



# ARTIFICIAL INTELLIGENCE: A WAY TO PROCEED FOR THE FUTURE WITH CAUTION

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# CHATGPT

- OpenAI developed a 4<sup>th</sup> Generation Machine Learning Platform released 8/24/2023. Others in development ie, NVIDIA
- Machine learning allows algorithms to feed back data and change the projected reported outcome or result in real-time
- V4 Arrived with increased Platform security and has been quickly taken up by many Fortune 500 companies and Medical application companies.
- CHATGPT 3<sup>rd</sup> Generation has been tasked with USMLE and specialty exams
- Many uses in medicine, very exciting new technology

# WHY DO WE NEED AI IN HEALTHCARE ?

- In addition to storing massive volumes of existing patient data at rest, hospitals must also manage all real-time patient as it is generated. These massive amounts of medical data were expected to increase by 100% every 73 days in 2021<sup>1</sup>—but today, 97% of this valuable information goes unused.<sup>2</sup>
- Healthcare is becoming more sophisticated as organizations work to extract real-time insight and deliver faster, more-informed patient care. Cutting-edge technologies and tools are helping organizations to adapt and improve their operations—with capabilities such as remote patient monitoring, smart point of care (POC) testing, operating theater optimization, medical image analysis, health and wellness maintenance, e-physicians and e-prescriptions, and clinical insight sharing.

# SMART HOSPITALS

- Smart hospitals are employing AI applications in three primary areas—clinical outcomes, operational efficiency, and safety and security.
- AI for clinical outcomes is redefining patient and caregiver experiences. By rapidly ingesting, processing, and analyzing large volumes of medical data, healthcare teams can seamlessly access and share data to streamline productivity and take real-time action. Next-generation technologies are designed to help caregivers achieve better outcomes and enhanced quality of life for patients.
- These capabilities include imaging and diagnostics, remote patient monitoring, patient engagement, fall prevention, operating room workflow automation, surgery analytics, and contactless control.

# WHY HEALTHCARE NEEDS ARTIFICIAL INTELLIGENCE

Healthcare organizations are creating a new type of technology environment to boost clinical and operational efficiency, safeguard sensitive health data, and enhance standards of care

- Deploy information and integrated health services
- Provide secure, reliable access to medical information
- Learn to harness advanced health technology
- Leverage data analytics to ease staff burdens
- Control IT cost and complexity
- Remain compliant with health and government mandates

# THE GOOD, THE BAD AND THE UGLY

- Among the great challenges posed today is the use of technology, data, and automated systems in ways that (improve quality of life and not) threaten the rights of the American public.
- Information has been used in decision-making and been found to reflect and reproduce existing unwanted inequities or embed new harmful bias and discrimination.
- Unchecked social media data collection has been used to threaten people's opportunities, undermine their privacy, or pervasively track their activity—often without their knowledge or consent.

- White House BLUEPRINT FOR AN AI BILL OF RIGHTS JULY 2023



# WHAT IS THE DOWNSIDE ?

- Invasion of privacy at most levels
- Unchecked use of data besides intended use
- Unclear who owns the collected data and the algorithm
- Allowing the machine programs to self-replicate e.g. HAL 2001
- Weaponization of scientific advances, who gets to benefit ?

# LIABILITY

- HIPAA violations, commercial use of data
- Machine Diagnosis without review by a licensed professional
- Videos, images and their interpretation
- Use of AI to enhance Mid-Levels capability
- Opens up a new layer of malpractice liability



# PRIVACY/HIPPA ISSUES

- Unchecked social media data collection has been used to threaten people's opportunities, undermine their privacy, or pervasively track their activity—often without their knowledge or consent.
- The companies commit to sharing information across the industry and with governments, civil society, and academia on managing data and AI risks.

- White House BLUEPRINT FOR AN AI BILL OF RIGHTS JULY 2023

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# REGULATIONS

- On July 21<sup>st</sup>, 2023, The White House sought to manage the risks posed by Artificial Intelligence (AI) and to protect Americans' rights and safety. As part of this commitment, seven leading AI companies— Amazon, Anthropic, Google, Inflection, Meta, Microsoft, and OpenAI – have given voluntary commitments to help move toward safe, secure, and transparent development of AI technology.
- The companies commit to developing robust technical mechanisms to ensure that users know when content is AI generated, such as a watermarking system. This action enables creativity with AI to flourish but reduces the dangers of fraud and deception.
- [FACT SHEET: White House , July21,2023](#)

# 5 PART AI “BILL OF RIGHTS”

- Safe and Effective Systems
- Algorithmic Discrimination Protections
- Data Privacy
- Notice and Explanation
- Human Alternatives, Consideration, and Fallback



# APPROPRIATE FOR ALL SETTINGS ?

- You should know that an automated system is being used and understand how and why it contributes to outcomes that impact you.
- You should be able to opt out, where appropriate, and have access to a person who can quickly consider and remedy problems you encounter.

# LESSONS LEARNED

- Data collection and analysis should be tailored to the purpose, provide meaningful access for oversight, include training for any people interacting with the system, and incorporate human consideration for adverse or high-risk decisions.

# ETHICAL AND MORAL CONSIDERATIONS

- Designers, developers, and deployers of automated systems should seek your permission and respect your decisions regarding collection, use, access, transfer, and deletion of your data in appropriate ways and to the greatest extent possible; where not possible, alternative privacy by design safeguards should be used. Consent should only be used to justify collection of data in cases where it can be appropriately and meaningfully given.
- Enhanced protections and restrictions related to sensitive domains, including health, work, education, criminal justice, and finance, and for data pertaining to youth. In sensitive domains, your data and related inferences should only be used for necessary functions, and you should be protected by ethical review and use prohibitions.



# A WAY FORWARD

- Considered together, the 5 principles and associated practices of the Blueprint for an AI Bill of Rights form an overlapping set of backstops against potential harms.
- This purposefully overlapping framework, when taken as a whole, forms a blueprint to help protect the public from harm.
- The (remedial) measures taken to realize the vision set forward in this framework should be proportionate with the extent and nature of the harm, or risk of harm, to people's rights, opportunities, and access.

# “IF YOU WANT TO MANAGE IT, YOU MUST MEASURE IT”

- Artificial Intelligence use in Healthcare is here to stay
- Oversight will be necessary
- Initially voluntary, but metrics will evolve as use expands
- Use caution with new technology
  - Is it better and easier?
  - Will it cause new problems or liability?
- EMR's arrived with much the same big promises.....

# REFERENCES

- White House Fact Sheet July 21, 2023
- White House White Paper, Blueprint for an AI Bill of Rights: Making Automated Systems Work for the American People, White House Office of Science and Technology Policy, December 2021
- Linchpin: Healthcare Technology Trends 2021/2  
[weforum.org/agenda/2019/12/four-ways-data-is-improving-healthcare#:~:text=Hospitals%20produce%2050%20petabytes%20of,the%20quality%20of%20medical%20care](https://weforum.org/agenda/2019/12/four-ways-data-is-improving-healthcare#:~:text=Hospitals%20produce%2050%20petabytes%20of,the%20quality%20of%20medical%20care)