

Statement of  
**The Hospital and Healthsystem Association of Pennsylvania**  
for the  
**Joint State Government Commission**  
**Advisory Committee on Artificial Intelligence Impact and Potential in Pennsylvania**  
April 9, 2025

The Hospital and Healthsystem Association of Pennsylvania (HAP) was pleased to present to the Joint State Government Commission on April 9 and submits this statement for the record on behalf of more than 235 member organizations across the commonwealth.

Artificial Intelligence (AI) is transforming systems and processes in hospitals and health care systems across the commonwealth. No longer a theoretical concept, AI is a practical, rapidly advancing tool reshaping how hospitals deliver care, ensure patient safety, and streamline operations. From predictive analytics that help clinicians anticipate patient deterioration to AI-powered diagnostic tools that enhance accuracy and efficiency, these technologies are driving meaningful improvements in health care delivery.

The potential for AI to further advance health care in our state is tremendous. By responsibly embracing these innovations, Pennsylvania's hospitals can continue to improve patient experiences, enhance health outcomes, and operate with greater efficiency—while upholding the high standards of care that our communities expect and deserve.

### **The Use of AI in Health Care Settings**

AI refers to computer systems capable of perceiving their environment, processing and learning from data, and taking actions to achieve defined objectives. Much like humans absorb information through sight and sound and then make decisions based on that input, AI systems are designed to process large volumes of data and respond accordingly.

Key drivers of modern AI include:

- **Machine learning**, which enables systems to learn from data without being explicitly programmed. By analyzing extensive datasets, machine learning models recognize patterns, make informed decisions, and improve their accuracy over time.
- **Deep learning**, one of the most advanced machine learning techniques, which is inspired by the structure and function of the human brain and allows AI systems to perform more complex tasks with greater precision.

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- **Natural language processing (NLP)**, which leverages neural networks and deep learning, NLP enables machines to interpret, understand, and generate human language—across multiple languages. This technology powers tools such as AI voice assistants, automated text summarizers, real-time translation services, and context-aware question-answering systems. The ability to understand and generate human speech is foundational to AI’s expanding capabilities in health care and beyond.

As machine learning continues to evolve, systems gain increasingly refined abilities in reasoning, problem-solving, perception, and knowledge representation, sometimes even surpassing human performance in specific domains. This progress paves the way for what is being referred to as agentic AI—a form of AI capable of acting independently to achieve goals. Unlike traditional AI, which requires explicit input or prompts, agentic AI can learn, adapt, and make decisions autonomously based on contextual information and objectives.

This emerging category of AI is beginning to gain traction in health care settings and may represent the next significant shift in how technology supports clinical decision-making and operational efficiency.

### **AI Use Cases**

#### *Clinical*

The use of AI is widespread in hospitals across Pennsylvania, serving as a clinical support tool, not a replacement for human decision making. All final medical decisions are made by trained health care professionals, ensuring both the safety and quality of care for patients. Some of the ways in which hospitals employ AI assistance are:

- **Diagnostic Support:** Hospitals are deploying AI-powered NLP tools that analyze patient charts to identify primary and secondary diagnoses. These tools can detect conditions that may have been unintentionally overlooked by clinicians, leading to improved diagnostic accuracy. This not only enhances patient outcomes but also contributes to more accurate documentation and improved hospital reimbursement rates.
- **Early Detection of Sepsis:** Sepsis is a life-threatening condition caused by the body’s response to infection and can lead to organ failure or death if not treated promptly. In some instances, the mortality rate can reach up to 80 percent. Many Pennsylvania hospitals now use AI algorithms to monitor patient data in real-time such as vital signs, lab results, and clinical notes—to predict the onset of sepsis before symptoms become clinically evident. Early intervention enabled by these tools has led to a reported 20 percent reduction in sepsis-related mortality in some cases.

