



DIGITAL TRANSFORMATION PRIORITIES

MATCHING TECHNOLOGIES WITH STRATEGIC GOALS

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Digital Health Analytics (DHA) is a global market intelligence and survey research hub for digital health technology. Provided by the College of Healthcare Information Management Executives (CHIME), DHA was created in 2022 as the gateway for provider organizations and companies to better understand how digital technology supports leaders in transforming health and care and delivering data insights that help them make the greatest business impact possible.

The Digital Health Most Wired Survey and Digital Transformation Priorities

In the tumultuous landscape of today's healthcare, the annual CHIME Digital Health Most Wired (DHMW) survey is a significant digital health "north star" that healthcare organizations (HCOs) have relied upon for years. Widely known for the Most Wired recognition awards, the DHMW survey annually provides healthcare leaders a comprehensive profile of digital health usage in U.S. HCOs and a reliable resource by which to benchmark their own digital health progression.

Reflecting the digital profiles of approximately 40% of U.S. hospitals, the array of HCOs included in the 2023 DHMW survey can easily be characterized as representative of the known US Health System landscape. As such, the survey serves as a critical resource in helping researchers identify major themes and shifts in the HCO marketplace. This is the case with the most current release of the survey findings where the overarching theme of the 2023 DHMW survey can be characterized as "the acceleration of data usage."

In a digital health world shaped by Meaningful Use, HCOs have largely moved on from focusing on their data capture and storage capabilities to improving outcomes. In this environment, leveraging data emerges as a critical activity in the realization of improved operational and clinical outcomes. This "acceleration of data usage" was evident in all eight sections of the survey but was especially pertinent to the Digital Transformation Priorities section.

At its core, digital transformation in healthcare is about bringing together the right technologies and quality data to develop digital tools that improve operations, workflows, staff and patient experience, and patient health care and outcomes.

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Imprivata: A Digital Transformative Leader

To help make sense of the Digital Transformation findings in the 2023 DHMW survey, CHIME sat down with leaders from Imprivata, a leader in digital identity solutions. Using the 2023 DHMW survey as a starting point, we profiled findings from the survey around factors driving digital transformation, setting digital transformation priorities, assessing digital transformation progression and managing digital transformation before leaning on the profound insights of Imprivata leaders to provide context and clarity around the many complex issues HCO leaders must navigate as they move forward with digital transformation initiatives.

Emerging from this effort, we found that HCOs need to set parameters for what digital transformation means to their organization. This is accomplished by developing strategies and priorities around specific goals and user needs, as well as tracking progress based on the strategies and evolving market trends. It also involves managing transformation progress by working together with leadership, workforce, vendor partners and other stakeholders to ensure the right technologies and data are deployed to meet everyone's needs.

Defining Digital Transformation

Digital transformation in healthcare means different things to different people. At the very least, it is more than just transferring paper processes to a digital environment. Digital transformation is a new way to deliver care, improve processes and meet the well-being needs of consumers. It involves leveraging technology to fundamentally change how businesses operate, deliver value to stakeholders and adapt to evolving market conditions. Digital transformation requires a thoughtful approach to ensure alignment with end goals while also demonstrating value along the way. The idea of digital transformation priorities (DTP) refers to the key areas or initiatives that healthcare organizations focus on when undergoing a digital transformation journey.

In the context of CHIME's 2023 Digital Health Most Wired (DHMW) survey, an HCO's DTP profile considered the following three aspects:

1. Setting digital transformation priorities
2. Assessing digital transformation progression, and
3. Managing digital transformation.

The DTP section of the DHMW survey is the only non-scored section of the survey. It was first introduced into the DHMW survey program in 2022 to help organizations "do something" with the extensive DHMW report they received from CHIME. By presenting information on key issues propelling/hindering HCOs in achieving their digital transformation goals, the intent of this section was to help HCO teams "reflect" on their standing on these key issues.

