FINAL REPORT

October 2023

Health Information Workforce:

Survey Results on Workforce Challenges and the Role of Emerging Technologies

Presented by:

NORC at the University of Chicago (NORC)

American Health Information Management Association (AHIMA)

Table of Contents

Executive Summary

The American Health Information Management Association (AHIMA) is a global nonprofit association of health information (HI) professionals and a leading voice in the healthcare industry. AHIMA aims to strengthen the HI workforce by advancing policies to empower HI professionals to meet both current and future healthcare needs.

In March 2023, the US Senate Health, Education, Labor, and Pension (HELP) Committee released a Request for Information (RFI) regarding healthcare workforce shortages.[1] In its response, AHIMA cited potential drivers of the HI workforce shortage (including remote work tied to geography, skills mismatch, and an aging workforce) and demonstrated its thought leadership and ongoing support for HI professionals by offering potential solutions, including federal funding for education and rapid upskilling programs as well as incentives to work in rural and underserved health systems.[2]

In June 2023, AHIMA contracted NORC to perform a comprehensive survey of health information professionals on workforce challenges and the impact of emerging technologies, such as artificial intelligence (AI), on workforce. NORC developed a 31-question survey and fielded it to the AHIMA distribution list from August 8-22, 2023. The survey addressed three primary objectives:

1. Understand the specific workforce challenges that impact HI professionals
2. Assess the role that emerging and evolving technologies will have on the HI workforce
3. Leverage survey insights to develop policy recommendations around workforce development

Our findings and supporting policy recommendations can be used to educate policymakers and healthcare stakeholders to better understand and address the impacts of understaffing in the HI workforce, and to prepare the industry for increasing use of emerging technologies.

[1] Health Workforce RFI - Senate HELP Committee, 2023

[2] Response to Request for Information on Drivers of Healthcare Workforce Shortages and Solutions - AHIMA, 2023

Key Findings

Two-thirds (66 percent) of survey respondents reported understaffing of HI professionals at their organizations within the last two years. Employee compensation limitations and availability of local candidates challenge recruitment of HI professionals and contribute to understaffing. Employee turnover also contributes to understaffing, driven largely by low pay and employee burnout. Since HI professionals occupy a wide range of critical roles** that ensure that patients' health information remains accurate, accessible, protected, and complete, the impact of understaffed HI teams can be extensive. For instance, respondents shared that understaffing at their organization led to increased employee burnout and staff dissatisfaction, higher staff turnover, reimbursement issues, lowered data quality, slower release of information, slowed implementation of regulatory requirements, and decreased patient privacy and safety.

When asked about emerging technologies, slightly more than half (52 percent) of respondents reported that their organization plans to increase use of artificial intelligence (AI) and machine learning (ML) tools over the next 12 months and 47 percent plan to maintain their current use, demonstrating the increasing role that these tools will have within HI operations in the near future. The majority of respondents noted that upskilling of the current HI workforce (75 percent) and new training and focus areas for the future workforce (72 percent) are necessary for the HI profession to succeed amidst increased adoption of AI/ ML tools. Our results suggest that policymakers and other stakeholders working to support HI professionals should focus on the following areas:

- Addressing understaffing in the HI workforce
- Preparing for uptake of advanced technologies

The following report covers these key focus areas in more detail and offers policy recommendations that provide targeted solutions to address HI workforce issues and prepare the workforce to thrive amid the increasing uptake of emerging technologies.

**Health Information Roles:

- Privacy, Risk, and Compliance: Ensure regulatory compliance for healthcare organizations and patient safety, including compliance with HIPAA (e.g., privacy officers, etc.)
- Data Quality: Ensure that patient health information is complete, accurate, and timely to support healthcare decision-making (e.g., medical coders, Clinical Documentation Improvement (CDI) Quality Assurance Auditors, etc.)
- Data Analytics: Analyze health information to predict trends, manage disease, support healthcare decision-making, and improve outcomes (e.g., clinical researchers, health data analysts, etc.)
- Revenue Cycle Management: Manage billing, reimbursement, customer service, and medical coding (e.g., medical billers, Directors of Revenue Cycle Management, etc.)
- Consumer Health Information: Support patient-facing administrative tasks, including supporting patients with navigating health and social services (e.g., patient navigators, community health workers, etc.)

Background

The COVID-19 pandemic exacerbated pre-existing workforce issues across healthcare sectors, including workforce shortages, employee burnout, and inadequate distribution of healthcare workers,[3] which have widespread impacts on health systems and the delivery of patient care.[4] The health information sector is facing these general challenges along with issues related to skills misalignment.[5] HI leaders have been compelled to evolve their policies and practices in response to both general healthcare and HI-specific workforce challenges.

Alongside these workforce issues, HI leaders must also monitor the rapid evolution of emerging technologies that are actively shaping daily workflows for HI professionals. Health systems, providers, payers, and hospitals are already making use of emerging technologies, including AI and ML, and uptake is only expected to increase in the next decade.[6] While these technologies may present new challenges and uncertainty, they also provide opportunities to streamline workflows, reduce operating costs, and improve management of health information.

AHIMA is well-positioned to monitor the current state of the workforce, highlight near- and long-term challenges, and drive policy to address HI issues. In June 2023, AHIMA sought a partnership with NORC at the University of Chicago to develop a deeper understanding of HI workforce challenges. AHIMA contracted with NORC to conduct a survey of HI professionals to glean insight into their specific challenges and the role of emerging technologies. AHIMA also requested that NORC develop policy recommendations to mitigate issues identified in the survey and to best prepare the HI workforce to thrive in a rapidly changing environment. AHIMA will use survey findings and policy recommendations to develop actionable steps to support this key part of the healthcare ecosystem.

Survey Background

Prior to administering the survey, NORC interviewed two HI professionals identified by AHIMA. One interviewee was a senior director of HI at a large health system in the Southwest, and the other was a manager of HI at a small health system in the Great Plains. Both were involved in hiring staff at their respective organizations. These interviews helped inform survey design and provided an opportunity to hear about workforce challenges and the role of emerging technologies at interviewees' respective organizations. Select findings from these interviews are presented throughout this report.

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[3] Impact of the COVID-19 Pandemic on the Hospital and Outpatient Clinician Workforce - ASPE, 2022

[4] Healthcare Workforce Scan Executive Summary - American Hospital Association, 2023

[5] AHIMA Senate Response to Request for Information on Drivers of Healthcare Workforce Shortages and Solutions - AHIMA, 2023

[6] The potential for artificial intelligence in healthcare - Davenport and Kalakota, 2019

Survey Methods

From August 8-22, 2023, NORC fielded a 10-minute, 31-question web survey, programmed and distributed via Qualtrics, to 35,519 HI professionals. As an incentive for participation, respondents were given the option to be entered into a raffle for gift cards.

N = 2,526

Convenience Sample:

- Unweighted
- HI Professionals

Mode: Web, all devices

Fielding dates: August 8-22, 2023

Survey recipients occupied a range of HI roles, including privacy and compliance, data quality, data analytics, revenue cycle management, and consumer health information.

Of the 35,519 AHIMA members that received a survey invitation, 5,516 (15.5 percent) opened the survey instrument. Survey respondents were then asked a screening question on whether they had supervisory and/or hiring responsibilities at their organization. Among the 5,516 individuals who began the survey, 2,526 (46 percent) met this screening requirement and were eligible to complete the survey.

To establish significance between observed differences, NORC performed t-tests, setting a confidence threshold of 95 percent. Statistically significant differences are noted in the following report using an asterisk (*).

