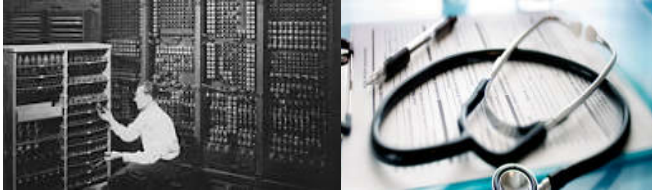


## ARTIFICIAL INTELLIGENCE

IS IT THE PROFESSIONAL CASE MANAGER'S  
FRIEND OR FOE?

*Lynn S. Muller*




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## WHAT IS ARTIFICIAL INTELLIGENCE?

“The science and engineering  
of making intelligent machines”

John McCarthy (1956)

<https://www.slideshare.net/slideshow/artificial-intelligence-in-nursing/250940312#6>

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## WHAT IS ARTIFICIAL INTELLIGENCE (AI)?

- AI is a subset of computer science that uses techniques from machine learning (ML), cognitive science, and even robotics to create useful technology. The field relies on AI models, which are frameworks that use math to mimic cognitive functions like problem-solving.

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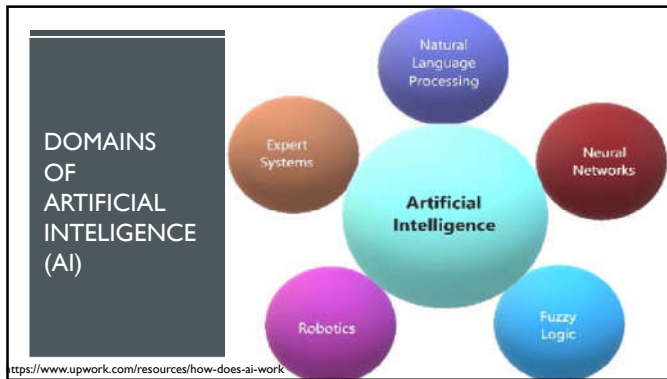
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### WHAT IS GENERATIVE AI AND ITS RISKS

Generative AI is a set of algorithms, capable of generating seemingly new, realistic content—such as text, images, or audio—from the training data.

Generative AI systems pose **acute privacy and security risks** along with their transformative potential because of their vast data requirements,

“Generative AI models can be trained on sensitive, multimodal patient data, which **could be exploited by malicious actors**”

*J Med Internet Res.* 2024; 26: e53008.  
Published online 2024 Mar 8. doi: [10.2196/53008](https://doi.org/10.2196/53008)

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**GIGO**

Garbage In  
Garbage Out

The term is usually used to suggest that the results of a calculation are only as good as the input that was used

But computers couldn't produce good forecasts when given bad data to chew on—a phenomenon known as GIGO for "Garbage In, Garbage Out." "GIGO."

*If you train your AI with bad data, you'll get bad answers*

Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriam-webster.com/dictionary/GIGO>. Accessed 2 Oct. 2024.

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- Since the First Computer
- Output is only as good as the accuracy, quality and innate biases of the input.
- No person is entirely free of bias
- Input is based on personal experience, education, experience and Social Determinates of Health

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## A BLUEPRINT FOR AN AI BILL OF RIGHTS



**“You should be protected from** unsafe or ineffective systems. Automated systems should be developed with consultation from diverse communities, stakeholders, and domain experts to identify concerns, risks, and potential impacts of the system. Systems should undergo pre-deployment testing, risk identification and mitigation, and ongoing monitoring that demonstrate they are safe and effective based on their intended use, mitigation of unsafe outcomes including those beyond the intended use, and adherence to domain-specific standards. Outcomes of these protective measures should include the possibility of not deploying the system or removing a system from use.”  
WH.GOV(2022).

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## THE PROBLEM OF FLAWED HEALTHCARE DATA

Incomplete Data & Corrupted Data

These problems can be dealt with by using secondary/traditional tools (human, machine, labs) to confirm or dispute data.