"In an industry changing as fast as the digital health market is, it's understandable IT teams may be easily tempted to chase after every new 'shining object'. Setting priorities helps HCOs ensure they remain productive and less overwhelmed all the while steadily progressing toward thoughtfully established strategic goals," said Lorren Pettit, CHIME's Vice President of Digital Health Analytics (DHA), on the importance of DHMW's DTP section. "Our intent in including this section in the DHMW survey was to 'hold up the mirror' for HCOs to help them identify those factors pushing for and against their digital transformation efforts, so they could be better prepared to make progress on their DHMW performance by appropriately addressing those factors."

1 Setting Digital Transformation Priorities

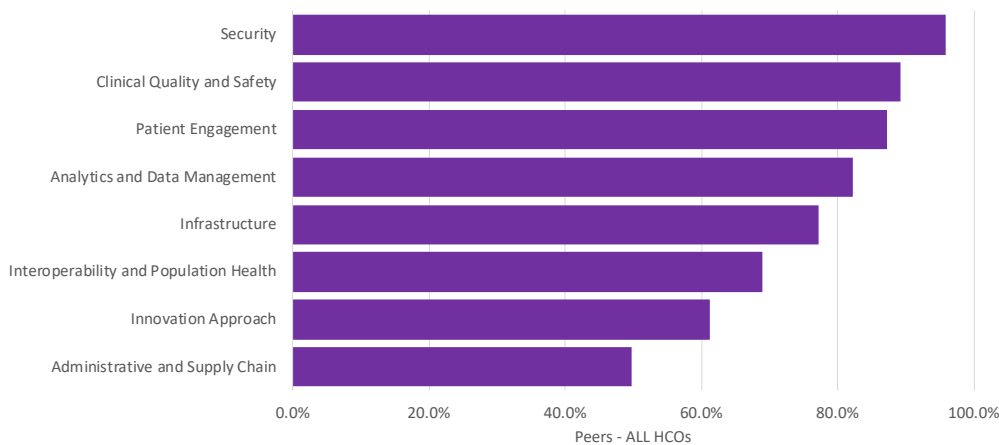
The first category considered in the DTP section of the DHMW survey addresses factors driving digital transformation.

Survey participants were presented with a list of the eight scored sections of the DHMW survey (e.g., infrastructure; security; etc.) and asked to rate the priority each issue has for their HCO in the next twelve months.

As evidenced in Chart 1, Security dominates as the highest priority for HCOs in the coming year.

Chart 1: Importance of Each Survey Section

The following lists the various sections of the Digital Health most Wired survey. To what extent do you project each of the following areas will be a priority for your organization during the next 12-months?



For CISOs and CIOs, “security is vital because of how impactful it is”, noted Joel Bursleson-Davis, Senior Vice President of Worldwide Engineering at Imprivata. “However, the bigger factor to becoming more secure is having the budget to back the initiatives,” he said. “Recognizing security as important is a necessary first step, but following through with actions to make your enterprise network more secure is a harder challenge.”

Every HCO wants to go full force into all these projects in this graph, from Security through Administrative and Supply Chain, assured Sean Kelly, MD, Chief Medical Officer and Senior Vice President of Customer Strategy in Healthcare at Imprivata, and a practicing emergency physician. “The reality is that most HCOs don’t have the budget for everything, so when you force them to stack rank, they think they must either spend or prioritize for security or other projects like productivity, efficiency and value gain in other programs. This has been a tug of war, as HCOs do their best to balance competing priorities.”

As a result, a major talking point for Imprivata is security, privacy, and compliance on one hand, and usability, productivity and efficiency on the other, according to Kelly. He explained that traditionally, technology forces HCOs to choose between one or the other: “Either open up the network and make it less secure, but nice and usable — then you can be productive as clinicians and staff — or you lock it all down because you’re worried about bad actors getting in and deploying phishing and cyberattacks — then it becomes unusable for all the end users. But this does not have to be the only option,” he said.

“Our paradigm changes that thinking,” he said. “Our secret sauce, what we provide our customers is more security to ensure they are protected and compliant with a better audit trail, but it’s all going to be more usable. In this way, the right thing to do is easier to do.”