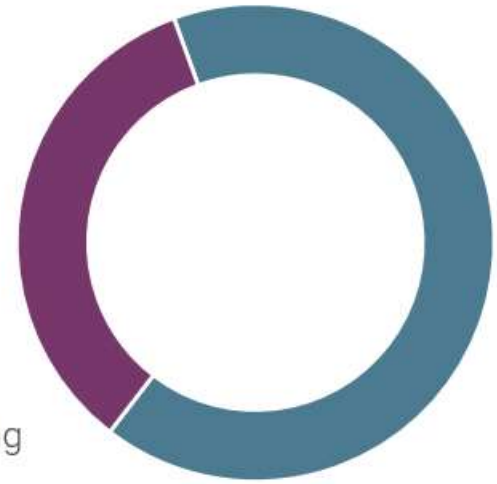
Results

Addressing Understaffing in the HI Workforce

Two-thirds of respondents (66 percent) reported that their organization experienced understaffing of HI positions in the last two years (**Figure 1**), which led to a high prevalence of workforce-related challenges, impacts to daily healthcare operations, and lowered data quality.

Figure 1

Understaffing in the Last Two Years



34% Did not experience understaffing

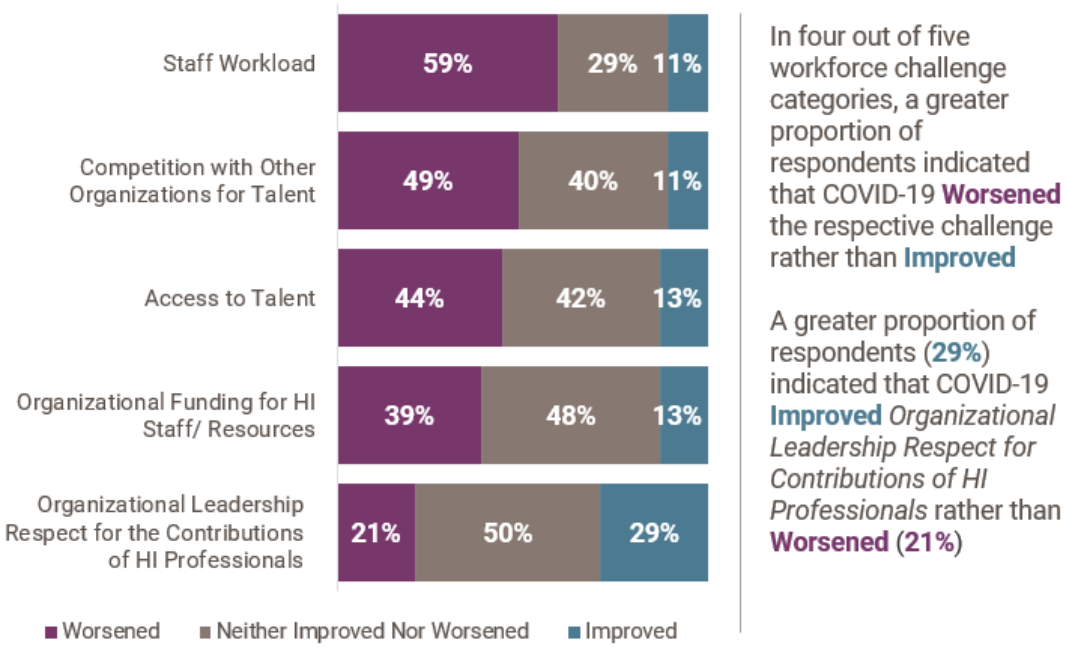
66% Experienced understaffing

QUESTION: Has your organization experienced understaffing of HI positions in the last two years? (N=2494)

The COVID-19 pandemic (COVID-19) may have contributed to issues facing the HI workforce, as respondents reported that the pandemic worsened staff workload (59 percent), competition with other organizations for talent (49 percent), access to talent (44 percent), and organizational funding for HI staff and resources (39 percent) (**Figure 2**).

Figure 2

Impacts of COVID-19



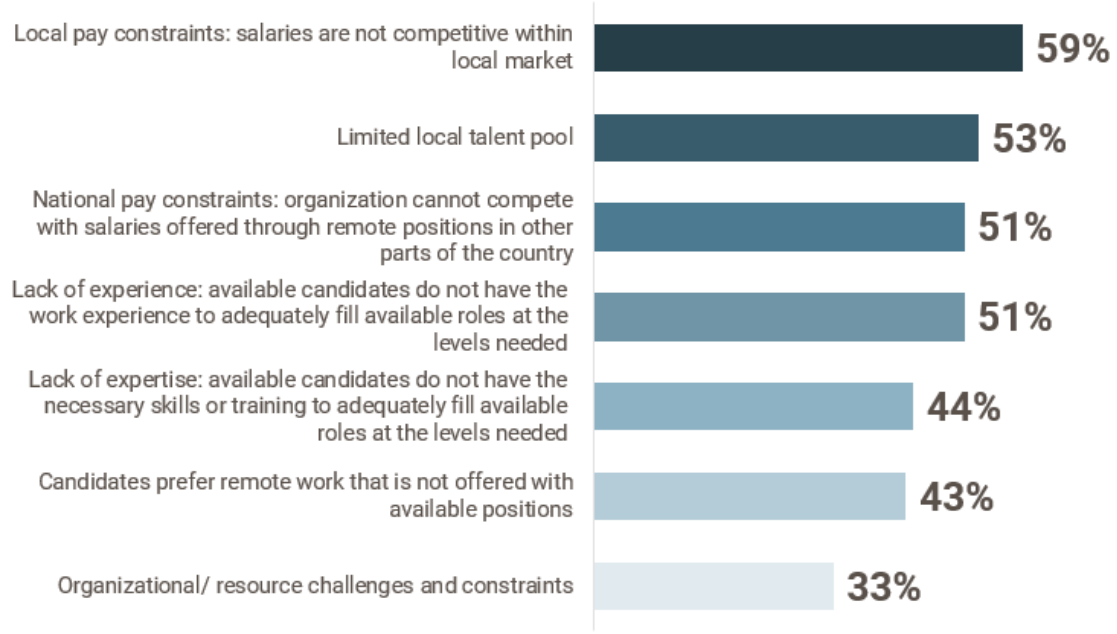
QUESTION: What impact do you think COVID had on the following HI workforce challenges, as experienced within your organization? (Staff workload: N= 2442, Competition with other organizations: N=2435, Access to talent: N=2436, Organizational funding: N=2431, Leadership respect: N=2436

Understaffing is driven in part by employee turnover (discussed in more detail in the following subsection) and hiring challenges. When asked about the top challenges for recruiting HI professionals, respondents emphasized competitive compensation issues, a limited local talent pool, difficulty finding candidates with the adequate work experience or expertise, and preferences for remote work (**Figure 3**). Local pay constraints, meaning salaries that are not competitive within the local market, and national pay constraints, meaning salaries that are not competitive with remote positions offered by organizations elsewhere in the country, were ranked among the top three recruitment issues by the majority of respondents (59 and 51 percent, respectively). Limited local talent pool was also commonly ranked as one of the top three challenges (53 percent of respondents), with higher responses from rural areas compared to urban and suburban.*

Figure 3

Challenges for Recruiting HI Professionals

When asked about the top recruitment challenges, percent of respondents that ranked the following in the top 3:

