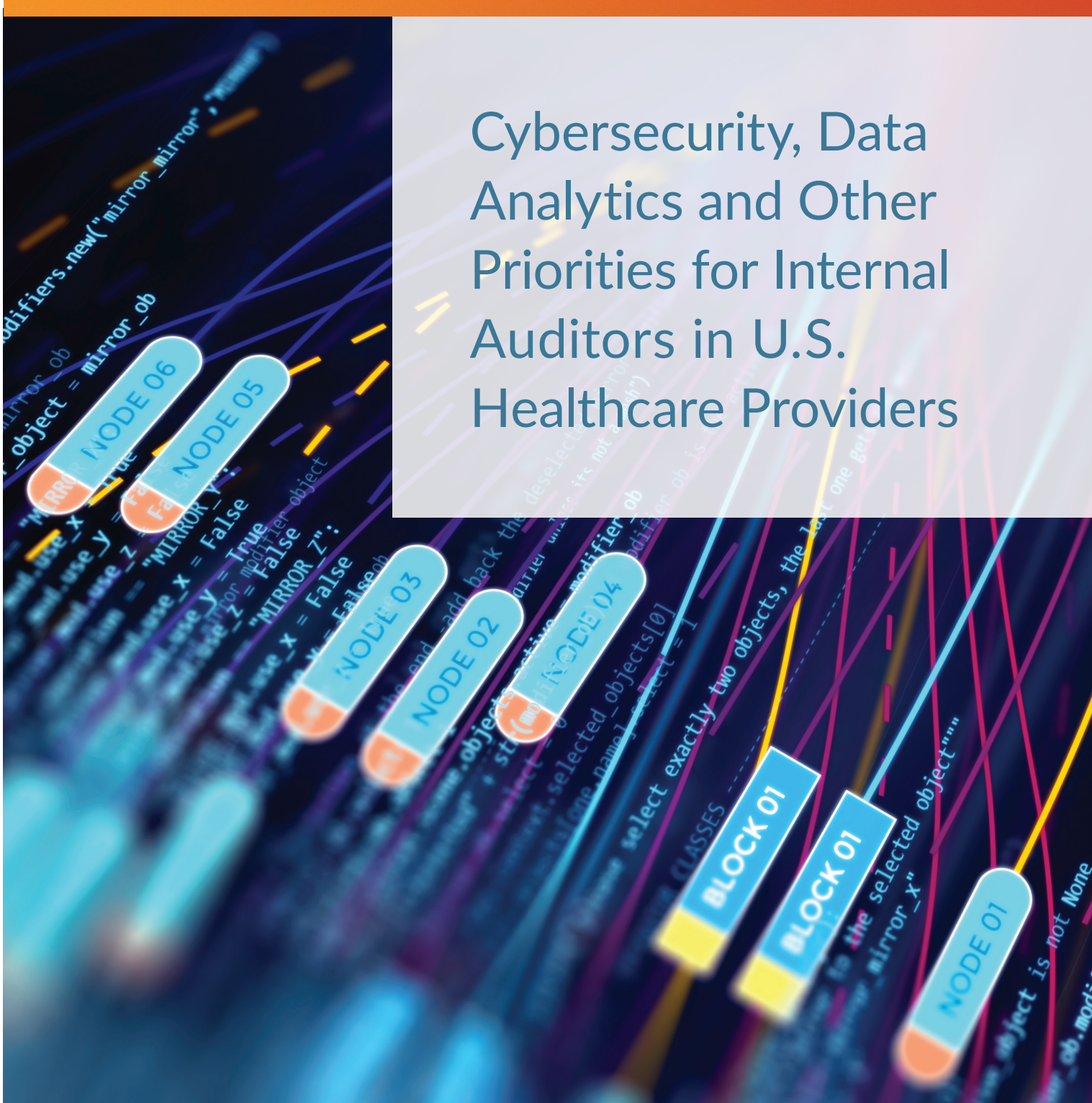


Cybersecurity, Data Analytics and Other Priorities for Internal Auditors in U.S. Healthcare Providers



Introduction

While analytics guru Nate Silver's call to action applies to all realms, it holds particular resonance for U.S. healthcare providers. These organizations are contending with substantial unknowns related to the fate of the Affordable Care Act (and whatever may — or may not — follow it), along with a rapidly changing market impacted by digital transformation and the need for higher levels of organizational performance and efficiency. Amid these changes, more departments within healthcare organizations, including internal audit, are starting to learn more about data analytics to achieve their objectives.

