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Entrusting Data in an AI World
A Framework for Accurate Healthcare Data

Part One of Three

THE HUMAN TOUCH

Humans are adept at recognizing the inconsistencies that AI-enabled technologies may overlook, as they lack the ability to make contextual judgments and decisions based on nuanced considerations.

Artificial Intelligence (AI) is not infallible, and neither are humans. To err is human. Humans may create patient identification errors, but they are also integral to identifying, verifying, and correcting person identities.

Humans are adept at recognizing inconsistencies that AI-enabled technologies may overlook. For patient identification and matching these AI-enabled technologies may include the master person index (MPI) with advanced algorithms, biometrics, machine learning models, and predictive analytics with augmented data.

It is important to recognize that AI lacks the ability to make contextual judgments and decisions based on nuanced considerations.

- The human touch distinguishes based on judgment and decision-making, creativity, innovation and agility, emotional intelligence and empathy.[1]
- The complexity of patient data, coupled with the similarity of demographic details among individuals, creates a distinct set of challenges that AI alone cannot fully address (e.g. identical twins).

AI Governance Framework

The synergy between AI capabilities and human insight and logic is fundamental to achieving the highest standards of patient care with a focus on quality assurance and patient safety. AI's effectiveness is only successful if the data is of the highest quality and managed within an AI governance framework.

Incorporating a Human-in the-Loop (HITL) component to the organization's AI governance framework supports and elevates patient identification strategies.

The governance framework should involve a variety of stakeholders responsible for the management of patient identities to ensure ethical, compliant, and efficient use of AI technology.[2]

Comprehensive quality assurance protocols are vital to the AI Governance Framework. This includes:

- Working the duplicate queue on a daily basis to cleanse the data.
- Routinely measuring error rates and reporting any associated patient outcomes to leadership.
- Conducting regular quality audits, providing staff with feedback, and offering guidance on necessary adjustments to AI-enabled technologies.

Data entrusted to AI must be of the highest quality and integrity and managed within an AI Governance Framework that includes The Human Touch and Caring Algorithms (See Figure 1).