In digitally mature organizations, the CIOs and CISOs are actively looking to improve security. However, the CMIOs, CCIOs, CHIOs, clinicians, patient safety staff, quality personnel, and patient engagement teams can benefit from the additional technology Kelly described. “There’s better security, including zero trust and, potentially, biometrics, but it also leverages Low Energy Bluetooth, as well as more foundational technologies such as badge tap, proximity cards, and multi-factor authentication (MFA) with grace periods and timeouts,” he noted. “This approach gives you more of both security and usability, which is what every department should have.”

From a budgeting perspective, a comprehensive identity management (IM) solution might fall under various departmental budgets, from security to quality/safety or even patient engagement and infrastructure. “We educate all stakeholders to help them realize that as they become more digitally mature and secure, they need a platform that provides both security and usability improvements at the same time,” Kelly said. “You shouldn’t have to choose between those two benefits; you should get more of both. This requires HCOs to adopt good technology and conduct good diligence on their vendors, prioritizing platform solutions rather than piecemeal niche solutions.”

Burleson-Davis backed the advice for good technology, noting when less than ideal technology solutions are implemented, staff tends to bypass it — passwords written on sticky notes dangling from computer monitors, sharing keycards, etc.

Aligning priorities, performance, and score

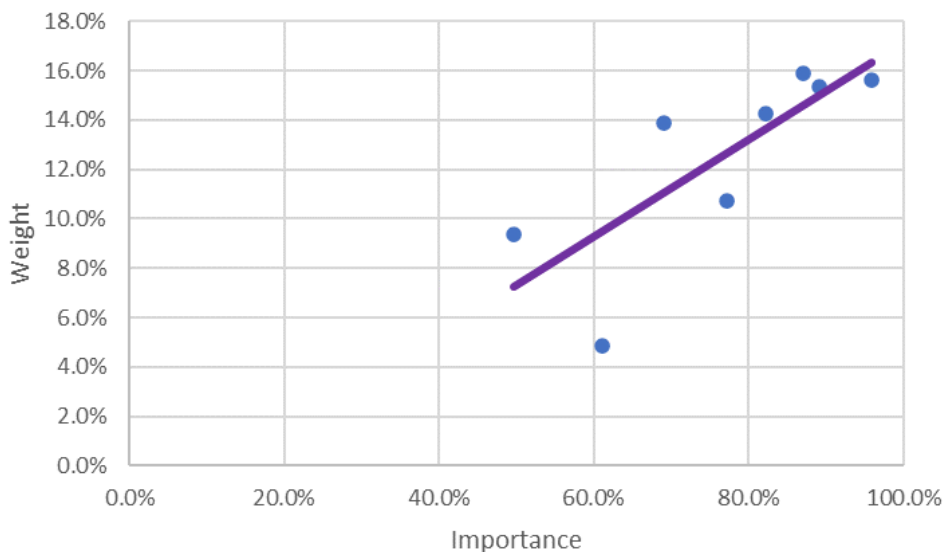
As the DHMW survey is both a recognition program (scoring) and a benchmarking resource (priority and performance) for digital health, the question on survey sections (Chart 1) provides valuable insight on the survey’s scoring algorithm as well as how HCOs’ digital health priorities impact performance.

When comparing the importance HCOs put on each of the major survey categories seen in Chart 1 (i.e. Security, Patient Engagement, etc.) to the scoring weight each of those sections in the current survey, the goal and expectation is to have these two factors rise together — for instance, as HCOs place more importance on Security, the weight of the Security section score should also increase.

As shown in Chart 2 below, this is exactly the case in this year’s survey. “The alignment we see in this chart is encouraging as it is a good barometer regarding the robustness of the whole DHMW program,” Pettit concluded.

Chart 2: Alignment between Survey Section Importance and Weight on Overall DHMW Score

There is a fairly strong association between what HCO leaders consider IMPORTANT and the way the DHMW program uses these sections (WEIGHT) in calculating the overall DHMW score... speaks to the robustness of the DHMW program.