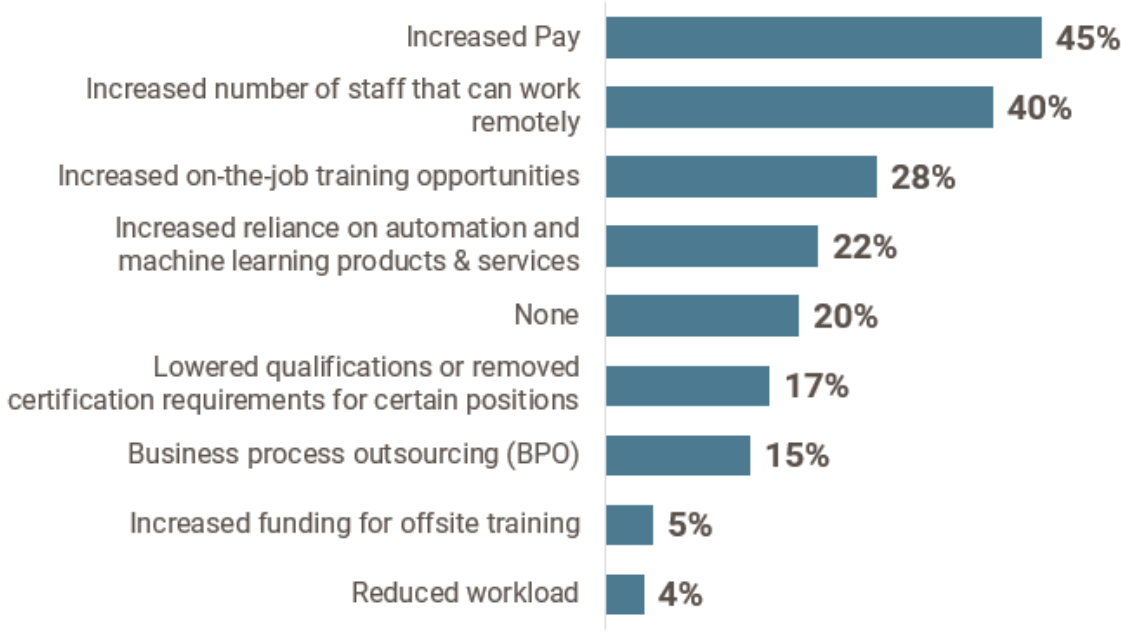


QUESTION: Which of the following issues has the greatest impact on recruitment of HI professionals to your organization? *Please rank from most impactful to least impactful. Do not rank if it a selection is not something your organization experiences.*
(Local pay constraints: N= 1975, Limited talent pool: N=2037, National pay constraints: 1912, Lack of experience: N=2115, Lack of expertise: N= 2070, Candidates prefer remote work: N=1913, Organizational/ resource challenges: N=1924)
NOTE: This graph depicts the proportion of respondents that selected the hiring challenge as their top three most impactful challenges, so totals do not equal 100%

Organizations have addressed recruitment issues via increased pay (45 percent of respondents), increased number of remote workers (40 percent), increased training opportunities (28 percent), and increased reliance on automation and machine learning (22 percent) (**Figure 4**). Still, 20 percent of respondents reported that their organizations are taking no action to address HI hiring challenges.

Figure 4

Organizational Actions to Improve Recruitment

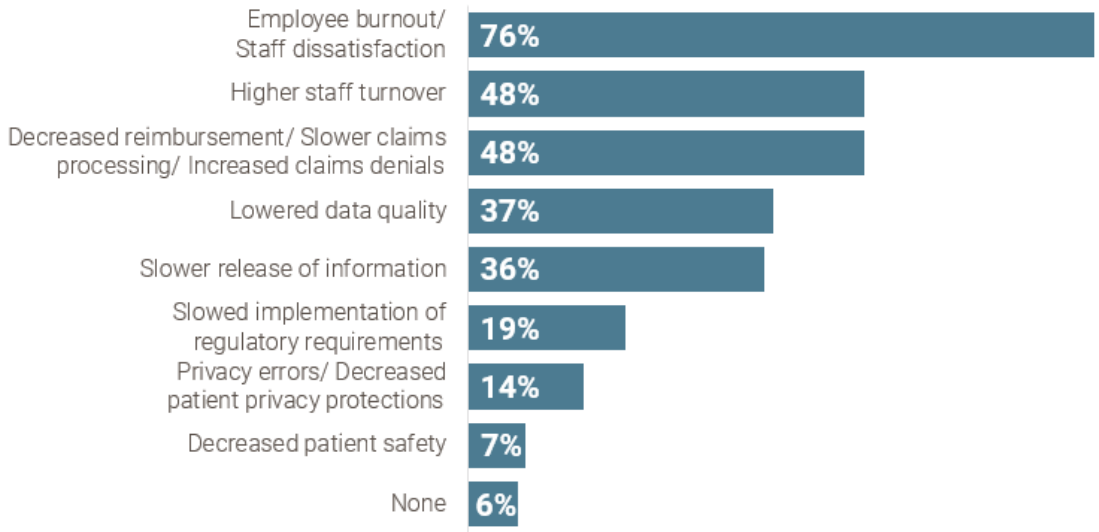


QUESTION: What steps have you or your organization taken to address recruitment of HI professionals to your organization? Select all that apply. (N=2396)
NOTE: Respondents were able to select multiple response options, so totals do not equal 100%

Given the range of vital roles that HI professionals occupy throughout the healthcare ecosystem, understaffing can impact many critical areas. Respondents who experienced understaffing reported a range of impacts. Reported impacts to the employee's work experience include burnout/staff dissatisfaction and higher staff turnover, while impacts to the management of patient data include: reimbursement issues; lowered data quality; slower release of information; slowed implementation of regulatory requirements; privacy errors; and decreased patient safety (**Figure 5**). These impacts are discussed in more detail in the following sections.

Figure 5

Impacts of Understaffing



QUESTION: What consequences of understaffing among HI positions have you seen impact your organization within the last year? *Select all that apply.* (N=1645)
NOTE: Respondents were able to select multiple response options, so totals do not equal 100%

Employee Burnout/Staff Dissatisfaction and Turnover

Survey findings reveal that understaffing of HI professionals has a major impact on employee burnout and satisfaction as well as staff turnover. Understaffing, burnout/dissatisfaction, and employee turnover are interrelated factors. Seventy-six percent of those who reported understaffing identified employee burnout and staff dissatisfaction as a result of understaffing. This result was consistently reported at high levels across urban, rural, and suburban settings.

Key Interview Insights:

HI Staff Burnout

An HI Manager from a small health system in the Great Plains shared that staff at their organizations were burned out due to increasing government rules and regulations, decreased revenue (unable to increase prices despite inflation), increasing insurance denials, and frustration about the amount of time needed to document their work in order for the organization to get paid.

Employee burnout and dissatisfaction may have been exacerbated by COVID-19, as 59 percent of respondents felt that the pandemic worsened staff workload for HI teams and individuals (**Figure 2**). Burnout and employee dissatisfaction appears to have affected most organizations but was reported at higher rates among those who reported experiencing HI understaffing than those who did not (70 percent versus 38 percent).* This suggests that COVID-19 increased workload and burnout even for fully staffed teams but was likely worse among understaffed teams. Nearly half (49 percent) of respondents also reported that COVID-19 heightened competition with other organizations for talent, which may have compounded understaffing and turnover issues.

Asterisks (*) denote statistical significance between observed differences.

Higher staff turnover was the second most common result of understaffing, reported by 48 percent of respondents who were experiencing understaffing. This was reported at higher levels among respondents from revenue cycle vendors (62 percent) compared to other settings and also increased with organization size.