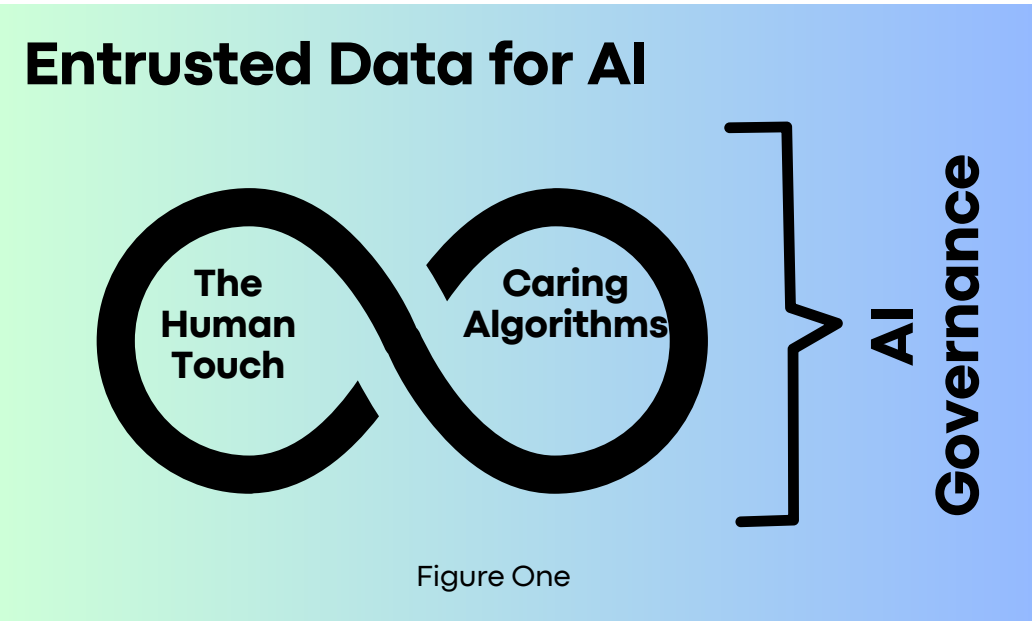


Figure One

The health information professional in the AI Governance Framework can easily step into the emerging role of an AI Governance Specialist with their technical, regulatory and compliance knowledge, data governance and analytical problem-solving skills.[3] These individuals can provide oversight for the development and management of emerging AI technologies within the organization. The EMPI Analyst knows the intricate nature of correctly identifying patients and how data is collected and managed in a master or enterprise master person index (EMPI).

Collaboration between the AI Governance Specialist and the EMPI Analyst is essential to address governance specifically related to the data entrusted to AI and adapting systems and processes to accurately identify patients across diverse demographics. Patient demographics can vary widely across individuals and populations including cultural name differences. This partnership could involve transparency in processes, raising awareness of the data lifecycle, and exhibiting a comprehensive understanding of where the data has originated from (provenance).

Specific patient populations such as pediatric and elderly patients present additional challenges for AI due to the unique variability in their data. Examples may include lack of unique identifiers in the pediatric population and frequent transitions in care settings. Adaptation involves training AI models on varied datasets that reflect the demographic diversity of the patient population.

On average, healthcare organizations spend 109 hours per week resolving patient identity issues. Even with auto matching, the risk of misidentifying patients persists supporting the need for a HITL.

Learn more about how Harris Data Integrity Solutions can assist with identifying and cleansing your data before entrusting it to AI.

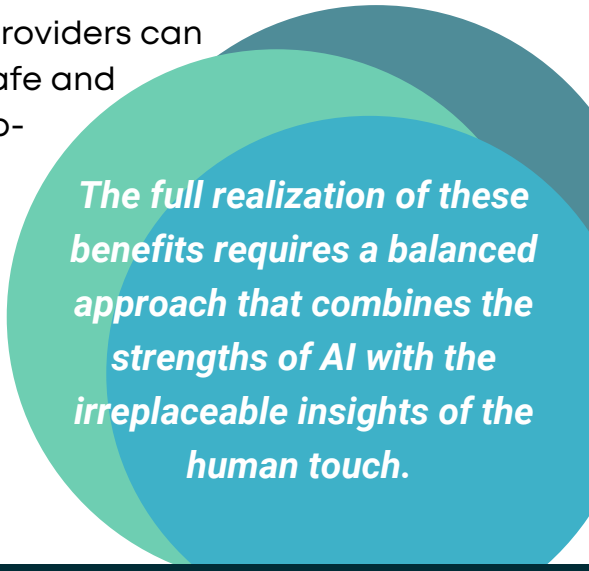
Adaptation and Managing Misidentification Risk

On average, healthcare organizations spend 109 hours per week resolving patient identity issues.[4] Even with auto matching, the risk of misidentifying patients persists supporting the need for a HITL. The risks are particularly prominent among patients who:

- Have common demographic attributes (common last names or first names)
- Reside in densely populated areas with shared addresses
- Have family members (children, parents, etc.) with similar or same names
- Are identified as multiple births (e.g. twins, triplets, etc.)

The integration of AI in person identification and matching processes offers significant opportunities to enhance patient safety and care quality. The full realization of these benefits requires a balanced approach that combines the strengths of AI with the irreplaceable insights of the human touch.

By fostering a collaborative environment where technology and human expertise work within an AI Governance Framework, healthcare providers can ensure the safe and effective application of AI in identifying patients, family and loved ones.



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[3] ibid
[4] Patient ID Now. PIDN Research Findings. November 2022. Accessed November 20, 2024. https://patientidnow.org/wp-content/uploads/2022/11/PIDN-Research-Findings-Final.pdf