Catalysts for change

CIOs share their health IT priorities and plans for the transformative times ahead
Healthcare drivers and disrupters

The role of the CIO is changing. As technology becomes a dominant driver in healthcare—from patient care and population health to quality measurement and artificial intelligence (AI)—CIOs are increasingly called upon to own the roles of both change agent and IT implementer.

Today, CIOs roll out tools and devices for clinicians to use across care settings, while concurrently driving strategy and innovation alongside senior leaders in the boardroom, a duality that requires a balancing act against a backdrop of industry disruption.

To gauge the priorities of leading healthcare CIOs (how they allocate scarce resources, and how disrupters such as AI will affect patient care and the road map ahead), CHIME member CIOs were surveyed. We explore seven overarching themes that are capturing the minds of leading healthcare CIOs today:

1. Cybersecurity and malware prevention is the top priority in 2018.
2. Optimizing IT systems for greater value is a close second.
3. Once the EHR is optimized, CIOs plan to use it as a platform for future innovation.
4. Clinician burnout is spreading, but four solutions—EHR optimization, speech recognition, mobility, and image and data sharing—can help.
5. AI is on CIOs’ radars.
6. Value derived from AI will shift away from technology and toward clinical areas and workflows.
7. CIOs believe that virtual assistants will help address clinical decision making and lead to more accurate diagnoses, as well as improve and automate in-workflow tasks.
Cybersecurity and malware prevention is #1 concern in 2018.

By an overwhelming majority, CHIME CIOs ranked cybersecurity and malware as their top concern in 2018.

With the sheer volume and complexity of cybersecurity incidents in 2017, CIOs are more focused than ever on protecting sensitive data and preventing disruption to patient care. Increasingly, maintaining data confidentiality across borders—along with disaster recovery and business continuity—are heightened concerns.

CHIME CIO top five concerns for 2018

- Cyber security/malware
- Optimizing IT systems for greater value
- Data analytics and management
- Finding / retaining qualified IT talent
- Patient engagement platforms

Results show weighted averages. (0=not very important, 10=very important)
While it’s no surprise that the majority of CIOs surveyed rate cybersecurity/malware as their top priority, optimizing IT systems to maximize the return on investment and usability for providers is a close second.

More than half of CHIME CIOs surveyed (54%) rank optimization of the EHR and other IT systems as their secondary priorities.

Furthermore, CIOs cite EHR optimization services as a powerful approach to countering provider burnout.
Once the EHR is optimized, CIOs plan to use it as a platform for future innovation.

More than four out of five CIOs (81%) are interested in using the EHR as a platform for future innovation, including AI and other technologies.
Clinician burnout is an issue, but four approaches can solve it.

EHR-driven regulatory requirements, an increase in administrative tasks, and too much time spent at work are the top factors leading to provider burnout. And despite technology contributing to burnout, CIOs cite four approaches as effective in countering this problem: 1) EHR optimization, 2) speech recognition, 3) mobility, and 4) image and data sharing.

Burnout, however, is not limited to physicians. One CIO noted, “Nurses burn out more quickly than providers and support staff,” suggesting the need for a focus on general staff burnout to help unearth better solutions.
AI is on the radar.

Nearly all CIOs (90%) expressed an interest in adopting or increasing the role of AI in their organizations but differed in the organizational planning and time frame for implementation.

Nearly two-thirds of CIOs surveyed (64%) either use AI today or plan to deploy AI within five years.
Value derived from AI will shift away from technology and toward clinical areas and workflows.

CIOs perceive the most value from AI in the area of EHR optimization through speech recognition. Their focus, however, is expected to shift away from technology and operational functionality toward clinical areas and workflow, such as population healthcare, chronic disease management, virtual assistants, and image and data sharing.

CIO perceptions of value artificial intelligence will bring to healthcare organizations:

- EHR optimization through speech recognition: 7.5
- Clinical decision support: 7.4
- Radiology/imaging/detection: 6.2
- Financial areas: 5.6
- Operational areas such as billing and scheduling: 5.5

CIO interest in increasing artificial intelligence in clinical areas:

- Population healthcare: 7.0
- Chronic disease: 6.6
- Virtual assistants: 6.5
- Image and data sharing: 6.3

n=42
(0=little value, 10=significant value)
Results show weighted averages
CIOs believe virtual assistants will lead to more accurate diagnoses and improved provider workflow.

As physicians look to improve the accuracy and timeliness of their diagnoses while achieving population health and precision medicine and identifying treatment protocols, CIOs believe AI will have the greatest impact in guiding physicians’ decision making.

More than two-thirds of CIOs (69%) would consider virtual assistant technology with artificial intelligence capabilities to help providers with their daily workflow.

Chart search and information retrieval, as well as EHR navigation and task management, rank among the top areas of greatest utility for virtual assistants in providing physician support.
Conclusion

This year is pivotal for healthcare. New disrupters, market entrants, changes to business, care delivery and payment models are driving CIOs to adopt the most innovative yet proven technology for maximum efficiency and the highest levels of patient care. Nuance is committed to advancing these priorities in partnership with CIOs, as we believe conversational AI technologies and tools are vital to optimizing clinician workflow and lowering the barriers to success.

Research methodology
Information included in this paper is based on two online surveys sent to more than 2,500 CHIME member CIOs at integrated healthcare systems, large hospitals, and outpatient medical practices, between January 1 and February 28, 2018.

About Nuance Healthcare
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