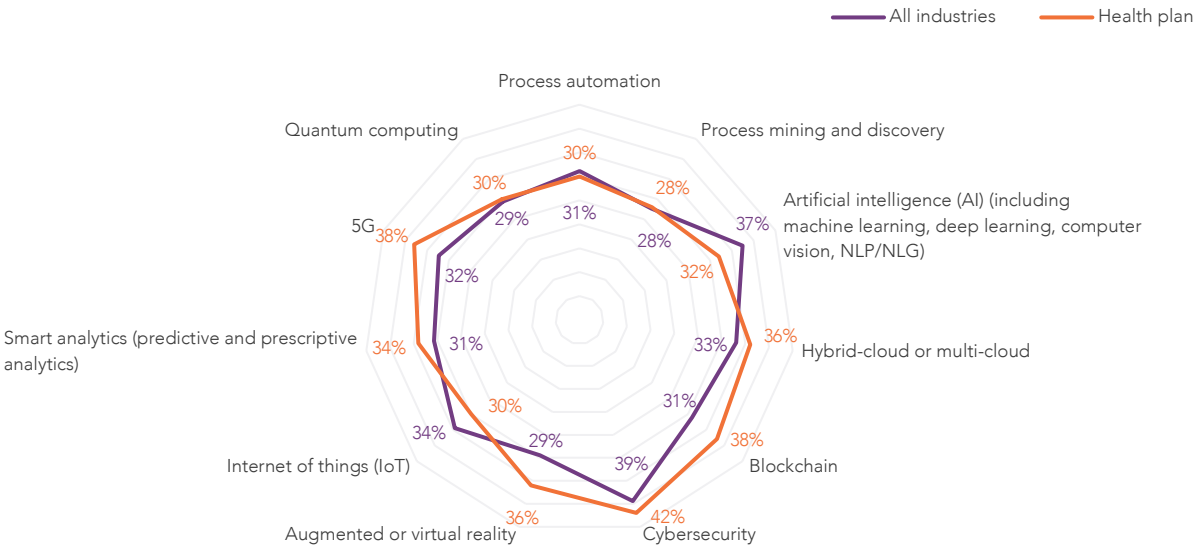
Sample: 100 US Health plan CXOs
Source: HFS Research, 2022

Digital transformation solutions must include the adoption of emerging technologies

Emerging technologies such as AI, blockchain, and the cloud have attracted the imagination of health plans and the broader economy. There are exciting use cases at scale, such as AI-driven recommendations in retail (Amazon, Netflix), blockchain-driven transparency in supply chains (pharma), and cloud-native applications to drive speed to market and optimum costing (digital health). Exhibit 3 shows health plans, despite the reputation of being technology laggards, are on par with all industries in their effort to adopt emerging technologies at scale.

Exhibit 3: Health plan adoption of emerging technologies is on par with all industries

What is the stage of overall adoption of emerging technologies in your company?
Percentage of healthcare enterprises implemented at scale



Sample: 50 health plans, Pulse 2021
Source: HFS Research, 2022

Health plans have used emerging technologies to address legacy challenges and new opportunities. Examples include using blockchain to improve the accuracy and efficiency of provider credentialing, IoT to improve adoption while aiding in streamlining remote monitoring of patients and members, and 5G to allow health plans to accept and reimburse for quality telehealth, particularly in rural areas.

Given the relative fluidity and inconsistent definition of digital transformation, the types of solutions health plans selected to address the challenges framed earlier tend to be broad. Migration to the cloud is a popular solution, given its ability to address near-term operational challenges and aid in the rapid creation of new value. In a study by HFS Research, digital transformation was ranked among the top three drivers in Exhibit 4 for cloud adoption.