### Wrong Data & Sloppy Data

This is up to the data consumer to identify such cases rather than the issues being identified by the system. To identify such issues, a human is required to analyze the data and identify its flaws and challenges.

West Coast Infomatics Inc. (2024)

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## AI CONNECTS MULTIPLE TECHNOLOGIES



AI is comprised various interconnected technologies and data input pf intricate stacks playing a distinct role, contributing to the overall functionality, outputs, and intelligence of the system.

To enhance clarity and understanding about sources of biases, it is beneficial to conceptualize the stack of interconnected technologies and inputs

**Biases that occur during the development of AI tools will persist in its applications**

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## AI HALLUCINATIONS

- Perhaps the most high-profile example of **hallucination** to date involves two attorneys who were fined by a U.S. federal judge after they submitted a legal brief they asked ChatGPT to write. The brief **cited multiple legal cases that didn't exist and included fake quotes.**
- Of course, the optics of hallucinations are far from ideal, and some people point to them as reasons to be wary of broader AI adoption.

Notice to the NJ Bar (Jan. 2024)

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## NEW JERSEY SUPREME COURT AI GUIDELINES

- "A lawyer who uses AI in the preparation of legal pleadings, arguments, or evidence **remains responsible** to ensure the validity of those submissions.
- While the Rules of Professional Conduct (RPC)s do not require a lawyer to disclose the use of AI, such use does not provide an excuse for the submission of false, fake, or misleading content."

Supreme Court Committee on AI and Courts, Jan 24, 2024

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## WHETHER MEDICAL OR LEGAL AI IS ALL ABOUT ETHICS

What happens to people replaced by AI?

**Who is responsible for content created by AI?**

Can AI make existing problems worse than before?

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## POSITION STATEMENT ON THE ETHICAL USE OF AI IN NURSING PRACTICE



“Advanced technologies, including AI, do not replace nursing skill and judgment. §4.2 clarifies that “nurses in all roles are accountable for decisions made and actions taken in the course of nursing practice. Systems and technologies, that assist in clinical practice are adjunct to, not replacements for, the nurse’s knowledge and skill.”(ANA, 2015, pg. 15). Therefore, nurses are accountable for their practice in instances of system failure” (ANA, 2015, pg. 16).

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## POSITION STATEMENT ON THE ETHICAL USE OF AI IN NURSING PRACTICE



- “Justice, fairness, and equity are interrelated concepts in the AI literature (AMA, 2018). AI has the potential to improve health for many but without proper oversight can also perpetuate and cause injustices and inequities.”




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### NASW STATEMENT ON GENERATIVE AI TOOLS

In light of these developments and concerns, we at the National Association of Science Writers (NASW) commit to not using generative A.I. tools like ChatGPT or Bard to replace work done by human writers and editors. We also will not use A.I.-generated images, such as with DALL-E — except under very particular conditions and with artists directly involved, while ensuring the result neither imitates existing work nor infringes copyrights. Individual journalists may choose to experiment with generative A.I. tools, with caution, while compiling research or summarizing information, for example. But **NASW does not support ChatGPT** and other similar tools being used to replace journalists or to publish content that is generated entirely by A.I., without human input and oversight. We will continue to be transparent about our own use of A.I. systems, and recommend that other publications and organizations do the same. NASW supports media unions demanding worker protections — just as their Writers Guild of America (WGA) union counterparts did in September 2023 — as well as demanding a voice in A.I.-related management decisions.

Ethical considerations and human agency must remain central to editorial decisions, as they always have been. For the integrity and accuracy of journalism, we must remain vigilant so that readers and writers alike can clearly distinguish between human- and algorithm-generated content. We recommend that NASW members follow the same principles and guidelines regarding generative A.I.

<https://www.nasw.org/article/nasw-issues-statement-generative-ai-tools>

### PERSONAL RESPONSIBILITY IS KEY

- Each of us are responsible for our choices to use or not use Artificial Intelligence to aid, augment, or assist our work.
- Ethical Codes for your practice apply to your AI choices.
- Is AI any different from other time-honored assistive devices ?
  - Spell check
  - Diagnostic Assistance
- Professional Liability (Malpractice) Principles apply to AI use, choices and implementation in practice

### ETHICAL PRINCIPLES AND AI IN CASE MANAGEMENT PRACTICE

**STANDARD: ETHICS** Case managers should behave and practice ethically, adhering to the tenets of the code of ethics that underlies his/her professional credential (e.g., nursing, social work, rehabilitation counseling, etc.).