Low pay was cited as the leading reason for turnover among HI professionals. When asked to rank individual reasons for turnover of HI professionals at their organization, low pay was identified as most impactful by nearly half of respondents (47 percent) (**Figure 6**). Respondents working in rural or suburban areas were more likely to report low pay as the most impactful driver of turnover (50 percent and 51 percent, respectively) compared to those in urban areas (44 percent).*

Key Interview Insights:

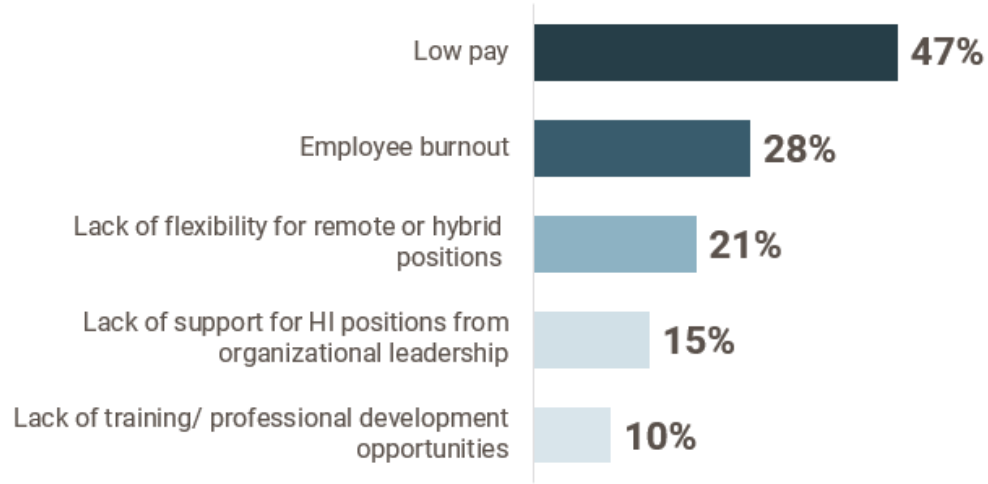
Compensation Issues Challenge Retention

HI leaders from two health systems shared how compensation was a major challenge for hiring and retaining staff, especially with the increase in the number of remote workers due to COVID-19. One manager works in North Dakota and cannot compete with compensation offered to remote workers by health systems in metropolitan areas with higher revenues. Another HI director shared how staff have left their organization due to compensation and cost of living challenges.

Figure 6

Drivers of HI Professional Turnover

When considering each driver of turnover, respondents ranked each factor individually (from most impactful to least impactful) for the following categories—the graph presents the responses indicating the 'most impactful' issue for turnover of HI professionals at their organization for each category:



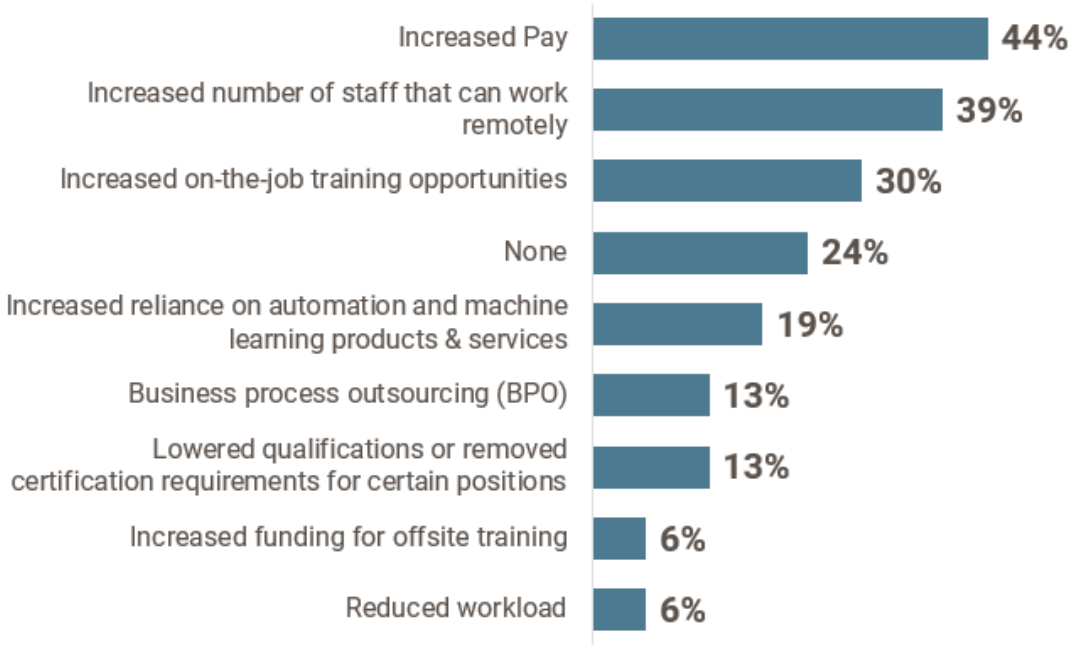
QUESTION: Which of the following issues has the greatest impact on turnover of HI professionals at your organization? *Rank from 1 (Most impactful) to 5 (least impactful).*
(Low pay: N=1891, Employee burnout: N=1852, Lack of flexibility: N=1662, Lack of support: N=1645, Lack of training: N=1633)
NOTE: This graph combines answers for 5 separate rankings, so totals do not equal 100%

Asterisks (*) denote statistical significance between observed differences.

Although compensation was the top driver of turnover by far, less than half (44 percent) of respondents indicated that their organizations are also increasing pay to address turnover of HI professionals (**Figure 7**). This was consistent across urban, suburban, and rural settings. Increasing pay as a strategy to address turnover was reported at higher levels among respondents from payers (50 percent) and revenue cycle vendors (52 percent) compared to other settings (44 percent among hospital providers and 46 percent among non-hospital providers) and among respondents at organizations that were experiencing understaffing (46 percent) compared to those that were not (41 percent).*

Figure 7

Organizational Actions to Address Turnover



QUESTION: What steps have you or your organization taken to address turnover of HI professionals currently at your organization? Select all that apply. (N=2366)
NOTE: Respondents were able to select multiple response options, so totals do not equal 100%

Twenty-eight percent of respondents ranked employee burnout as the second most impactful driver of turnover for HI professionals, demonstrating the interrelationship between turnover and burnout. Respondents working in revenue cycle vendor settings were more likely to report burnout as the top driver of turnover (41 percent) compared to respondents in hospital (27 percent) and non-hospital provider settings (28 percent).*

While employee burnout was the second most impactful driver of turnover, few respondents (six percent) reported that their organizations were reducing workload to address turnover. Burnout may be addressed through strategies that reduce administrative and operational burdens (discussed further in the advanced technologies section).

Asterisks (*) denote statistical significance between observed differences.

Finally, lack of flexibility for remote or hybrid positions was noted as the most impactful driver of HI professional turnover by 21 percent of respondents, indicating that professionals may be turning to other organizations with more flexible positions.

There may be other factors contributing to turnover among HI professionals that were not captured in this survey. For instance, interviewees shared concerns that HI professionals were retiring and aging out of the workforce faster than people were entering. The Bureau of Labor Statistics (BLS) has also noted that many of the projected openings for HI professionals over the next nine years are due in part to workers exiting the labor force (e.g., retiring).[7]

Our results indicate that burnout and turnover are widespread issues across the HI profession, worsened by COVID-19 and pay limitations. Although 76 percent of organizations are taking steps to address turnover and support retention, additional support may be needed as 24 percent of respondents indicated their organizations are taking no action at all. Given the critical role HI professionals play in healthcare delivery and operations, widespread burnout and turnover in the HI workforce is important for policymakers to address.

Key Interview Insights:

Retirement Contributes to Turnover of HI Professionals

Both interviewees shared that HI professionals are retiring at a faster rate than entering the workforce. Retirement was a main reason for turnover, especially for HI leadership positions. To compound this issue, leadership roles are even more difficult to fill due to the limited number of candidates who have the necessary level of credentials.

Reimbursement Challenges

Another result of understaffing of HI professionals were further downstream effects related to the management and use of patient data. Nearly half (48 percent) of respondents noted that understaffing at their organization led to decreased reimbursement, slower claims processing, and increased claims denials (**Figure 5**).