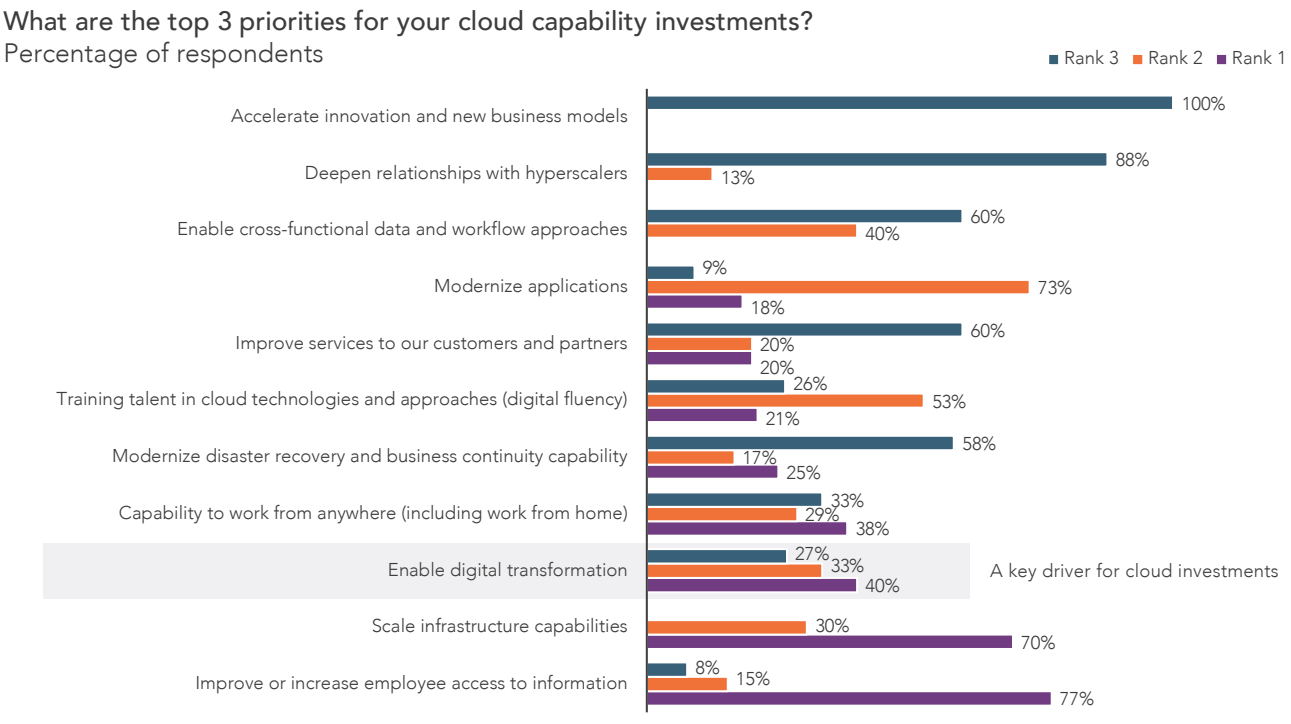
Keeping it real with solutions implemented by health plans

Health plan executives we interviewed for this perspective shared several examples of their digital transformation efforts across the complexity spectrum. One regional health plan has integrated all its customer service modalities such that a customer service representative (CSR) can address member and provider queries across multiple channels using an integrated customer relationship management (CRM) application. The plan believes this is helping "demystify EOBs and claims."

An integrated delivery network (IDN) sponsored health plan in the US Northeast is testing remote patient monitoring (RPM) using AI to select the right types of individuals that will benefit from RPM.

A third health plan alluded to new entrants in the market, such as Clover Health and Oscar, that are born digital and can disintermediate the payer value chain from the get-go. These real-world examples reflect digital transformation's impact from the less-complex operational opportunities to market-defining differentiators.

Exhibit 4: Digital transformation ranks in the top three as a driver for the use of cloud



Sample: 50 health plans, Pulse 2021
Source: HFS Research, 2022

Digital transformation outcomes are encouraging across the triple aim of care

Health plans have different digital transformation journeys driven by a variety of operational and new value-creation drivers across the triple aim of care: cost of care (financial imperatives, regulatory compliance), health outcomes (care management), and the experience of care (member expectations).

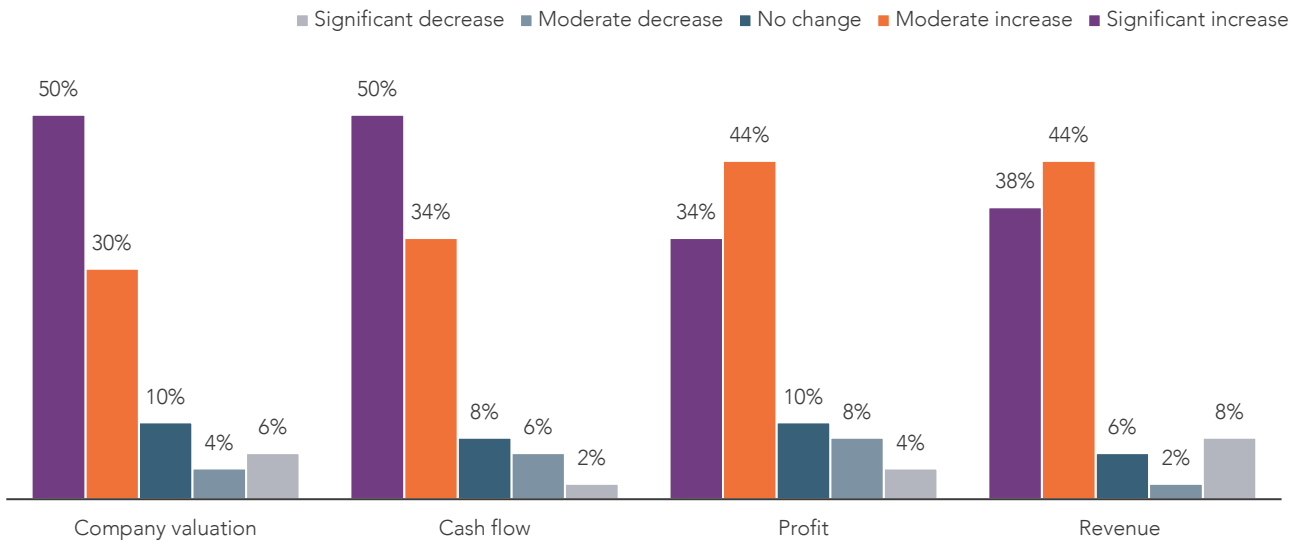
While the health of their membership incents health plans, they are, in essence, a financial institution. In that context, there are financial expectations from digital transformation efforts. Exhibit 5 indicates that health plans expect a moderate increase in their top-line and bottom-line numbers due to digital initiatives. Similarly, there is an expectation for a significant increase in cash flow and company valuation due to digital transformation.