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- **Predictive Modeling for High-Risk Patients:** Hospitals are leveraging predictive analytics to identify patients at elevated risk of adverse outcomes, such as readmission or hospital-acquired conditions (e.g., UTIs, pneumonia, or C. difficile infections). These models enable proactive interventions that improve patient outcomes and reduce health care costs. Several hospitals using Epic's predictive AI platform have reported a 22 percent reduction in patient mortality and estimated savings of approximately \$2.4 million in readmission-related costs, including 153 lives saved over 11 months.
- **AI-Assisted Radiology and Imaging Analysis:** Advanced deep learning algorithms are being used to analyze medical imaging—including CT scans, MRIs, and X-rays—with remarkable precision. These tools act as a secondary review mechanism for radiologists, flagging subtle or rare abnormalities that may otherwise go unnoticed. One health network reported a 41 percent reduction in turnaround time for positive pulmonary embolism cases and a 96.2 percent accuracy rate for intracranial hemorrhage detection on CT head scans. In addition to the improvements in patient care, this technology can result in significant financial savings.
- **Ambient Voice Technology:** Several hospitals have implemented or plan to implement ambient voice technology to automatically transcribe clinician-patient interactions in real time. This innovation significantly reduces documentation time, allowing providers to spend more time with patients and less on administrative tasks. Clinicians have reported improved work-life balance, reduced burnout, and enhanced documentation accuracy. From a patient perspective, technology supports more meaningful, engaged encounters by minimizing the clinician's attention on screens and maximizing direct interaction.
- **Virtual Nursing and Virtual Sitter Programs:** To address staffing challenges while also improving patient care, hospitals are deploying virtual solutions such as remote sitters and virtual nurses. Virtual sitters monitor high-risk patients—such as those prone to falls or disorientation—remotely, leading to a reported 39 percent decrease in patient falls. Virtual nurses assist with tasks like admissions, discharges, and patient education, which has contributed to a 25 percent improvement in nurse satisfaction and well-being. These tools not only improve operational efficiency but also help alleviate some of the burden caused by ongoing health care workforce shortages.

### *Administrative and Financial*

- **Predictive Analytics and Operational Efficiency:** Hospitals across the state are increasingly leveraging predictive analytics to enhance operating room scheduling and optimize resource allocation. By analyzing historical data, AI algorithms can forecast future demand for operating rooms, enabling health care leaders to make data-driven

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decisions that improve utilization and efficiency. This optimization not only allows more procedures to be performed—ultimately benefiting both patients and the health care system—but also reduces operational costs related to staffing, overtime, and idle resources. On average, hospital networks have reported a 3 percent improvement in operating room utilization through these efforts.

- **AI in Enhancing Hospital Security:** Hospitals are adopting AI solutions to strengthen safety protocols while maintaining a welcoming environment. Rather than implementing invasive security measures like large metal detectors, many health care leaders are opting for discreet AI-enhanced alternatives. These include integrations with existing security camera systems or minimally intrusive sensor poles at facility entrances. Utilizing millimeter-wave technology and other advanced sensors, AI algorithms assess data in real time to distinguish between everyday objects and potential threats—such as concealed weapons—triggering alerts for on-site security personnel when necessary.
- **Patient Engagement:** Generative AI-powered virtual health care agents are now being used to conduct bilingual outreach, particularly to improve access to critical preventive services such as cancer screenings. By contacting patients via phone in both English and Spanish, these agents help bridge care gaps, especially within multilingual and underserved communities. In addition to preventive outreach, hospitals are also using generative AI for pre-operative instructions and post-operative follow-up communications, streamlining care coordination and improving patient engagement.
- **Revenue Cycle Management:** Generative AI is also being implemented behind the scenes to support financial operations in health care. AI-powered note-taking tools transcribe clinical documentation for providers, while other systems proactively identify and correct potential claim issues before submission. This approach minimizes the likelihood of insurance denials, reduces billing errors, and enhances the overall efficiency of the revenue cycle.
- **Fraud Detection and Risk Mitigation:** In addition to denial prevention, hospitals are deploying AI to monitor billing activity and analyze electronic health records for anomalies that may signal fraud, waste, or abuse. By identifying risks early and addressing potential violations before they escalate, AI helps safeguard the financial integrity of health care institutions and supports regulatory compliance.

## **Hospital Policy on AI Use**

As the adoption of AI continues to expand in health care settings, hospitals must implement AI-driven policies that enhance clinical decision-making, operational efficiency, and patient care management. A key resource guiding these efforts is the 2021 World Health Organization

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(WHO), comprehensive guidance on the ethics and governance of AI in health, which outlines six core principles:

1. Protect autonomy
2. Promote human well-being, human safety, and public interest
3. Ensure transparency, explainability, and intelligibility
4. Foster responsibility and accountability
5. Ensure inclusiveness and equity
6. Promote AI that is responsive and sustainable

In addition to the initial guidance, the WHO subsequently released further recommendations focused on the ethics and governance of large multi-modal models (LMM), which underpin many of the AI solutions. The guidance provides more 40 actionable recommendations for governments, technology companies, and health care providers to ensure the responsible use of LMMs, with the overarching goal of safeguarding public health.