We must become more comfortable with probability and uncertainty.

– Nate Silver, author of *The Signal and the Noise*

Although data analytics are not immune to human error or misinterpretation, they remain a go-to business tool for reducing uncertainty, improving process efficiency and freeing up skilled professionals to contribute greater value to the organization. However, while data analytics are becoming a major focal point within internal audit functions, a range of other priorities are monopolizing internal audit plans — most notably, accounting and finance, the revenue cycle, information systems, cybersecurity, and regulatory compliance requirements. Internal audit leaders and their teams are working diligently with management to address these areas at a time when healthcare providers also contend with shrinking margins.

Protiviti's annual survey of chief audit executives (CAEs) and internal audit leaders and practitioners across a broad spectrum of industries assesses the state of and current priorities in the internal audit profession. This year, Protiviti once again partnered with the Association of Healthcare Internal Auditors (AHIA) to analyze more targeted and highly practical insights regarding the unique internal audit challenges for healthcare providers. The results of the 2017 Internal Audit Capabilities and Needs Survey of Healthcare Provider Organizations capture current perceptions in the industry while identifying what CAEs and other internal audit leaders will do to limit the impact of uncertainty while increasing the probability of organizational success.

To obtain a more direct feel for how perceptions translate to action, this year's survey respondents also were asked to identify specific items included in their audit plans (see sidebar).

In assessing all of the healthcare industry findings from this year's study, four clear themes emerge:

1. Current audit plans for healthcare providers emphasize a host of accounting, revenue and IT security issues.
2. As is the case in all industries, healthcare internal auditors place a high priority on helping to strengthen cybersecurity programs and information security controls throughout their increasingly digital organizations.
3. While more internal audit functions are adopting analytics, most capabilities still reside at the lower end of the maturity curve.
4. Value-based purchasing, population health and the Medicare Access and CHIP Reauthorization Act (MACRA) are among the top healthcare-specific areas for knowledge and skills improvement in internal audit.

Top 5 Audit Plan Issues in 2017

1. Information system controls
2. Billing and collections
3. Accounting/finance
4. Information security/cybersecurity program effectiveness
5. Charge capture

For additional insights, see page 4.

Survey Methodology

Protiviti conducts its Internal Audit Capabilities and Needs Survey annually to assess current skill levels of internal audit executives and professionals, identify areas in need of improvement and help stimulate the sharing of leading practices throughout the profession. This year, survey respondents answered nearly 150 questions in the study's three standard categories — General Technical Knowledge, Audit Process Knowledge, and Personal Skills and Capabilities — as well as a new category, Data Analytics and the Audit Process.

The overall results, which are based on information provided by more than 900 respondents, are contained within the master report (available at www.protiviti.com/IASurvey).

Respondents from healthcare providers — who comprise 9 percent of the survey participants — also answered internal audit questions specific to healthcare providers. AHIA and Protiviti analyzed these results and published this paper to equip internal audit executives and professionals in provider organizations with targeted insights about unique challenges within their domains.

In this paper, we present selected findings and offer insights based on the provider-specific and data analytics sections from our study. The paper does not report on the entire spectrum of results from the survey. For more detailed healthcare industry results from this study, please contact the AHIA or Protiviti.

Audit Plan Priorities: Protecting Revenue, Ensuring Cybersecurity

In addition to the extreme uncertainty confronting the healthcare industry as a result of, among other factors, ongoing efforts in the federal government to repeal and replace the Affordable Care Act, healthcare providers are working through a slate of more well-defined challenges. These issues — which include payment reform, regulatory compliance, cybersecurity, revenue

improvement and cost management, among many others — are reflected in the topics included in 2017 audit plans.

For 2017 audit plan items, CAEs and internal auditors are very much on the same page with regard to the most frequently covered issues. These issues are also similar to those covered in the 2016 audit plans.