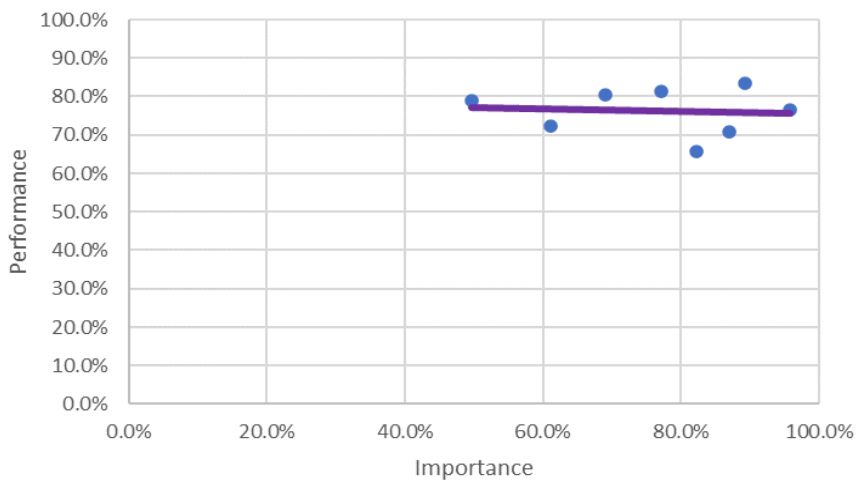
On the benchmarking side, the expectation is that HCOs increase the priority for sections where they see opportunity for improvements. Thus, as their perceived importance of a section increases, their performance in this section would be lower — if HCOs consider Security an area of increased importance and focus for the coming year, they likely are not performing as well as desired in this area.

However, as evidenced by Chart 3, this is not the case for this year's survey. Pettit concluded that assessing an HCO's digital health priorities is much more complex than simply looking at their performance in a specific area of digital transformation.

"It's generally understood that performance impacts the selection of an HCO's priorities, but aligning an organization's leadership team around how to address these challenges with technology is not always straightforward," he explained. "For instance, should financial challenges be tackled by implementing more effective population health strategies, boosting patient volumes, or expanding clinical capabilities into more lucrative specialties? Internal alignment issues are a common obstacle to organizations realizing their digital health goals."

Chart 3: Alignment between Survey Section Performance and Weight on Overall DHMW Score

There is no association between what HCO leaders consider IMPORTANT and an HCO's DHMW PERFORMANCE... speaks to the complexity of projecting HCO digital health needs.



Trending priority: Mobile technology

Smartphones and other handheld devices dominate consumer life. This is a macrotrend that HCOs must consider as they develop and tweak digital transformation strategies and projects. Patients are increasingly wanting healthcare to provide the same level of digital consumer experience found in other industries such as banking, retail, and travel.

However, this trend is not just about consumerism on the patient level but also on the healthcare workforce.

"People often say doctors and nurses don't like technology, but that's not true," Kelly said. "We love good technology. Every one of us has a smartphone or tablet, and we are trying to use those in clinical care."

Imprivata has seen a huge uptick in mobile use, particularly around shared enterprise mobile. "We have solutions that now are integrating between several of our different product lines that allow for that ideal dual benefit of better security, but also productivity," he said. "Even on Apple iOS devices that aren't necessarily designed to be more than personalized devices, we can help charge them up, get them healthy, provision them, and make sure they're ready; then when a user comes up, we verify their identity and security then allow them easy access, not just to the device, but to the apps on them."