In response to evolving guidelines, many hospitals are establishing AI ethics and governance committees. These committees, often comprising clinicians, data scientists, legal experts, ethicists, and patient advocates, are tasked with reviewing AI models to assess risk factors using an internally defined risk matrix. The primary factors considered in this evaluation typically include:

- **Privacy and Data Protection:** Examining the types of data used, potential risks of data leakage, and the mechanisms by which models learn from the data. This includes ensuring that data-storage practices adhere to regulations protecting patient health information.
- **Model Performance:** Evaluating whether AI outputs are stable, accurate, and reliable. This includes assessing the ability to monitor performance and mitigate issues such as model hallucinations.
- **Social and Human Rights:** Identifying potential risks of discrimination, inequality, or bias related to socioeconomic status, race, or other factors.
- **Controls:** Determining whether human oversight is integrated into the use of AI and whether AI systems are subject to audit, particularly from an IT security perspective.
- **Company Risk:** Assessing the potential impact of AI on the organization's reputation, legal exposure, and financial stability.

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This multifaceted approach ensures that AI solutions are deployed in alignment with ethical standards, protects patients, and minimizes risks for health care institutions.

### **Potential Risks with AI Use in Hospitals**

The use of AI in hospitals presents several risks that must be carefully considered to ensure safety and ethical implementation.

- **Data Privacy and Security:** AI systems require large volumes of sensitive patient data to function effectively, which raises the potential for unauthorized access, data breaches, or misuse of protected health information (PHI). Mitigating this risk requires adherence to data protection regulations, such as the Health Insurance Portability and Accountability Act and robust cybersecurity measures.
- **Bias and Discrimination:** AI models are trained on historical data that may contain inherent biases. If the training data is not diverse, AI systems could perpetuate or amplify these biases, leading to unequal care outcomes. Ensuring diverse and representative datasets, auditing models for bias, and applying fairness algorithms are key strategies to address this challenge.
- **Accountability:** Many AI models operate as "black boxes," meaning their decision-making processes are not easily interpretable by humans, creating challenges in understanding how conclusions are drawn. This lack of transparency can be particularly problematic in clinical settings where accountability is critical. Implementing explainable AI techniques can help make the decision-making process more transparent.
- **Model Performance and Reliability:** AI systems are only as effective as the data and algorithms they rely on, and inaccurate or unreliable results could adversely affect patient care. Continuous monitoring, rigorous validation, and regular updates are essential to maintaining AI system performance.
- **AI Over Reliance:** If health care professionals become too dependent on AI systems, they may defer important decision-making to technology, overlooking nuanced aspects of patient care that AI may not fully capture. AI should be seen as a tool to support, not replace clinical judgment.
- **Legal and Ethical Concerns:** Clear policies and legal frameworks must be developed to determine responsibility in cases of AI-related mistakes. Clinical workflow disruption is another risk, as the integration of AI could create inefficiencies or resistance among staff. Thoughtful integration, comprehensive training, and ongoing support are necessary to ensure a smooth transition.

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- **Patient Trust and Acceptance:** Patients may be hesitant to trust AI-driven decisions, especially if they are unfamiliar with the technology. Transparent communication about the role of AI in their care and the safeguards in place can help build trust. Technical failures or system downtime also present a risk, as malfunctions could delay or disrupt patient care. Robust backup systems and regular maintenance are crucial to mitigate this risk.
- **Regulatory and Compliance Challenges:** The lack of clear regulatory guidelines can create uncertainty, but collaboration between health care providers, technology developers, and regulatory agencies is essential to ensure that AI systems are both safe and compliant.

While AI offers significant potential to improve health care delivery, it also comes with substantial risks. A balanced approach, including clear policies, ethical practices, continuous monitoring, and collaboration between stakeholders, is essential to ensure that AI is used responsibly and safely in hospitals, ultimately benefiting both patients and health care systems.

### **Closing**

Artificial intelligence is already driving transformative change in health care delivery, enhancing clinical decision-making, streamlining administrative processes, improving patient outcomes, and optimizing resource allocation. Looking ahead, the responsible integration of AI offers a unique opportunity to further elevate the quality, safety, and efficiency of care across the commonwealth.