Among organizations that had unfilled HI roles for six months or longer in the last year, 40 percent of respondents reported unfilled roles in revenue cycle management (**Figure 8**). Additionally, professionals at organizations where over 50 percent of HI positions required a certification were more likely than organizations with fewer certified roles to have unfilled positions in this critical area (46 percent versus 35 percent).*

Key Interview Insights:

The Frustrations of Increasing Claims Denials

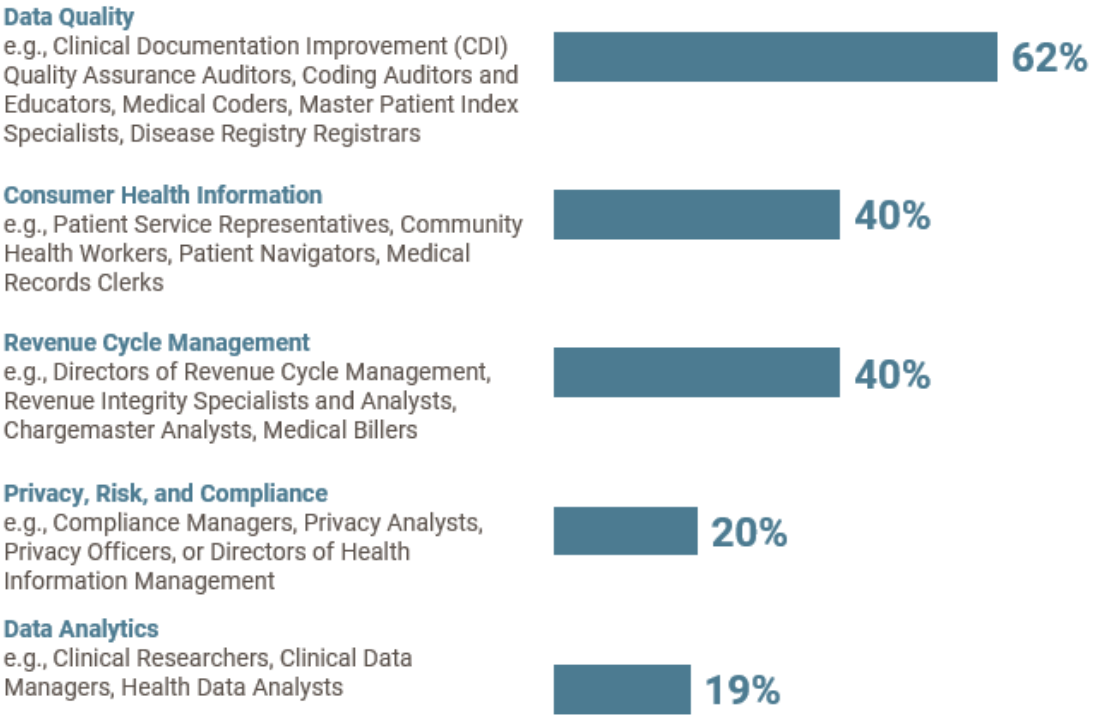
At a small health system in the Great Plains, staff are frustrated with increasing insurance denials and the amount of time they must spend documenting all of their work in order for the organization to get paid for the services it provides. There is a shortage of staff to support reimbursement work.

[7] Health Information Technologists and Medical Registrars: Occupational Outlook Handbook - U.S. Bureau of Labor Statistics, 2023

Professionals in revenue cycle management are responsible for critical processes that help ensure the flow of 4.07 billion electronic claims per year.[8] Survey results raise concerns about workflows and operations that are essential to system sustainability and organizations' continued ability to deliver quality care.

Figure 8

Unfilled Role Areas



QUESTION: In which areas have you had roles unfilled for 6 months or longer over the last year? Select all that apply. (N=1211)
NOTE: Respondents were able to select multiple response options, so totals do not equal 100%

Lowered Data Quality

Following reimbursement issues, lowered data quality was another impact of understaffing of HI professionals, as reported by 37 percent of respondents (**Figure 5**). Lowered data quality was reported most often among respondents from revenue cycle vendors (44 percent) and was similarly reported among respondents from non-hospital providers (43 percent) and hospital providers (36 percent). While these figures are noteworthy across all settings, it is especially important to underscore that both patient care and billing may be negatively impacted by lowered data quality at hospital providers.

[8] 2022 CAQH Index - CAQH, 2023

Among respondents whose organizations had unfilled roles for six months or longer over the last year, data quality was the most common area of unfilled roles (reported by 62 percent of respondents) (**Figure 8**). This was more commonly reported among hospital providers (65 percent) compared to non-hospital providers (55 percent).* This pattern was also observed across respondents in payer settings (73 percent) and revenue cycle vendors (62 percent); however, the small sample size precludes statistical comparison between these groups. Unfilled roles in data quality were also more commonly reported among organizations where over 50 percent of HI roles required a certification (70 percent) compared to those where 50 percent or less required a certification (55 percent).*

HI professionals working in data quality ensure that patient health information is complete, accurate, and timely. Data quality is crucial among providers, payers, patients, and public health officials. Poor data quality can negatively impact the development of effective interventions, patient safety, public health efforts, emergency preparedness, care quality, and reimbursement processes. Supporting the HI workforce in maintaining data quality is therefore critical to all stakeholders involved in the health care system.

Slower Release of Information

Slightly over one-third of respondents (36 percent) noted that slower release of health information was a result of understaffing of HI professionals at their organization (**Figure 5**). Responses indicating slower release of information were higher among organizations where 50 percent or less of HI roles required a certification (44 percent) compared to organizations where over 50 percent of roles required a certification (26 percent).*

The management, access, and exchange of patient health information is fundamental to healthcare delivery and improvement. For instance, slower release of medical records may increase patient wait times for needed care and delay coordination among providers and between health and social services. Overall, slower release of patient health records has widespread implications for care access and quality, including care coordination, continuity, and patient safety.

Implementation of Regulatory Requirements

Following slower release of information, respondents (19 percent) noted that understaffing also led to slowed implementation of regulatory requirements at their organization (**Figure 5**). This was higher at organizations where 50 percent or less of positions required a certification (23 percent) compared to organizations where more than 50 percent required a certification (14 percent).*

Organizations with fewer staff, particularly those who are certified, may face difficulty in rapidly implementing new regulations from the changing and complex landscape of regulatory requirements, such as the Health Insurance Portability and Accountability Act (HIPAA) and the 21st Century Cures Act. As additional regulations are implemented, it is important to simultaneously provide the HI workforce with appropriate training and certification opportunities to support timely and practical implementation.

Asterisks (*) denote statistical significance between observed differences.

Patient Privacy and Safety

Lastly, respondents noted that decreased patient privacy protections and patient safety were results of understaffing (**Figure 5**). Fourteen percent of respondents reported that privacy errors and decreased patient privacy protections were impacts of understaffing at their organization. In addition, seven percent of respondents reported that decreased patient safety was an impact of understaffing at their organization. These impacts may be related to issues of data quality and slowed implementation of regulatory requirements listed above. As HI professionals are crucial to the protection of patient privacy and safety, understaffing may lead to challenges in these areas which, in turn, could cause problems with patient care, engagement, and trust in the health care system.

In the survey, the majority of respondents indicated that the percentage of unfilled HI roles at their organization has either increased (38 percent) or stayed about the same (45 percent) in the past year, showing that understaffing challenges are not likely to be resolved without action. The anticipated persistence of understaffing in the HI workforce should also be understood in the context of expected job growth in the HI field – a 16 percent annual increase in the number of job openings per year between 2022-32, according to the BLS.[9]

The widespread impact of understaffing suggests a need for system-wide solutions. The following recommendation offers approaches for policymakers to consider addressing understaffing in the HI workforce and the potential downstream impacts on healthcare delivery, quality, access, and sustainability.

Policy Recommendation: Federal Funding for Education and Training

There is a need to strengthen support for individuals entering the HI workforce to counter the impacts of understaffing and support the profession in addressing the health information needs of the healthcare system. Policymakers should work to break down barriers to education and training for those interested in entering the HI workforce.

Congress should allocate a portion of new and existing grants within the US Department of Health and Human Services (HHS) on HI education, training, and certification programs. Specifically, grants should be provided through the Health Resources and Services Administration (HRSA) to support training and education for HI professionals, especially those in rural and underserved areas.

It is also important to provide federal funding through additional channels. For example, HHS could collaborate with the US Department of Education to fund scholarships for undergraduate and graduate programs and, in collaboration with the US Department of Labor, develop apprenticeship opportunities for individuals interested in pursuing a career in health information. Funds could be distributed at the federal level or among states, allowing state health departments to allocate funding according to specific local needs. The specific direction of funds may be unique to the needs of each state.