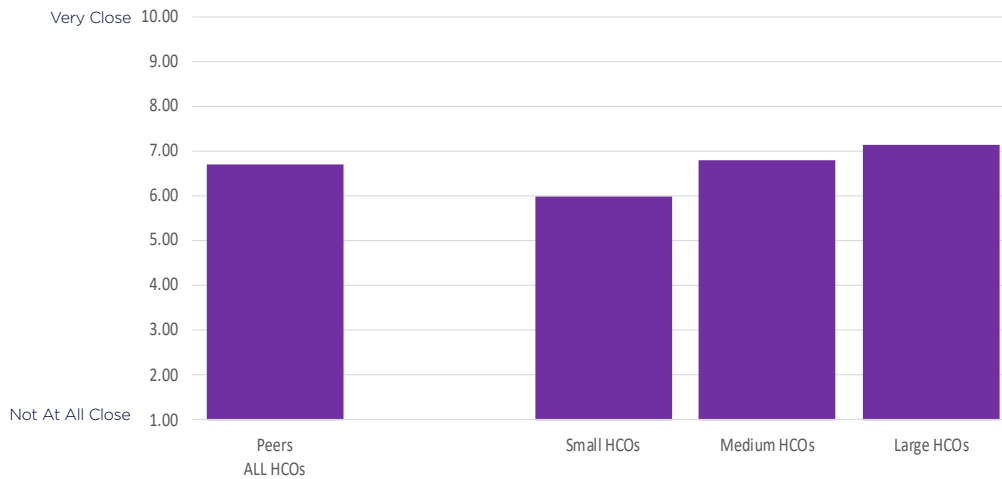
He noted this mobile access can help with EHR optimization, as there is an increasing push for providers and other clinical staff to work at the bedside in a mobile fashion. "Tasks like meds administration or unified communications really work better on phones. It's easier to do it at the bedside rather than wheeling a whole computer in or trying to log in multiple times to get an important message," he explained. "Digital maturity should include a mobile digital maturity plan."

2 Assessing Digital Transformation Progression

The second category considered in the DTP section of the DHMW survey addresses the self-assessment of an HCO's digital transformation progression. Knowing where one is on their digital transformation journey — from awareness and exploration to maturity and fundamentally transformed — is critical to setting course-correction actions. In this section, two questions were posed to assess DHMW survey participants.

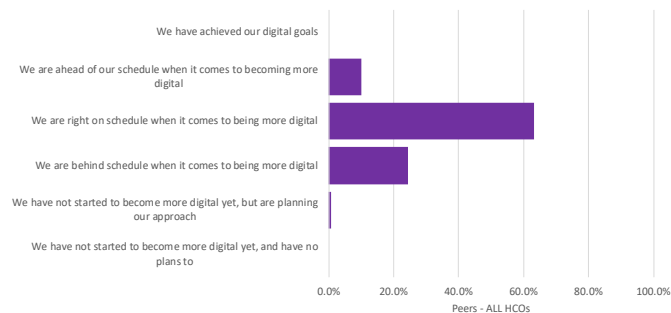
Position compared to an ideal state

Imagine an ideal healthcare provider organization transformed by digital technologies and capabilities that improve processes, engage talent across the organization, enable better patient care and drive new and value-generating business models. How close is your organization to that ideal? How close is your organization to that ideal?

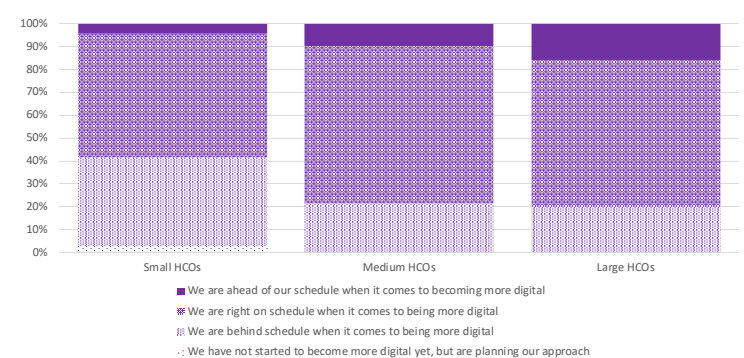


Position compared to an internally established timeframe

Where do you see your own organization currently when it comes to becoming more digital?



Where do you see your own organization currently when it comes to becoming more digital?



Larger HCOs tend to be more positive regarding their proximity to an ideal state than smaller organizations, Pettit summarized. “While not breaking news, it’s a notable data point to monitor as we watch for digital transformation chasms to emerge and widen in the marketplace.”

He further noted both questions saw positive shifts in their assessments this year compared to last year. For example, the average score to the first question (PRI-02) this year was 6.71, a notable 0.45 points higher than last year’s score of 6.26. Likewise, the second question (PRI-03) saw a general shift upward in the distribution of HCOs regarding their perceived digital transformation progression, “a pattern consistent with the generally improved performance scores in the DHMW survey, despite the fact we raise the bar on performance criteria every year,” according to Pettit.