Awareness of the five basic ethical principles and how they are applied: beneficence (to do good), nonmaleficence (to do no harm), autonomy (to respect individuals' rights to make their own decisions), justice (to treat others fairly), and fidelity (to follow-through and to keep promises)

Case Management Society of America (CMSA) (2022). Standards of practice for case management; Brentwood, TN.

## AI ALREADY HAS PRACTICAL APPLICATIONS IN HEALTHCARE

“Genius Digital Diagnostics is the first and only FDA-cleared digital cytology system—combining a new artificial intelligence (AI) algorithm with advanced volumetric imaging technology to help cytologists and pathologists identify pre-cancerous lesions and cervical cancer cells in women” (Schneiders, 2024, p. 1).

Schneiders, J. (2024). *Genius™ Digital Diagnostics System*. Retrieved from HOLOGIC: [https://www.hologic.com/hologic-products/cytology/genius-digital-diagnostics-system?utm\\_source=google&utm\\_medium=cpc&utm\\_term=digital%20diagnostic&utm\\_campaign=2023\\_genius&gadsource=1&gclid=CjwKCAjww\\_jwBhApEiwAuG6ccH0uICL\\_05c5zfXMIJbZ5ivAh\\_nEQ46r1JR2L2b8](https://www.hologic.com/hologic-products/cytology/genius-digital-diagnostics-system?utm_source=google&utm_medium=cpc&utm_term=digital%20diagnostic&utm_campaign=2023_genius&gadsource=1&gclid=CjwKCAjww_jwBhApEiwAuG6ccH0uICL_05c5zfXMIJbZ5ivAh_nEQ46r1JR2L2b8)

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## IS LIABILITY FOR AI ANY DIFFERENT FROM CAD?

- “Computer-assisted diagnosis and treatment (CAD/CAT) is a rapidly growing field of medicine that uses computer technology and telehealth to aid in the diagnosis and treatment of various diseases.”
- “Machine learning can assist with medical data acquisition, feature extraction, interpretation, and decision support. It is important to note that this technology is **not meant to replace human professionals**. Instead, it is designed to assist healthcare professionals to better diagnose and treat patients.

Hamid, N., Portnoy, J.M. & Pandya, A. Computer-Assisted Clinical Diagnosis and Treatment. *Curr Allergy Asthma Rep* 23, 509–517 (2023). <https://doi.org/10.1007/s11882-023-01097-8es>.

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### CASE SCENARIO

- Following a Mammogram
- A patient is evaluated for a lump in her breast
- Results are run through an AI Program
- Surgeon disagrees with the AI assessment.
- WHAT TO DO?

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### AI IN CASE MANAGEMENT PRACTICE

“Artificial intelligence-driven digital solutions applied across case management workflows enable automation of manual activities such as referral screening, case creation, and case assignment. For example, algorithms can prioritize referrals by impactability, and ‘bots’ can assign them to case managers with appropriate clinical expertise while maintaining balanced workloads”(Newman, 2021),

Newman, M. B. (2021). Artificial Intelligence and Case Management: Embracing Transformative Practice. *Professional Case Management Journal*, 26(6), 304–306. <https://doi.org/10.1097/NCM.0000000000000533>

### ADVOCACY IS OUR PRIME CASE MANAGEMENT FUNCTION

“Case managers can also help patients access new technology and tools that may not be readily accessible due to social determinant of health barriers, or for which patients may be unaware of. In doing so, the case manager improves access to equitable and appropriate resources and helps reduce disparities of care, one patient at a time.”