Demographic shifts have a significant impact on health outcomes

Health plan financials are tied to the profile of their plan memberships, which are constantly evolving to include broader demographics. US demographics are shifting toward an aging population; we expect to have more seniors than those younger than 18 years by 2034. Given that the Centers for Disease Control and Prevention (CDC) indicates that 6 in 10 Americans are afflicted by a chronic condition, disease prevalence will likely worsen.

Exhibit 5: Health plan executives anticipate their digital initiatives will drive significant financial implications over the next 12 months

What impacts do you anticipate your organization's digital initiatives will drive over the next 12 months?
Percentage of respondents



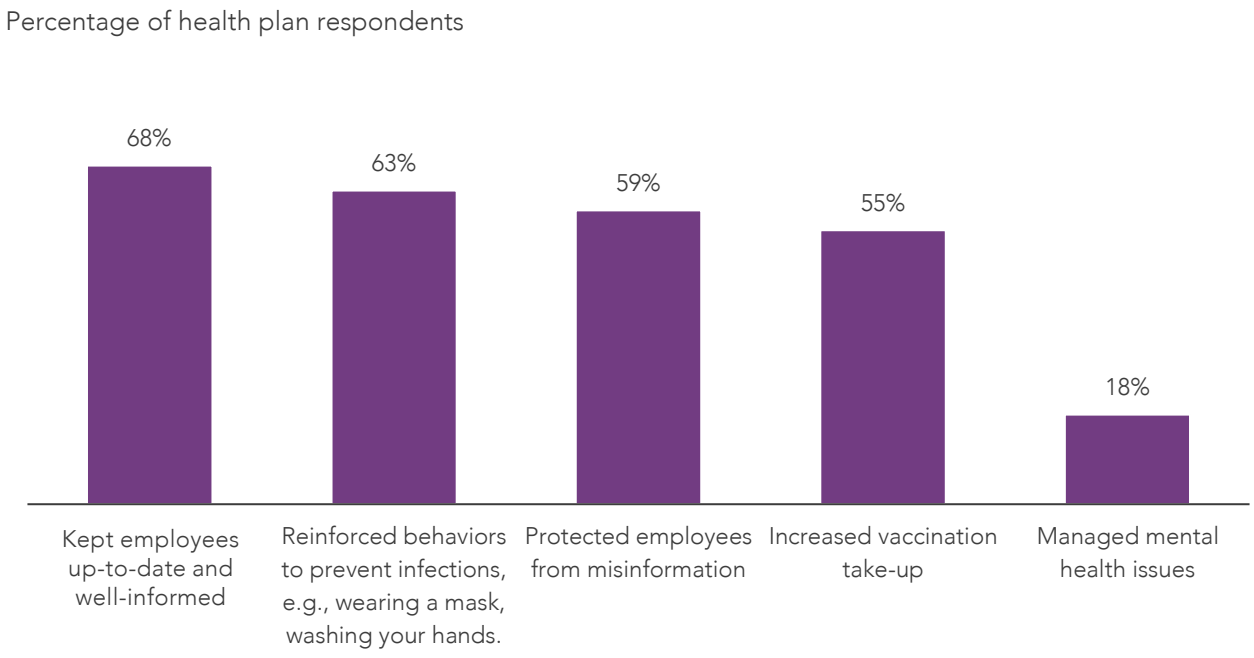
Sample: 50 health plans, Pulse 2021
Source: HFS Research, 2022

Consequently, health plans are leveraging digital initiatives to integrate care management solutions to address chronic care, advanced care planning, cognitive impairment management, and more through sophisticated care coordination to impact their financial performance and health outcomes. Care management was leveraged during the pandemic due to the strength of digital transformation initiatives to deliver significant results, as visualized in Exhibit 6.

Meeting member expectations is a key digital transformation motivator

Member expectations continue to evolve, and health plans are challenged to stay at pace or ahead to meet those expectations, which range from the less complex (access to information, fast determination of claims and payments) to the more complex (wellness, proactive care coordination). Approximately 60% of health plan members surveyed by HFS Research indicated that they think it is important for their health plans to play a part in their overall well-being. Similarly, 45% of members indicated that they would be willing to share data from their health tracking applications with their health plans if they could aid their well-being. These expectations are likely reflected in the satisfaction scores for health plans peri-pandemic, as shown in Exhibit 7. Digital transformation is foundational for meeting these types of member expectations.