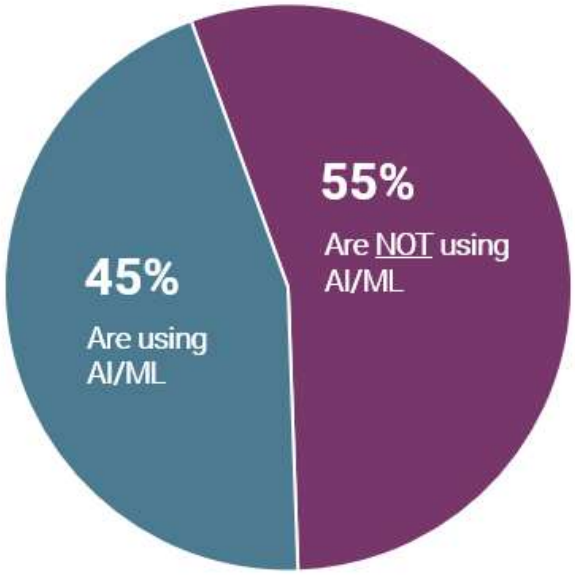
[9] Health Information Technologists and Medical Registrars: Occupational Outlook Handbook - U.S. Bureau of Labor Statistics, 2023

Preparing for the Increased Uptake of Advanced Technologies

As HI professionals continue to confront issues related to staff turnover and burnout, organizations may be looking to emerging technology to help alleviate these concerns. Nearly half (45 percent) of respondents reported their organization uses artificial intelligence (AI) or machine learning (ML) tools for coding, documentation, or other HI-related workflows (**Figure 9**). Use of AI/ ML was higher in urban (50 percent) and suburban (51 percent) settings compared to rural settings (28 percent).* Smaller workplaces with one to 25 HI professionals were also less likely to use AI/ ML compared to over half of respondents from larger organization sizes with over 100 HI professionals (23 percent versus 63 percent).*

Figure 9

AI/ ML Use



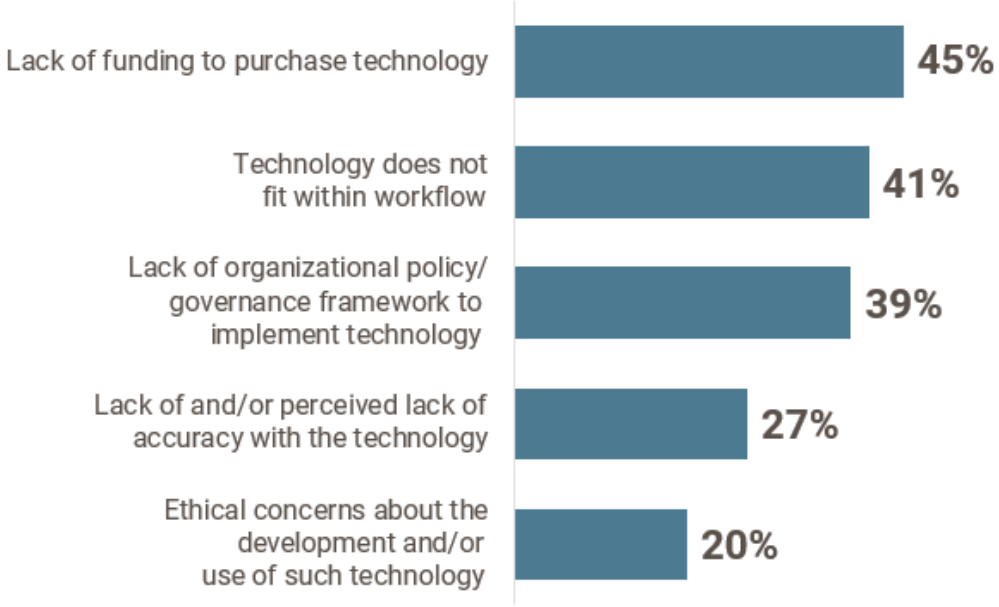
QUESTION: Does your department use artificial intelligence and/or machine learning (AI/ML) to assist with coding, documentation, or other HI-related workflows? (N=2,388)

Among those who are not using AI/ ML, lack of funding to purchase technology was the primary reason for not using these tools (**Figure 10**). Respondents in rural areas were more likely to list lack of funding as a reason for not currently using AI/ ML tools compared to urban and suburban (57 percent versus 41 percent and 38 percent, respectively),* indicating that this is a prominent barrier in rural areas. Organization size also appears to impact whether respondents are not using AI/ ML. Forty-nine percent of respondents from smaller organizations (one to 25 HI professionals) cited lack of funding as a reason for not using AI/ ML, compared to 38 percent of respondents from larger organizations (with over 100 HI professionals).*

Figure 10

Why No AI/ ML Use

Respondents cited the following as reasons for not using AI/ML:



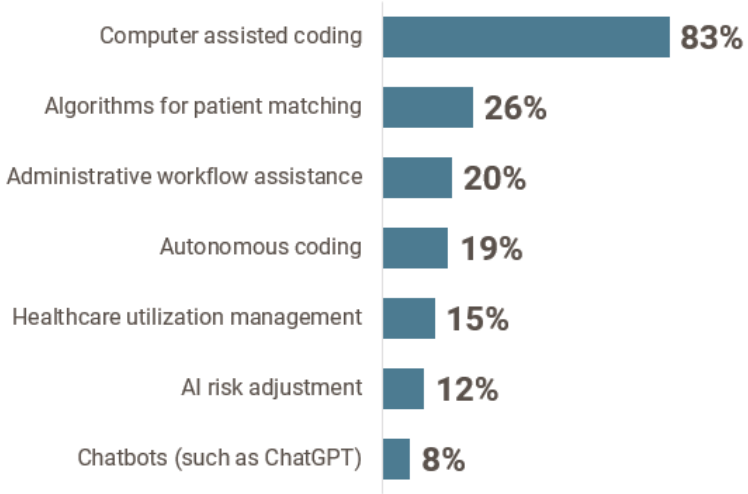
QUESTION: Why don't you currently use artificial intelligence or machine learning (AI/ML) with coding, documentation, or other HI-related workflows? Select all that apply. (N=1227)
NOTE: Respondents were able to select multiple response options, so totals do not equal 100%

By a wide margin, the most common AI/ ML tool used was computer-assisted coding (83 percent), with lower adoption of algorithms for patient matching (26 percent), administrative workflow assistance (20 percent), autonomous coding (19 percent), healthcare utilization management (15 percent), AI risk adjustment (12 percent), and chatbots (8 percent) (**Figure 11**).

In our survey, respondents were given a menu of potential benefits and challenges related to using each AI/ ML tool (**Figure 12**). Respondents reported a mix of benefits (e.g., reduced administrative burden and improved data quality) and challenges (e.g.,

Figure 11

AI/ ML Tools Used



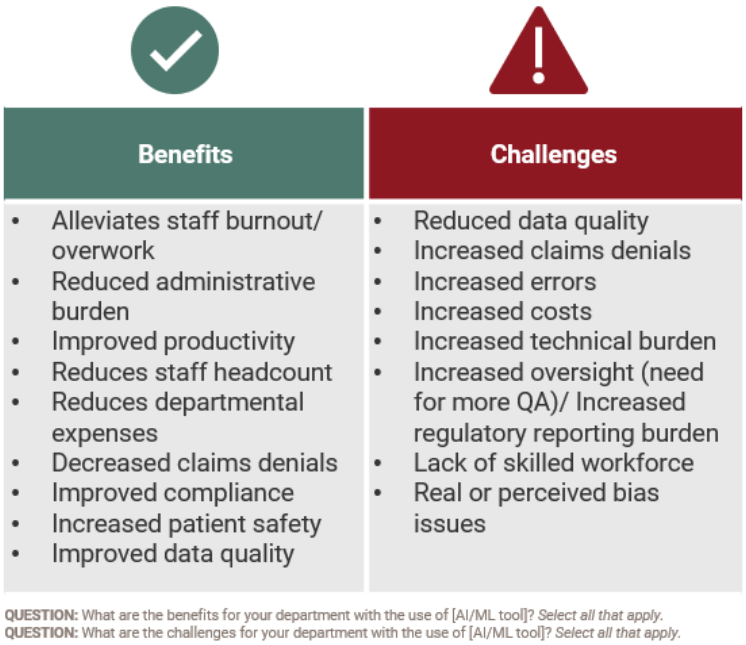
QUESTION: What types of AI/ ML does your department use? *Select all that apply.* (N=1068)
NOTE: Respondents were able to select multiple response options, so totals do not equal 100%

increased technical burden, oversight, and errors) as a result of this technology (**Figure 12** and discussed in greater detail below).