All Respondents – Top Audit Plan Priorities for 2016	All Respondents – Top Audit Plan Priorities for 2017
Billing and collections	Information system controls
Accounting/finance	Billing and collections
Information security/cybersecurity program effectiveness	Accounting/finance
Compliance and regulatory monitoring	Information security/cybersecurity program effectiveness
Information system controls	Charge capture
Ancillary services	Electronic health records
Fraud, waste and abuse	Compliance and regulatory monitoring
Accounts payable	Ancillary services
Compliance investigations, corporate integrity agreements, regulatory audits, inspections, and sanctions	Accounts payable
Charge capture	Data/information governance
HIPAA compliance	HIPAA compliance
Human resources, employee screening and payroll	Fraud, waste and abuse
Capital projects and construction	Clinical systems
Data/information governance	Supply chain (e.g., procurement and inventory management)
Business continuity and disaster recovery (including pandemic events)	Denials management

There continues to be significant emphasis on the revenue cycle, information security and, by extension, cybersecurity program effectiveness. By focusing on billing and collections, charge capture, accounts payable, and other accounting and finance issues, internal audit functions are helping their margin-squeezed

organizations address and reduce revenue and cost management risks. For example, by evaluating charge capture processes, internal auditors can help identify incomplete or inaccurate charging, which leads to missed revenue.

CAEs – Top Audit Plan Priorities for 2016	CAEs – Top Audit Plan Priorities for 2017
Billing and collections	Charge capture
Accounting/finance	Billing and collections
Ancillary services	Accounting/finance
Charge capture	Information system controls
Fraud, waste and abuse	Information security/cybersecurity program effectiveness
Information system controls	Data/information governance
Supply chain (e.g., procurement and inventory management)	Electronic health records
Cash applications/posting	Denials management
Clinical systems	Clinical systems
Information security/cybersecurity program effectiveness	Cash applications/posting
Business continuity and disaster recovery (including pandemic events)	Supply chain (e.g., procurement and inventory management)
Data/information governance	Vendor risk management (including third-party access to data)
Third-party contracts and business associate agreements	Ancillary services
Patient accounting systems	Fraud, waste and abuse
Accounts payable	Patient access

As we noted in last year's report from the AHIA and Protiviti, CAEs and other internal audit leaders are highly aware of their organizations' cybersecurity risks.¹ These concerns have only intensified over the past year given the cyberattacks and industry guidance that have materialized. Some cybersecurity incidents resulted in major damage for healthcare providers. In just one example, a rural U.S. hospital was forced to replace its entire computer network in the wake of the early summer Petya ransomware attack; other hospitals also endured major disruptions.²

Earlier this year, the Health Care Industry Cybersecurity Task Force issued a draft of its *Report on Improving Cybersecurity in the Health Care Industry*.³ The hefty

document lays out six imperatives along with several recommendations and action items for healthcare companies to consider. Based on the recommendations and themes contained in the report, there are several actions healthcare providers should take to strengthen their cybersecurity programs. These include:⁴

1. Expanding cybersecurity efforts to include patient safety
2. Creating a concrete plan for legacy devices
3. Starting to formally align security controls to a cybersecurity framework (e.g., the NIST minimum standard)

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¹ "Cybersecurity, IT Transformation and Analytics – Addressing Priorities for Internal Auditors in U.S. Healthcare Provider Organizations," Protiviti and AHIA, 2016: www.protiviti.com/AU-en/insights/ahia-survey-2016.

² Evans, Melanie. "Cyberattack Forces West Virginia Hospital to Scrap Computers," *The Wall Street Journal*, June 29, 2017: www.wsj.com/articles/cyberattack-forces-west-virginia-hospital-to-scrap-its-computer-systems-1498769889.

³ U.S. Department of Health & Human Services, Public Health Emergency, www.phe.gov/preparedness/planning/CyberTF/Pages/default.aspx.

⁴ "Health Care Industry Cybersecurity Task Force Report Recommends Urgent Improvement," Protiviti Flash Report, June 7, 2017: www.protiviti.com/sites/default/files/united_states/insights/protiviti-flash-report-hhs-cyber-security-report-060717.pdf.