“The responses to these questions on progress reflect what we are seeing in the marketplace in terms of overall progress on digital transformation,” Noted Bureson-Davis.

However, on the comparison of different sized HCOs, he added many smaller and medium HCOs are further behind than they'd like to be.

“When we walk into smaller and medium HCOs, there is often little progress on mobility, which we consider a potentially powerful part of digital transformation,” he reported. “When we look at an HCO’s digital landscape, most have digital nursing stations and multi-use-shared devices, but have they gone a step further to deploy more contemporary solutions such as mobile technology?”

“Contemporary digital also includes remote services, patient digital access to services and connecting Internet of medical things (IoMT)”, Bureson-Davis added. “If you were to ask about these advanced digital capabilities, most HCOs of this size would say they are not there yet.”

Front lines experience can be invaluable when assessing digital transformation progress, especially relative to other industries. Kelly is an ER doctor who works in the Beth Israel Deaconess Medical Center, one of Harvard’s top hospitals, and he sees firsthand how behind healthcare is on digital transformation progress compared to other leading industries.

“Amazon knows long before doctors know that a patient has a pain or other health problem, because the consumer is searching terms related to their health issues,” he explained. “Digitally mature companies like Amazon, major airlines, and banking firms use advanced analytics and have their fingers all over the spider web of consumer activity in the digital world.”

While celebrating the progress the healthcare industry has made to date, Kelly also issued a stark reminder. “If we think we are 60% or almost right where we need to be digitally as an industry, we’re all going to be disrupted by other industries,” he warned. “Nobody in healthcare can tell me that they’re so well connected to their patients that they understand exactly what’s happening in their health care and with their care provider.” He said interoperability is still a problem area, as are self-service, messaging, and communications. “We have to be careful in healthcare to not overestimate how digitally mature we are,” he said. “We need to work together to push the industry ahead of the curve.”

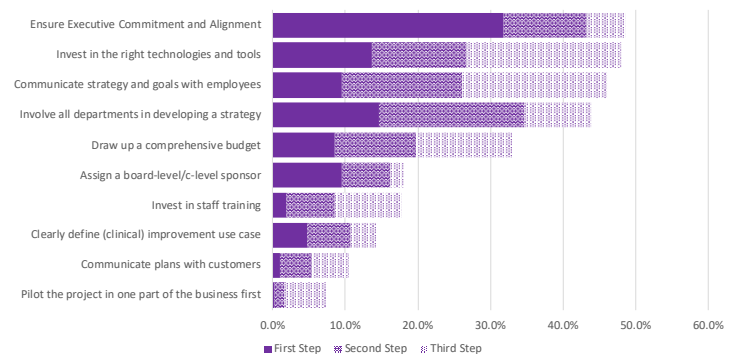
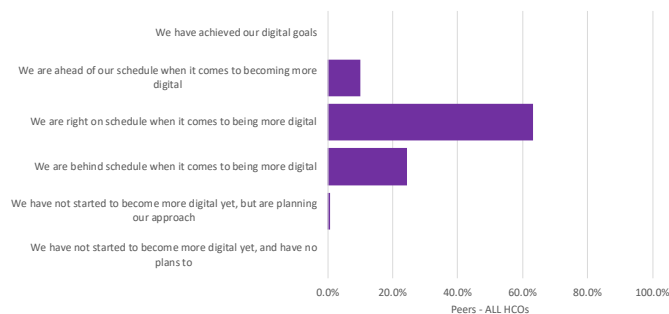
3 Managing Digital Transformation

The third and final category considered in the DTP section of the DHMW survey considers the forces driving and challenging an HCO’s digital transformation effort. Specifically, the survey looked at the factors IT leaders need to manage as they attempt to move forward on their digital transformation plans.

In this section, DHMW participants were presented with the following two questions:

Biggest challenges in digital transformation
What are the biggest challenges that your organization has experienced in trying to undertake a successful digital transformation? Rank your top 3 challenges from this list.

Critical steps to undertake in a digital transformation effort
What are the most critical steps to enable a successful digital transformation? Rank your top 3 steps from this list.