Employee Burnout and Productivity

Figure 12

Potential Benefits and Challenges of AI/ ML



Benefits	Challenges
• Alleviates staff burnout/ overwork • Reduced administrative burden • Improved productivity • Reduces staff headcount • Reduces departmental expenses • Decreased claims denials • Improved compliance • Increased patient safety • Improved data quality	• Reduced data quality • Increased claims denials • Increased errors • Increased costs • Increased technical burden • Increased oversight (need for more QA)/ Increased regulatory reporting burden • Lack of skilled workforce • Real or perceived bias issues

QUESTION: What are the benefits for your department with the use of [AI/ML tool]? *Select all that apply.*
QUESTION: What are the challenges for your department with the use of [AI/ML tool]? *Select all that apply.*

Respondents noted that certain AI/ ML technologies alleviated staff burnout and overwork, including autonomous coding (48 percent), administrative workflow assistance (46 percent), chatbots (32 percent), and healthcare utilization management (30 percent).

Improved productivity, which may also help mitigate staff burnout, was one of the top benefits cited for all AI/ ML tools included in the survey: computer assisted coding (75 percent); autonomous coding (67 percent); administrative workflow assistance (64 percent); algorithms for patient matching (57 percent); healthcare utilization management (54 percent); AI risk adjustment (53 percent); and chatbots (46 percent), among respondents using each of the respective tools.

Administrative Burden, Oversight, and Technical Burden

Reduced administrative burden was reported as a benefit for all tools, including administrative workflow assistance (71 percent), chatbots (53 percent), algorithms for patient matching (49 percent), healthcare utilization management (42 percent), autonomous coding (37 percent), AI risk adjustment (36 percent), and computer assisted coding (22 percent). These tools show potential to support the HI workforce, given that staff burnout was the most commonly reported impact of understaffing and a top driver of HI staff turnover.

Although such tools are useful, respondents also noted that they may require increased oversight (e.g., increased quality assurance and regulatory reporting burden) and lead to greater technical burden. For instance, increased oversight and technical burden were reported as challenges among those using computer assisted coding (33 percent and 31 percent, respectively), algorithms for patient matching (31 percent and 29 percent), administrative workflow assistance (29 percent and 33 percent), autonomous coding (42 percent and 32 percent), healthcare utilization management (27 percent and 27 percent), AI

risk adjustment (34 percent and 42 percent), and chatbots (25 percent and 30 percent). These reported challenges underscore the need for training to support effective staff supervision of AI/ ML technologies in order to derive their greatest value without compromising data integrity.

Claims Denials

Some AI/ ML tools may be useful in supporting a decrease in claims denials. For example, 41 percent of respondents who use AI/ ML healthcare utilization management tools and 30 percent of respondents who use computer assisted coding reported a decrease in denied claims. Other technologies had mixed results, such as AI risk adjustment (28 percent reporting decreased claims denials vs 14 percent reporting increased claims denials), and autonomous coding (25 percent vs 22 percent). These reported benefits and challenges demonstrate the utility of AI and ML tools in addressing the impacts of understaffing on critical reimbursement processes, while also underscoring the need for training and oversight of HI professionals overseeing the implementation and use of such technologies.

Key Interview Insights:

Use of Technology to Support Data Quality

At a small health system in the Great Plains, voice-recognition software saves HI professionals and providers time while preserving data quality by ensuring that clinical documentation is detailed and complete.

At a large health system in the Southwest, HI staff are incorporated into AI/ ML teams seeking to create use cases and applications for new technology, such as creating an automated process to review hospital records and triage data requests.

Data Quality

Lowered data quality was frequently cited as a concern among organizations experiencing HI understaffing. Survey results suggest that AI/ ML tools can help improve health data quality. For instance, improved data quality was a common benefit reported by respondents using algorithms for patient matching (66 percent), AI risk adjustment (63 percent), healthcare utilization management (57 percent), administrative workflow assistance (48 percent), and computer assisted coding (48 percent). However, respondents also noted that some tools led to increased errors, emphasizing the need for human oversight to maintain data quality. For example, 32 percent of respondents who reported using autonomous coding noted increased errors when using this tool, suggesting the continued need for human oversight and supervision of these technologies.

Implementation of Regulatory Requirements

Improved compliance was commonly reported as a benefit of all AI/ ML tools included in our survey, including healthcare utilization management (55 percent), AI risk adjustment (49 percent), computer assisted coding (42 percent), algorithms for patient matching (41 percent), administrative workflow assistance (37 percent), autonomous coding (30 percent), and chatbots (23 percent). However, increased regulatory reporting burden and oversight were also associated with many tools, including

autonomous coding (42 percent), AI risk adjustment (34 percent), computer assisted coding (33 percent), algorithms for patient matching (31 percent), administrative workflow assistance (29 percent), healthcare utilization management (27 percent), and chatbots (25 percent). Increased regulatory burden and oversight reported for these tools may be due to an increased need for employees to verify tool compliance.

Patient Safety

Some AI/ ML tools may also provide benefits to counter the impact of understaffing on patient safety. For example, increased patient safety was reported as a benefit of algorithms for patient matching (by 56 percent of respondents using this tool), healthcare utilization management (30 percent), and AI risk adjustment (23 percent). These tools may be especially useful in settings where patient safety is most relevant; for instance, 61 percent of respondents among hospital providers and 58 percent of respondents among non-hospital providers reported that patient safety was a benefit of algorithms for patient matching.

Summary of AI/ ML Benefits and Challenges

Generally, respondents reported concerns about AI/ ML-related challenges at lower rates than they reported potential benefits. The challenges with these technologies may dissipate over time with increased use, greater staff training, and enhanced standards and guidance. Respondents expressed a higher degree of concern about autonomous coding than other AI/ ML tools—most frequently citing increased oversight, increased errors, and increased technical burden as challenges. Overall, the survey results illustrate both the benefits of new technologies in supporting HI operations and the impacts of understaffing, while highlighting the need for workforce training and improved oversight to mitigate technical burdens, quality assurance, and regulatory reporting burden.

AI/ ML Future Outlook

Looking ahead, more than half of respondents (52 percent) reported that their organization plans to increase use of AI/ ML over the next 12 months and 47 percent plan to keep use the same. This indicates that the role of emerging technologies in HI will continue to accelerate in the future. Organizations experiencing understaffing were more likely to report increasing use of AI/ ML in the next year (55 percent compared to 44 percent among those who did not experience understaffing),* which may underscore the role of these technologies in addressing understaffing.

Increasing use of AI and ML tools to support HI operations may impact the future role of HI professionals. Forty percent of respondents believe that AI/ ML will lead to a decrease in the number of HI jobs at their organization, 40 percent think it will stay the same, and 20 percent believe it will lead to an increase (**Figure 13**).