Use of Data Analytics in Internal Audit: Growing but Not (Yet) Sufficient

Digital advances and emerging technologies continue at a rapid pace in the healthcare provider industry. Building and using data analytics capabilities are among the top priorities for improvement among internal auditors, along with connected medical devices, virtual care, and the use of technology to enhance patient engagement and experience.

Our survey results show that CAEs have strong interest in improving internal audit’s use of data analytics. Many of the priorities that healthcare internal audit professionals, as well as CAEs specifically, identify this year center on data analytics and technology-enabled auditing. These include data analytics tools, statistical

analysis, continuous auditing, continuous monitoring and data manipulation, among others.

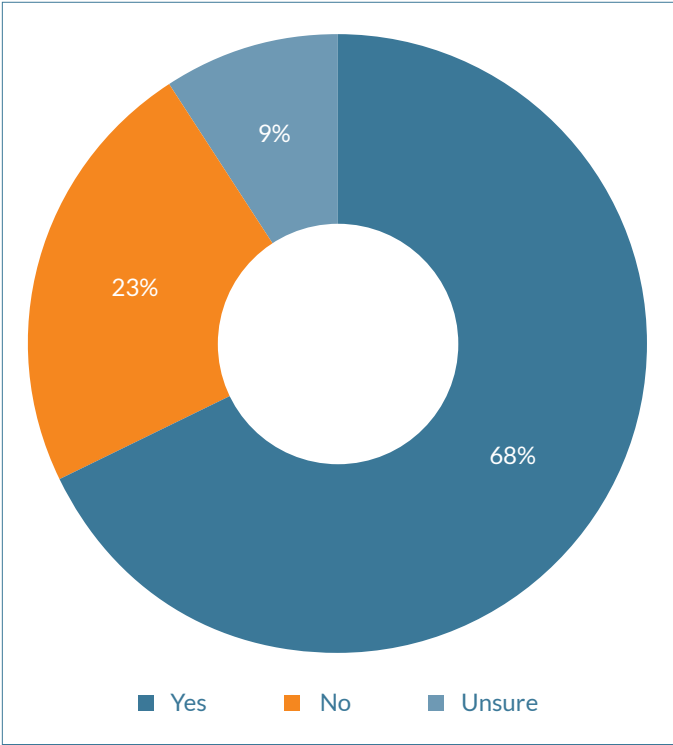
Overall, a majority of internal audit functions within the industry employ data analytics as part of their audit process, and data analytics appears to be a top-of-mind issue even for those organizations currently not using them. Among those organizations not utilizing data analytics, all report that they plan to do so within the next two years.

However, for those organizations currently employing data analytics, most rate their capabilities in the early stages of development.

• • • **Top Priorities – Internal Audit Capabilities and Knowledge**

Overall	CAEs
Data analytics tools – statistical analysis	Data analytics tools – statistical analysis
Agile risk and compliance	Data analytics tools – data manipulation
Continuous auditing	Agile risk and compliance
Big data/business intelligence	Continuous auditing
Continuous monitoring	Continuous monitoring

• • • Does your internal audit department currently utilize data analytics as part of the audit process?

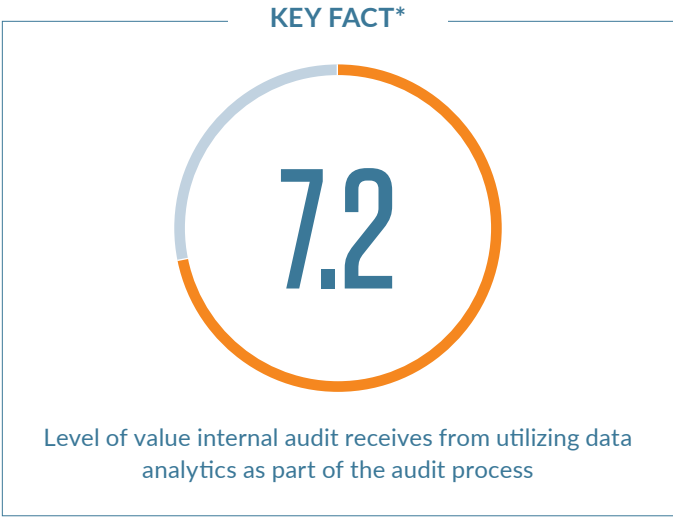


• • • Which of the following statements best describes the current maturity of your data analytics function?