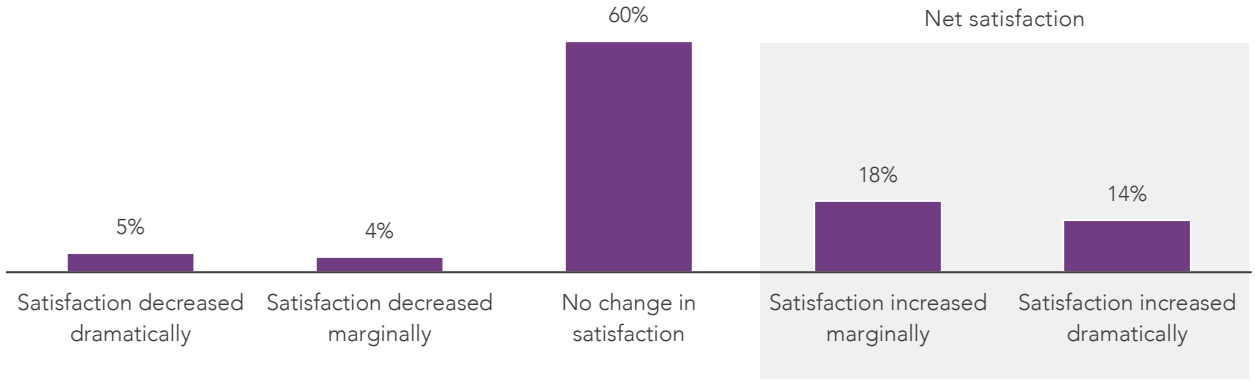
Exhibit 6: Digital transformation driven communications, training, and telehealth kept members informed, reinforced good behaviors, and protected against misinformation



Sample: 100 US health plan CXOs
Source: HFS Research, 2022

Exhibit 7: The net satisfaction rates for health plans increased across Medicare, Medicaid, and commercial plans during the pandemic

How has COVID-19 changed your satisfaction of your healthcare insurance coverage?
Percentage of respondents



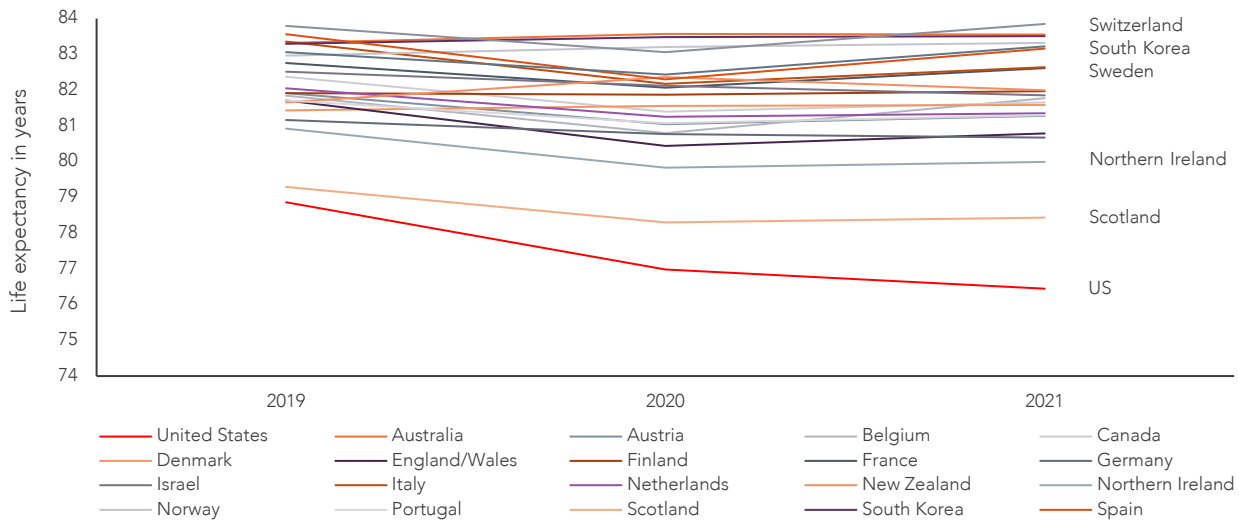
Sample: 2,411 US health plan members
Source: HFS Research, 2022

The health plans' digital transformation journey addresses similar challenges by enabling technologies. They have made progress, but they must do more to sustainably address the triple aim of care.

Interoperability is key to digitally connecting the healthcare ecosystem to deliver optimal triple-aim outcomes

The US spends approximately $4 trillion annually on healthcare, or about $12,500 per capita, based on the Centers for Medicare and Medicaid Services' (CMS) last published data for 2020. The US per capita healthcare spending is the highest in the world, approximately twice the next highest, Switzerland, according to Petersen-KFF Health System Tracker. Despite the enormous spending, life expectancy in the US has declined by over two years since 2019, the most of any of its 21 peer countries, as seen in Exhibit 8

Exhibit 8: US life expectancy vs. its peer countries shows that the amount of healthcare spending does not correlate to better health or increased life span



Data: National Center for Health Statistics, the Human Mortality Database, and overseas statistical agencies
Source: HFS Research, 2022

Further, according to Health Affairs, an estimated 15%, or approximately $600 billion, of US healthcare spending is attributed to fraud, waste, and abuse, a significant quantification of the opportunities in the industry. A large part of that stems from not being able to share data seamlessly across its stakeholders, impacting consumer health and wellness due to a lack of interoperability.