Artificial Intelligence and Case Management: Embracing Transformative Practice  
Newman, Mary Beth MSN, RN, BC-CMGT, CCM, *Professional Case Management* 26(6):p 304-306, November/December 2021. | DOI: 10.1097/NCM.0000000000000533





## CRITICAL THINKING IS THE CASE MANAGER'S FOUNDATION



- “There is no substitute for critical thinking and the human element that goes into day-to-day case management practice.”
- Health equity and AI are interconnected, but it is the human element that makes case management practice valuable and brings humanity to health care.

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## HEALTH EQUITY AND AI

“Health equity and AI are interconnected. Technology and AI needs to help reduce health disparities, not exacerbate them”

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## NEW TECHNOLOGY CAN ADVANCE DEIB

“The Case Management Society of America’s (CMSA) DEIB Core Committee developed a Position Statement (CMSA, 2024) to forge a common understanding of the most frequently used terms for professional case managers, their employers, and strategic partners”

Health Equity

Diverse/Diversity Equity Inclusion Belonging

Ellen Fink-Samnick, DBH, MSW, LCSW, ACSW, CCM, CCTP, CRP, FCM (2024)

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### HEALTH EQUITY AND AI

- What data will be collected?
- What criteria will be used to evaluate data?
- How will the data be used and by whom?

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### HHS HEALTH EQUITY ACTION PLAN

1. Preventing neglect and improving care to help children thrive in their families and communities.
2. Promoting accessible and welcoming health care for all.
3. Improving maternal health outcomes for rural, racial, and ethnic minority communities.
4. Prioritizing the behavioral health of underserved populations.
5. Increasing clinical research and trial diversity to support innovation. (HHS2023)

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### THE CASE MANAGER SHOULD NOT

- In the context DEIB and the law, case managers should not:
  - Misgender, misname, marginalize, or devalue colleagues, and
  - Misgender, misname, marginalize or devalue patients, their family members, or caregivers
  - Limit or denial of access to bathroom's consistent with a person's gender identity
  - Limit or denial of access to a private space for lactation
  - Post or display images in their workspace or virtual background that are visible during remote meetings that may be offensive to patients, their family members or other employees.

Ellen Fink-Sammick, DBH, MSW, LCSW, ACSW, CCM, CCTP, CRP, FCM (2024)

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### CASE MANAGEMENT EXPERTS RECOGNIZE CHANGE NEEDED TO EDUCATE OUR CLIENTS WITHOUT LOSING PATIENT-CENTERED CARE

"Artificial intelligence represents a new area of competency for case management practice.

Case managers need to fully understand the implications of these innovative technologies to ensure optimal outcomes of care.  
Transformation to AI-driven solutions will help drive patient-centered care and optimal outcomes in the age of digital health."

Newman, Mary Beth MSN, RN, BC-CMGT, CCM. Artificial Intelligence and Case Management: Embracing Transformative Practice. Professional Case Management 26(6):p 304-306, November/December 2021. | DOI: 10.1097/NCM.0000000000000533

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### AI IS HERE TO STAY



- ✓ **DON'T** CLOSE YOUR EYES AND WISH IT AWAY  
LEARN ALL YOU CAN
- ✓ APPLY PRACTICE GUIDELINES BASED ON YOUR  
UNDERLYING PROFESSION
- ✓ APPLY CASE MANAGEMENT ETHICAL  
PRINCIPLES
- ✓ APPLY CASE MANAGEMENT PRACTICE  
STANDARDS
- ✓ USE ALL TOOLS AVAILABLE TO BE THE BEST  
CASE MANAGER YOU CAN BE IN YOUR  
PRACTICE SETTING

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### FINAL TIPS AND TAKEAWAYS



BE A LIFELONG LEARNER



APPLY YOUR  
PROFESSIONAL CASE  
MANAGEMENT  
KNOWLEDGE TO NEW  
METHODS/TECHNOLOGY.



ASK QUESTIONS/  
DON'T GUESS



USE YOUR PROFESSIONAL FOUNDATIONS  
TO GUIDE YOUR APPROACH TO NEW  
TECHNOLOGIES AND METHODS

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## BE PART OF THE SOLUTION




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LSP10/2023

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