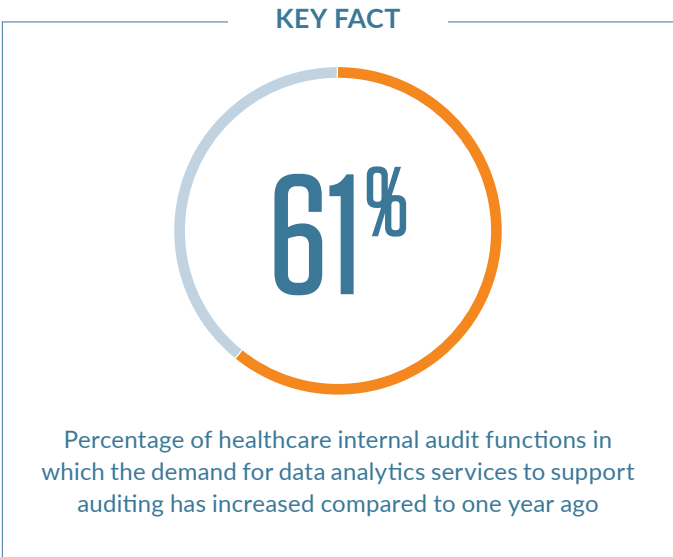
Initial: Ad hoc processes that are undocumented	33%
Repeatable: Process is documented sufficiently so steps can be repeated	42%
Defined: Process is defined as a standard business process	21%
Managed: Process is quantitatively managed in accordance with agreed-upon metrics	0%
Optimized: Process management includes deliberate process improvement	4%

A majority of internal audit functions within the industry employ data analytics as part of their audit process, and data analytics appears to be a top-of-mind issue even for those organizations currently not using them.

Our results suggest CAEs and their teams are well-aware of the progress they need to make on the analytics front, which is important because 1) internal audit is realizing value from utilizing data analytics, and 2) in a majority of organizations, demands from the business for data analytics services from internal audit have increased over the past 12 months.



* Scale of 1 to 10, where “10” represents a high level of value.



To advance internal audit’s analytics maturity, internal audit leaders need to address several challenges, including three data management issues that our survey respondents identified most frequently:

1. Coordinating with the corporate information technology (IT) function
2. Identifying where data resides
3. Capturing needed data elements

Other people and process challenges also loom large within many healthcare provider organizations. Efforts to enhance analytics capabilities are routinely hindered by heavy audit plan workloads, budget and headcount constraints, and a lack of expertise with advanced data analytics processes, measures, tools and innovations. In some cases, internal audit leaders who seek to elevate their data analytics capabilities lack a clear roadmap for accomplishing their goal.

Overcoming these impediments requires a longer-term strategy and an implementation roadmap, carefully chosen and well-crafted pilot programs, and sufficient investments in skills, tools and expertise. (See “10 Data Analytics Action Items for CAEs and Internal Audit” on the following page.)