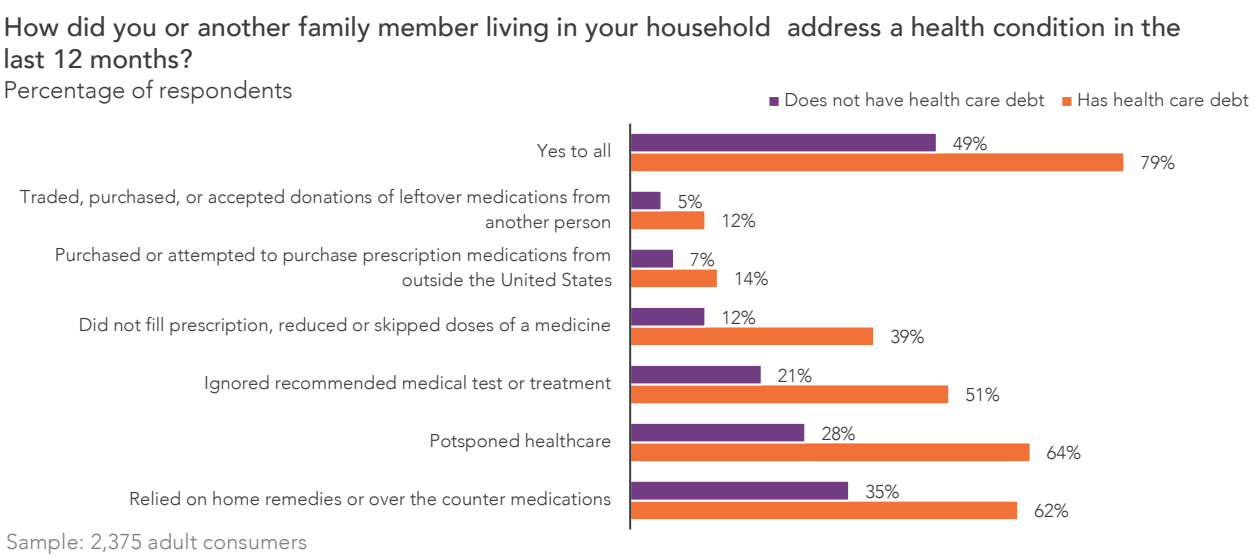
The lack of interoperability impacts human lives

The US health insurance value chain was developed at end of the 20th century to address contemporary challenges, such as consumer diet (organic produce), lifestyle (extensive use of tobacco indoors), lower levels of environmental pollution, and life expectancies. Business processes were crafted to support the legacy value chain, and systems and technologies were built to enable those processes. However, the 21st-century challenges are different, with the existential threat to life due to climate change; the epidemics of obesity, gun violence, and opioid abuse; the deeper impact of the pandemic, and more sedentary lifestyles. Consequently, the value of health plan value chains has diluted, and the systems and technologies have been ineffective in addressing the relevant challenges. Part of that challenge includes the inability to share data rapidly and securely in standard formats.

Another implication of the lack of interoperability is that US healthcare is the only industry that sells services without consumers understanding what they are buying and what it costs. A large part of this lack of price transparency is because stakeholders (health plans, providers, pharmacies) do not have systems that share information such as benefits, diagnoses, and treatment recommendations in relative real-time. Added to this are the myriad contracts between the stakeholders, further complicating matters.

A lack of understanding of healthcare costs, real or perceived, has likely impacted consumer utilization of healthcare resources. There is an argument that the limited understanding of healthcare costs likely contributed to medical debt and poorer health outcomes. Kaiser Family Foundation (KFF) reports that 4 in 10 adults in the US currently have medical debt. The combination of debt levels and lack of understanding of healthcare costs contribute to consumer behavior that is detrimental to their health, as seen in Exhibit 9.

Exhibit 9: Lack of price transparency driven by lack of interoperability forces health consumers to make choices that could endanger their lives



Sample: 2,375 adult consumers
Source: Kaiser Family Foundation, HFS Research, 2022

Still, for several years, health plans have invested in developing systems to exchange information in standard HL7 formats. However, these efforts are challenged by competing priorities, evolving regulations, and stakeholder adoption challenges.

Private-public partnerships are critical to interoperability solutions and execution

Private-public partnerships must be at the core of interoperability success. There is recognition that commercial entities will struggle to coalesce around a standard or solution attributes on their own, and the government will fail to accomplish interoperability through mandates. A case in point is the nonprofit entity Health Level Seven International, established in 1987 as the global authority for healthcare information interoperability and standards in 30 countries. Yet some 40 years later, interoperability continues to evade us, strengthening the argument that government and private entities must come together to define and execute interoperability to ensure its durability and sustainability.