Unsurprisingly, financial issues emerged as the most cited barrier to HCOs undertaking a digital transformation effort, with over 42% of respondents citing it as a top three challenge. This issue is expected to deepen as macro-economic concerns persist. Similarly, securing executive commitment and alignment was the most frequently cited critical step by roughly 48% of survey respondents.

Pettit noted the top findings are intuitive and expected. “To see otherwise would be concerning,” he said. “Yet these questions are critical to consider because they help identify the next level of issues leaders must address.”

Relating these results on challenges to the results on priorities, Burleson-Davis agreed cultural resistance is a huge factor. “When HCOs are weighing security vs. productivity, security vs. efficiency, or infrastructure vs. patient care, the level of anticipated cultural resistance in those areas matters,” he stressed. “It’s not that nurses and doctors dislike technology or aren’t tech savvy; it’s more that their experience with technology involves the need to step back when they face new technology. For instance, when new security is rolled out, there will be blowback from users about how the new tech or process makes their lives worse.”

This doesn’t have to be the case, he said, assuring there is a way to implement technology that doesn’t negatively impact workflows and usability.

Burleson-Davis backed up this perspective, saying cultural resistance is less about inherent refusal to accept technology but more about understanding how the digital tool will help the person do their job. “Doctors and nurses are some of the most innovative people that I’ve ever personally met,” he assured. “They just want technology that works for their jobs as opposed to technology that just kind of works for ‘somebody’ but was never built for them.”

Burleson-Davis pointed at two top critical steps in the survey, involving all departments in developing a strategy and investing in the right technologies and tools, as areas where Imprivata has found success in partnerships with HCOs. “We bring in our technology, get to know the HCO’s workflows, and then work with them on the right solutions,” he explained, circling back to the idea of having boots on the ground for better understanding of exact needs.

“It’s our clinical operations experts and technical security experts, not sales, that meet with clients to assess needs and bridge between silos,” Kelly added, noting this can help get executive buy in. “If one silo is charging hard on cybersecurity and optimizing to lock everything down, and another silo is hating hyper-security and trying to open everything up, they’ll never be successful. But if we can get the silos to understand that there are technologies and solutions that can provide both improved security and usability across the enterprise, suddenly everyone is working better together on a multifaceted platform and solution that works for everyone.”

4 Considerations for Improved Digital Transformation

Digital transformation in healthcare is a complex and multifaceted process. It involves leveraging data and technology to fundamentally change how the business operates, delivers value to stakeholders, and adapts to evolving market conditions. This is a stiff challenge in the best of times and is even more difficult in today's healthcare climate marked by economic struggles, workforce burnout and growing demands for remote care and staffing.

Here are some key considerations for HCOs looking to improve their digital transformation:

- **Develop a strategy.** Before it can start to improve its digital transformation, an HCO must know what it wants to achieve. What are its specific goals for digital transformation? How will it measure success? Once there is a clear understanding of its goals, HCOs can start to develop a plan to achieve them by identifying the areas where digital transformation can have the biggest impact and focus resources accordingly.
- **Leverage data and analytics to drive decision-making.** Digital transformation generates a lot of data. Use this data to make informed decisions about how to improve your processes, products, and services.
- **Involve all departments in developing a digital transformation strategy.** This will help to ensure that the strategy is aligned with the needs of the entire organization.
- **Engage your leadership team.** Digital transformation is not just an IT project. It's a strategic initiative that requires buy-in and support from senior leadership and key stakeholders throughout the organization. Make sure your leaders understand the importance of digital transformation and are committed to making it a success. This will help to overcome resistance to change and ensure that digital transformation efforts are resourced adequately.
- **Start small and scale up.** Don't try to do everything at once. Start with a few small projects that you can success-proof. Once you have these projects under your belt, you can start to scale up your efforts.
- **Invest in the right technology:** HCOs should carefully evaluate and select the right technologies and solutions for their specific needs. This will help to ensure that technology investments are aligned with organizational goals and deliver the desired outcomes. It is possible to improve security and usability at the same time with the right multifaceted platform.
- **Involve your clinicians in the process.** Clinicians are the ones who will be using the new digital tools and technologies. It's important to involve them in the planning and implementation process so that they can help ensure that the solutions meet their needs.
- **Manage change effectively.** Digital transformation can be disruptive. It's important to manage change effectively to minimize resistance and ensure that your staff is on board with the new way of doing things. This will help to minimize disruption and ensure that employees are adequately trained and supported.
- **Invest in training and education.** Digital transformation requires a change in mindset and behavior. Make sure your staff is trained and educated on any new technologies and how to use them effectively.
- **Leverage strategic partnerships with good vendors.** As HCOs move more business and functions to the cloud and rely more on managed services, they should look for partners that seek to understand and collaborate with clients on strategy, and technology that improves both technical goals like security and efficiency but also usability and experience for end users.