10 Data Analytics Action Items for CAEs and Internal Audit

1. Recognize that the demand for data analytics in internal auditing is growing across all organizations and industries. This trend is certain to continue as more organizations undergo business and digital transformation initiatives, and as regulators increasingly call for organizations to use analytics.
2. Expand internal audit's knowledge of sophisticated data analytics capabilities to understand what is possible with analytics, what similar organizations are doing with analytics and what progress is needed to advance these capabilities.
3. Understanding that budget and resource constraints, along with business-as-usual workloads, can limit efforts, conduct even modest demonstrations of analytics capabilities as positive steps toward a stronger internal audit data analytics function.
4. Use champions to lead the analytics effort and, when appropriate, create a dedicated analytics function. Champions bridge the gap between the analytics function and operational auditors, and encourage more analytics use, including basic usage by the whole team. Compared to other organizations, those with analytics champions and dedicated analytics functions deliver more value, experience higher demand for their analytics services and obtain better access to higher-quality data.
5. Explore avenues to expand internal audit's access to quality data, and implement protocols (including those related to completeness, conformity, data quality and reliability) that govern the extraction of data used during the audit process.
6. Identify new data sources, both internal and external, that can enhance internal audit's view of risk across the organization.
7. Increase the use and reach of data-based continuous auditing and monitoring to perform activities such as monitoring fraud indicators, KRIs in operational processes and information used in the leadership team's strategic decision-making activities.
8. Leveraging continuous auditing, develop real-time snapshots of the organization's risks and incorporate results into a risk-based audit approach that is flexible enough to focus on the highest areas of risk at any point in time.
9. Increase the level of input stakeholders provide when building and using continuous auditing tools and when determining what data should be monitored by these tools. The effort should be focused on building tools that internal audit can leverage to monitor risk in the business. Many different stakeholders have important insights to help determine areas of focus.
10. Implement steps to measure the success of data analytics efforts, and also consider the most effective ways to report success and value to management and other key stakeholders. Internal audit groups that can successfully demonstrate tangible value will build a stronger business case for increased budgets and resources dedicated to a data analytics function, underscore the importance of analytics throughout the organization, and boost internal audit's reputation.

Value-Based Reimbursement Tops the List of Audit Knowledge Gaps

As uncertainty swirls around the fate of the Affordable Care Act, healthcare providers are paying close attention to the potential adjustment of Medicaid from an open-ended program to one that would provide states with a fixed amount of funds. This potential shift would have significant revenue implications since most healthcare providers receive roughly 40 percent of their revenues from Medicaid. The onset of Medicare reform, most notably in the form of MACRA, along with Medicaid budget reductions and reform, also require healthcare organizations to manage their Medicare and Medicaid populations carefully in order to minimize negative bottom-line impacts.

For example, the use of emergency care seems likely to increase, perhaps significantly, as Medicaid reform advances. By intensifying reviews that address uncompensated care methodologies, healthcare providers can better limit potential revenue variances.

This year’s survey results show that internal audit functions are prepared to focus on improving their knowledge and skills in these areas. Value or performance-based reimbursement methodologies are among the priorities respondents cited most frequently as areas for enhancing their knowledge and skill sets.

• • • **Top Healthcare-Specific Areas for Improving Knowledge and Skill Sets**

Overall	CAEs
Value-based purchasing	MACRA/quality payment program
Population health	Delivery System Reform Incentive Payment (DSRIP) Program
MACRA/quality payment program	Value-based purchasing
Delivery System Reform Incentive Payment (DSRIP) Program	Population health
Health information exchanges (including physician/patient portals)	Cash acceleration programs
Medicare Modernization Act	Medicare Modernization Act
Debt covenants	Credit market access
Cost reporting	Durable medical equipment/Care management (tie)
Bundled payments	Clinical systems
IRB and clinical trials/research	Health information exchanges (including physician/patient portals)

In Closing

As data analytics capabilities within internal audit groups advance and deliver measurable value, internal auditors will be able to develop stronger business cases to build out their analytics functions. In turn, this will help provide deeper views of critical areas in healthcare provider organizations. Such advancements are crucial at a time when internal auditors are juggling so many strategic priorities amid extreme uncertainty in the marketplace.

These competing needs are evident in the priorities identified in this year's audit plans for healthcare providers. By increasing their focus on billings and collections, the overall revenue cycle, and information security and systems, among many other areas, internal audit functions within healthcare providers are helping their organizations generate — and protect — value.

ABOUT AHIA

The Association of Healthcare Internal Auditors (AHIA) is a network of experienced healthcare internal auditing professionals who come together to share tools, knowledge and insight on how to assess and evaluate risk within a complex and dynamic healthcare environment. AHIA is an advocate for the profession, continuing to elevate and champion the strategic importance of healthcare internal auditors with executive management and the Board. If you have a stake in healthcare governance, risk management and internal controls, AHIA is your one-stop resource. Explore our website for more information. If you are not a member, please join our network.

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