HL7 and other private consortiums are emerging interoperability standards

While HL7 has been leading the charge to address interoperability and set data exchange standards for several decades, the formation of the Da Vinci Project in 2018 by 20 health plans and healthcare service providers to address better data exchange for value-based care (VBC) energized interoperability efforts. The Da Vinci project has grown to over 50 commercial enterprises and is a force in the adoption of HL7's Fast Healthcare Interoperability Resources as the standard to support VBC data exchange. The Da Vinci Project focuses on the shift from fee-for-service (FFS) to VBC. Despite the narrow focus, success through wider adoption will benefit both consumers and service providers. Still, the FHIR-driven application programming interface (API) is becoming more ubiquitous, supporting standardization better than the past attempts.

Other commercial efforts through the formation of consortiums to leverage FHIR continue to energize the effort, such as Global Consortium for eHealth Interoperability formed by HIMSS, HL7 International, and IHE International. Another is the Consortium for State and Regional Interoperability (CSRI). CSRI brings the nation's largest nonprofit health data networks together, connecting more than 80 million records to address patients' needs more effectively.

Federal regulations prioritize interoperability

In addition to private efforts, the federal government's multiple agencies have stepped up. The Office of the National Coordinator for Health Information Technology (ONC), on the back of the 21st Century Cures Act, proposed that FHIR be the standard to expand patient access to personal health data and improve interoperability. In collaboration with CMS, which has taken a leading role in driving interoperability over the last decade, several new rules have been implemented. Three key rules add teeth to ONC's proposal.

> "Interoperability is long time coming…unlike financial services that created a common data set, healthcare has not been able to. I see interoperability as a positive change.
>
> — Chief Financial Officer, East Coast regional health plan

1. The May 1, 2020, Interoperability and Patient Access rule gives patients access to their health information when they need it most and in a way they can best use it. This rule enables several APIs, such as the Patient Access API, Provider Directory API, and payer-to-payer data exchange of certain patient clinical data, admission, discharge, and transfer events, with enforcement against information blocking.

2. The December 2020 Interoperability and Prior Authorization rule intends to improve the electronic exchange of healthcare data and streamline processes related to prior authorization. The rules expect qualified health plans to report on the utilization of the Patient Access API to understand the impact to end consumers.

3. The Price Transparency rule that took effect for health plans on July 1, 2022, will allow consumers to know the cost of a covered item or service before receiving care. The requirements will provide pricing information and enhance consumers' ability to shop for healthcare that best meets their needs. Consequently, health plans must provide individuals an estimate of their cost-sharing responsibility for a specific item or service from a specific provider or providers for 500 items and services.

The US federal government enacted the No Surprises Act (NSA) so consumers will have billing protections when getting emergency care, non-emergency care from out-of-network providers at in-network facilities, and air ambulance services from out-of-network providers. This will protect consumers from excessive out-of-pocket costs, and emergency services must be covered without prior authorization, regardless of whether a provider or facility is in-network. While NSA is not an interoperability-related regulation, its fulfillment will require health plans to have adopted FHIR standards and increased interoperability maturity.

Despite technology standards, public-private partnerships, and regulations, interoperability needs outcomes

At a macro level, using the triple aim lens, interoperability has not made material dents to the cost of care, health outcomes, or the experience of care. As indicated earlier, the US population's life expectancy and health in terms of the prevalence of chronic conditions (6 in 10 have a chronic condition) are heading in the wrong direction. The per-capita healthcare spending has been growing faster than inflation for the last decade, as seen in Exhibit 10. Interoperability has the power to streamline processes, improve care delivery, and reduce costs.