5 Conclusion

The endgame of digital transformation in healthcare is not simply to make all business functions digital. It is to intelligently apply available technologies to specific needs across the organization. Successful transformation should increase operational efficiencies, reduce costs and burdens, improve patient and workforce experience and satisfaction and deliver better health care and outcomes.

This journey is fraught with hardships and hurdles, as well as an avalanche of data and new technologies that pile up into mountains of potential waiting to be honed and harnessed into powerful new tools for the future of healthcare delivery. The task of transformation can be overwhelming, and within HCOs can be siloed, inefficient and immature. Without designed purpose, governance and unified buy in, efforts to transform into a digital health leader could face resistance from within and stall before achieving any return on investment.

In the 2023 DHMW survey, most HCOs (>60%) self-assessed their digital transformation journey as being right on track, while a little more than 20% felt they were behind schedule, and only about 10% claimed to be ahead of the game. Overall, this shows commendable collective progress, but the road ahead, even for those outpacing their own expectations, may be the hardest stretch of the journey.

“Digital transformation isn’t a simple linear scale,” Burleson-Davis said. “There is low hanging fruit, and HCOs can more quickly get through these projects, but the last roughly 30% of the journey to get to digital maturity is going to take much more effort than the previous 70%. Some HCOs may hit plateaus and wonder how to get to that next milestone.”

The survey also revealed HCOs consider securing a dedicated budget and finding the right digital tools as more critical than involving all departments in digital strategy development and communicating the strategy and goals to all employees. “Before you spend money, you have to have a strategy,” Kelly advised. “There is no such thing as a perfect strategy, but HCOs really need some strategy in place to move forward meaningfully.”

A strategy implemented as a collaboration between leadership, clinicians, and other stakeholders and partners faces the best odds of success. Among the primary goals is to improve patient engagement, experience, and health care outcomes, but the positive impact is also needed for clinical end users — who also can be potential points of resistance.

As someone working on the front lines in healthcare, Kelly summed up this need: “Burnout and attrition are big issues today, and it’s important for HCOs to allow clinicians to work at the top of their licenses,” he advised. “If you can get all of your key workers working at the top of their licenses, instead of dealing with security and administrative busy work, or even detracting from their workflows, then that unlocks a lot of value.”

As HCOs stare down this homestretch, help from an experienced vendor partner with comprehensive, multifaceted platform solutions may be right boost at the right time for reaching the pinnacle of digital healthcare delivery.



About CHIME

The College of Healthcare Information Management Executives (CHIME) is an executive organization dedicated to serving chief information officers (CIOs), chief medical information officers (CMIOs), chief nursing information officers (CNIOs), chief innovation officers (CIOs), chief digital officers (CDOs), and other senior healthcare IT leaders. With more than 5,000 members in 58 countries plus 2 US territories and over 190 healthcare IT business partners and professional services firms, CHIME and its three associations provide a highly interactive,

trusted environment enabling senior professional and industry leaders to collaborate, exchange best practices, address professional development needs, and advocate the effective use of information management to improve the health and care in the communities they serve. For more information, please visit chimecentral.org.



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About Imprivata

Imprivata is the digital identity company for life- and mission-critical industries, redefining how organizations solve complex workflow, security, and compliance challenges with solutions that protect critical data and applications without workflow disruption. Its platform of interoperable identity, authentication, and access management solutions enable

organizations in over 45 countries to fully manage and secure all enterprise and third-party digital identities by establishing trust between people, technology, and information. For more information, visit www.imprivata.com.

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