Figure 13

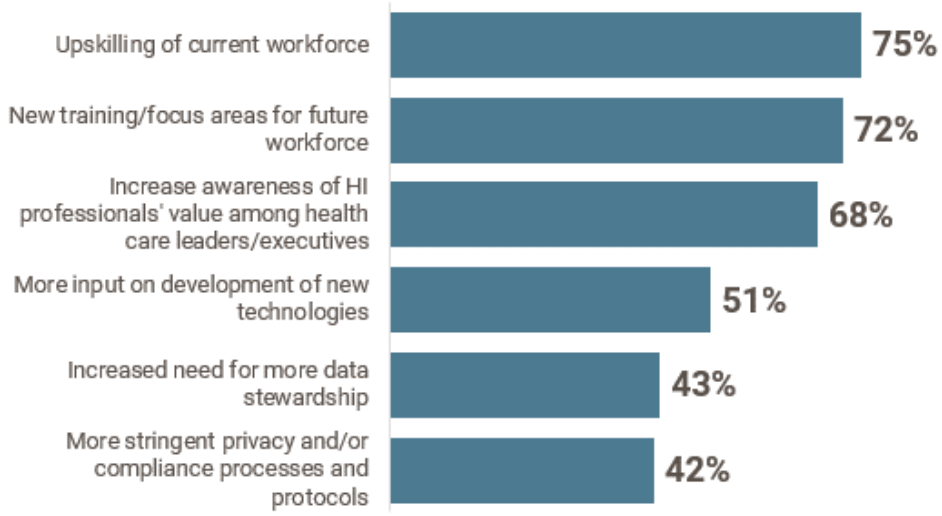
Impact of AI/ML on HI Jobs Over the Next Five Years

QUESTION: What impact do you think artificial intelligence or machine learning (AI/ML) will have on the total number of HI jobs available at your organization over the next 5 years? (n=2,345)

Respondents believe that action is necessary for the HI profession to succeed amid increased adoption of AI/ ML tools (**Figure 14**). Respondents recommended upskilling of current workforce (75 percent), followed by new training/ focus areas (72 percent). As detailed above, many AI/ ML tools may decrease time-consuming administrative tasks among HI professionals, creating opportunities for HI professionals to move into higher-level roles that focus on oversight, quality assurance, and regulatory compliance, while expanding their technical expertise.

Figure 14

Next Steps for the HI Profession



QUESTION: What do you think is necessary for the HI profession to succeed amid the increased adoption of artificial intelligence or machine learning (AI/ML) tools? Select all that apply. (N=2329)
NOTE: Respondents were able to select multiple response options, so totals do not equal 100%

In addition to upskilling and training, respondents report an increased awareness of HI professionals' value among healthcare leaders (68 percent), more input on development of new technologies (51 percent), increased need for more data stewardship (43 percent), and more stringent privacy and/or compliance processes and protocols (42 percent) as necessary next steps for the HI profession to succeed amid increasing adoption of AI/ ML. Given the wide range of next steps noted by respondents, it is important to continually engage HI professionals and derive meaningful insights around the best way to navigate increasing AI/ ML use in healthcare. There is also a clear need for organizations to develop privacy and compliance processes and protocols for AI/ ML use, involving HI leaders throughout development and implementation.

Integration of AI/ ML tools into HI operations impacts data quality, patient safety, and the privacy of patients' health information. Overall, our survey results show that while AI/ ML tools have the capacity to provide support and create efficiencies for HI operations, involvement and oversight by human staff are essential to ensure safe and effective implementation of these tools. Given the need for human oversight, increased adoption of new technologies will likely cause a shift in the HI profession. Professionals in HI will require upskilling and training to build capacity to oversee technology use and develop innovative ways of utilizing these tools to support healthcare operations and improvement.

Policy Recommendations

Federal Funding for Upskilling Programs

Health information privacy and quality considerations may become increasingly complex as AI tools evolve and are deployed within the US healthcare ecosystem. Current and future HI workforces must be prepared to maintain high standards of data quality and to ensure the confidentiality, privacy and security of patients' health information. Federally funded rapid upskilling programs for HI professionals are needed to equip the current workforce with the technical skills and capacity to oversee adoption, implementation, and use of AI and ML tools.

Government agencies including the Office of the National Coordinator for Health Information Technology (ONC) and the Health Resources and Services Administration (HRSA) should convene health information professionals, providers, payers, and data technology companies to develop a rapid upskilling program curriculum to be deployed and supported online and/ or at the state and local level. This curriculum could be developed as a full module in ONC's Health IT Curriculum Resources for Educators dedicated to training, best practices, and guidance for using different AI and ML tools. Supported by federal funding, this curriculum could be circulated nationally and adapted at the state and local level and/or at healthcare organizations as a training and upskilling program. This curriculum could also be integrated into current certification, graduate, and undergraduate health information programs.

Research to Understand Impact of AI/ ML and Improve Use and Impacts

With the long-term impacts of AI/ ML tools unclear, continued investigation of impacts and the development of guidance and best practices is needed to ensure effective use and appropriation of funding. Additional research by government and external stakeholders such as AHIMA is needed to further understand real-world experiences with AI/ ML tools, as well as downstream implications including: implementation challenges; barriers to adoption, impact on data quality, patient privacy, and patient safety; workflow impacts; and impacts on HI workforce staffing needs.

HRSA or other accountable government agencies should also fund research on the impact of specific AI and ML tools on administrative compliance, staffing needs, and patient-related outcomes such as readmissions, safety, and care experience.

Creation of Best Practices to Guide Effective and Safe Use of Technologies

As adoption of AI/ ML tools increases, it is essential to develop best practices to ensure standardized, effective, and safe use of technologies. The National Institute of Standards and Technology (NIST) should consider convening AI experts and HI leaders in a working group to develop such standards for health systems and hospitals (or create a healthcare-specific subgroup of NIST's current AI Standards Coordination Working Group).

Professional organizations such as AHIMA should also leverage membership learning collaboratives and working groups to develop guidance and best practices. These standards could be disseminated via professional organizations in webinars and online resources for members.

Conclusion

NORC's HI workforce survey highlighted HI workforce issues and the downstream impact of understaffing on critical healthcare operations, while also illuminating the promising role of AI/ ML tools in helping to mitigate these issues and support the workforce. Survey respondents indicated that understaffing has a significant impact on both individuals (e.g., burnout/dissatisfaction, turnover) and their organizations (e.g., data quality issues, reduced or delayed reimbursement). Although AI/ ML tools can provide support and efficiencies for HI operations that help alleviate the impacts of understaffing, oversight by HI professionals is essential to ensure safe and effective utilization of these emerging technologies. Towards this end, education support, upskilling, and training for HI professionals are necessary to support the healthcare ecosystem. The policy recommendations presented throughout this report support AHIMA objectives to address present challenges and position the HI workforce for future success.

These findings validate the need for comprehensive solutions to address interrelated HI workforce issues and sufficiently prepare the HI workforce for increasing integration of AI/ ML tools. AHIMA is well-positioned to be a leading advocate for the HI profession, educating key stakeholders about challenges and opportunities related to the flow of health information throughout the healthcare system. Collaboration among policymakers, HI leaders, health systems, payers, advocates, and professional associations is necessary for ensuring the continued sustainability and well-being of the HI profession and the impact on the patient experience.

Limitations

While surveys can provide deep insight into perceptions and experiences of respondents, additional research on the topics discussed in this report is essential to further understand the challenges we have discussed. For example, focus group discussion and additional in-depth interviews would provide deeper insight and clarity to craft more actionable and targeted policy recommendations.

This research also does not represent all voices and perspectives. For instance, all respondents are at the manager level or higher. This was to provide insight into hiring decisions, but it also obscures the important perceptions of employees at lower levels of the organization who may be experiencing the impacts of understaffing even more.

Lastly, the sample size from US Territories was too small to make meaningful research claims in this report (18 respondents). However, levels of understaffing reported by these respondents were notably higher than all other US regions, indicating a potential area for additional research.