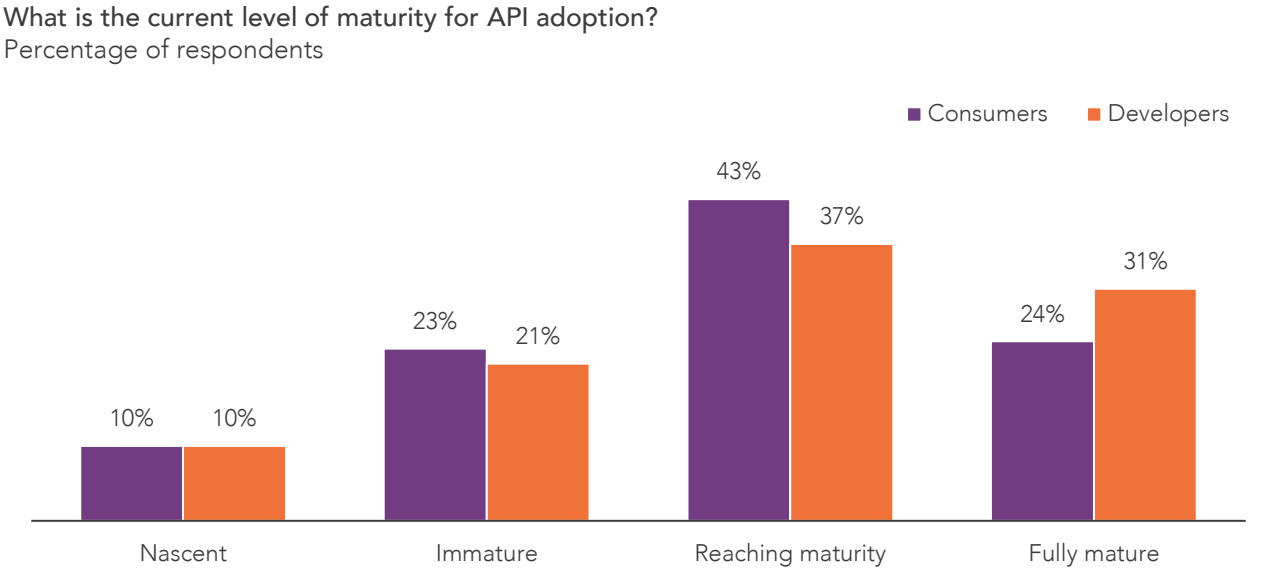
Health plans indicated they had roadmaps to address interoperability needs with a particular focus on regulatory compliance issues, such as price transparency and prior authorization. They have done a lot of work on payer-to-payer data exchange, but very few indicated that they were fully operational at this stage. A CAQH study found that more than 50% of study respondents indicated competing priorities were the biggest barrier to FHIR implementation. Mid-sized health plans indicated they recognize the value of the data in their control and are organizing themselves by normalizing the data, migrating it to the cloud, and applying analytical tools to infer actionable insights.

Health plans, in general, are not ready to adopt APIs, with or without FHIR standards. Their reluctance reflects operational choices biased toward proprietary interactions instead of industry standards. Health plans' technical process debt is material. Health plans' digital transformation initiatives have progressed in addressing the debt, but their adoption of more standard forms of data exchange doesn't reflect that progress, as Exhibit 11 shows.

Exhibit 10: US per-capita healthcare spending is growing faster than inflation

Data: National Health Expenditure, Kaiser Family Foundation, Altarum, US Bureau of Labor Statistics
Source: HFS Research, 2022

Exhibit 11: Health plan maturity with consuming or developing APIs needs attention



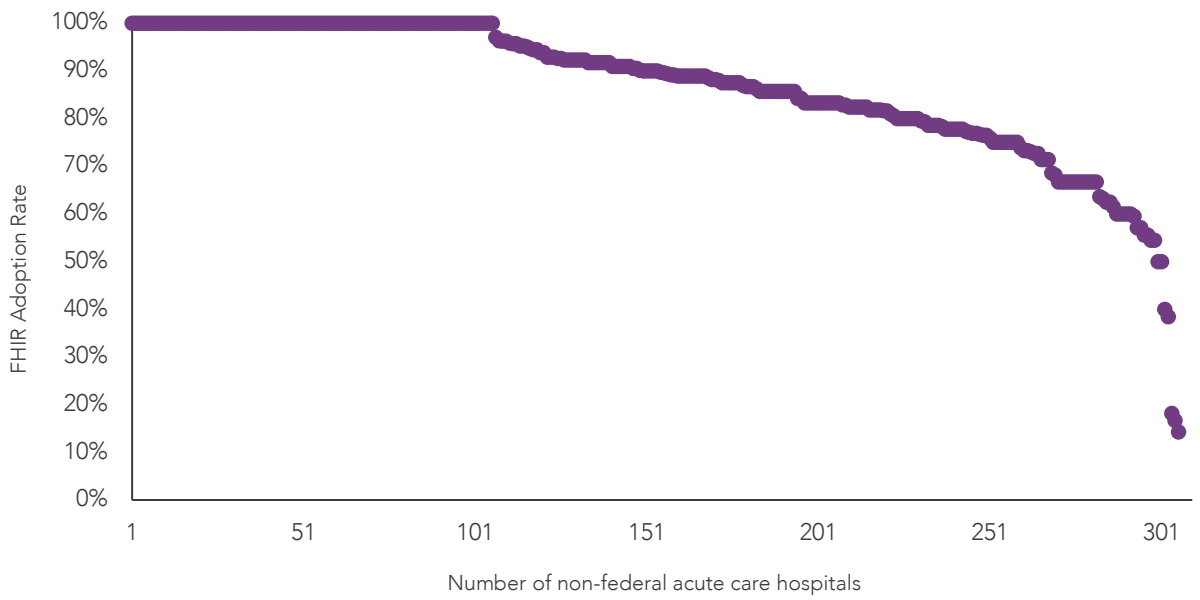
Sample: 75 health plans
Source: Change Healthcare, HFS Research, 2022

Another reason health plans lag in FHIR API execution is that members don't use them often; with less than 5% of members have used patient access APIs, according to a CAQH study. The study suggested another reason health plans are holding back was security concerns, despite HL7 mitigation.

While health plans lag in the adoption of FHIR, health systems are doing well

Healthcare providers (health systems and hospitals) have done a better job at adopting FHIR, as Exhibit 12 indicates.

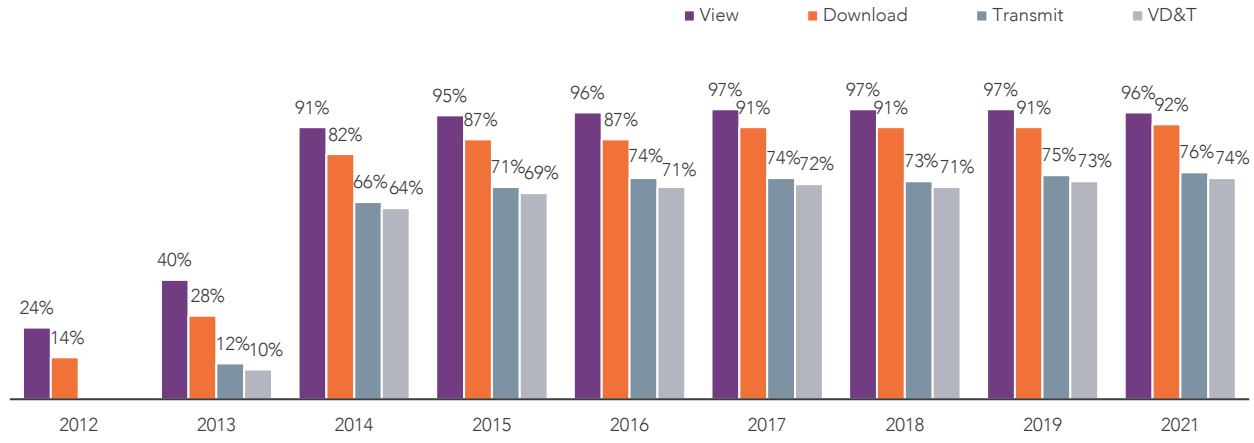
Exhibit 12: 84% of hospitals and 61% of clinicians adopted and implemented certified API technology enabled with FHIR in 2019



Data: The Office of the National Coordinator for Health Information Technology (ONC)
Source: HFS Research, 2022

Exhibit 13: The percentage of non-federal acute care hospitals that enabled patients to view and download health information in their portal is close to the maximum

What is the type of access patients have to their medical information at your hospital?
Percentage of respondents



Data: 2012-2021 AHA Annual Survey Information Technology
Source: HFS Research, 2022

ONC data, last updated for 2019, indicates that across all non-federal acute care hospitals, up to 91% could and have adopted FHIR APIs. About 60% of clinicians have adopted them, which is still better than health plans' performance.

Non-federal hospitals are leaning in to address their patients' experiential needs. Among hospitals that reported their patients could access their health information through an app, four in five supported FHIR API access for these apps in 2021. Given that hospitals have been technology laggards, their adoption of FHIR standards and effectively bringing them to bear is encouraging, and health plans should emulate this shift.

The Bottom Line: Digital transformation and interoperability initiatives need to be further accelerated to meet regulations, commercial imperatives, and consumer expectations.

The triple aim of care is a holistic framework touching all key elements of healthcare, including health, financials, and experiences. The trajectory across all three attributes has been heading in the wrong direction, which should motivate the healthcare ecosystem to address opportunities with a new urgency. The healthcare ecosystem should prioritize enabling technology to streamline processes, aggregate data, learn from insights, and break down barriers driving inefficiencies. Health plans must address three opportunities to accelerate the journey of digital transformation and institutionalize interoperability.

1. **Address process debt now.** There are simple, effective ways to manage member eligibility and enrollment, as the retail world has shown us with customer relationship management. Similarly, health plans can learn valuable lessons from outside healthcare regarding optimizing payment integrity, billing, and claims. Digital transformation efforts must address process debt as a priority.

2. **Technical debt reduction requires a rethink of technology's role.** Enabling cloud, AI, and blockchain as a façade to the existing app stack is sub-optimal. Health plans must be bold to address their technical debt in the context of re-engineering their processes.

3. **Don't wait for regulations to address interoperability.** You must think of interoperability as a business imperative instead of a compliance check box. Interoperability will drive differentiation in a health plan's product portfolio, improve its relationship with providers and health consumers, and improve financial performance.

HFS Research author

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Rohan leads the Healthcare practice at HFS, bringing to bear his vast experience across the healthcare ecosystem. His experience includes being the Head of Healthcare Strategy at multiple fortune 500 companies, Product Management leader and CIO at two Health Plans. He is passionate about the Triple Aim (improving health outcomes, reducing the cost of care & enhancing the care experience) and believes that health & healthcare is a polymathic opportunity that intersects with every industry and facet of our lives. His well-rounded experience & passion brings a practical approach to his analyst role at HFS.

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