

# Practicebasics

Relevant, timely, intelligent.



- Generative AI is becoming ubiquitous. Understanding its origins, architecture and ethics are a matter of patient safety and practice protection.
- Now is the time to understand AI, its evolving definition, and define its practical use (and limits) in your clinic.
- Generative AI is a utility, an application, and its use should be regularly evaluated and its contribution to improving the quality and efficiency of care considered.

Understanding generative AI can become a competitive advantage, and if you are an administrator, coder, manager, it can transform your productivity and your impact. Focusing on the training, ethical use, and prompt basics, a code of conduct, implementing ongoing education, documenting best practices, and the need for regular audits of use can support your clinical practice and protect your clinic..

**AI may prove to be a tool just at the right time.**

[Practicebasics.com](https://www.practicebasics.com) has designed a five-part introductory course "[Introduction to Generative AI](#)" - covering its origin, architecture, ethics and challenges, prompting techniques, and user case examples.

**AI is here, whether we're ready or not.**

When electronic medical records (EMRs) were implemented they were an advance (facilitating the review of medical histories, the ordering of tests, aiding billing, research, and data collection tools). An unanticipated consequence of these systems was an explosion in documentation requirements. According to research in the [Annals of Internal Medicine](#), healthcare providers dedicate almost half of each day to documentation. <sup>2</sup> Add loss of clinical autonomy, reimbursement resistance, increased expenses, and then a pandemic. . . AI may prove to be a tool just at the right time.

Generative AI, much like the introduction of the EMR, requires training and continuous support and evaluation. The “low-hanging-fruit” lies in highly repetitive, low-value activities <sup>3</sup> , and the long sought goal of “key-board liberation”. At the minimum, medical professionals need to know what generative AI is, what it can do to improve and to complicate (ala the EMR) practice operations.



### **Rapid Adoption and Innovation**

Launched in November 2022, OpenAI's ChatGPT is a generative pretrained transformer (GPT). Born from the development of a large language model, it experienced rapid adoption with over a million subscribers joining within its first 30 days. The platform has found wide-ranging applications across various sectors including education, finance, healthcare, creative writing, journalism, and many more.

One of my favorite anecdotes about why it is tagged a "Generative Pre-trained Transformer" (unverified but rumored) or GPT is that the "Transformer" tag was based on the Transformer movies where machines were as cognitive (and flawed) as their human friends. In March of 2023, OpenAI unveiled GPT-4, delivering an exponentially more robust training dataset and advanced logic parameters, thereby significantly improving upon its predecessor, version 3.5.

### **Clinic and Industry Adoption**

In addition to physicians and early adopters, larger trends are propelling AI adoption in healthcare. Major EMR vendors such as Cerner, Athena, Epic, et.al. are actively integrating generative AI into their applications, and are poised to revolutionize the EMR interfaces that have so significantly frustrated medical providers by reducing documentation-related stress and inefficiencies.

Transcription capabilities clinical trial recruitment, virtual assistants for telemedicine, clinical decision support, drug discovery, EMR analysis and review are actively being developed and will impact providers and their supporters. <sup>6</sup>

### **Provider & Staff Training**

Proficient internet users can enroll in numerous free prompting and introductory courses <sup>[1][2]</sup>. In its first year, ChatGPT has been used for tasks such as researching medical literature, identifying possible diagnoses, and drafting notes. Additionally, non-providers have begun using ChatGPT to automate responses to routine inquiries, transcribe and translate, and manage digital records. ChatGPT can also support patient triage, medical record updates, patient question and correspondence handling, and report generation.

### **Search Integration**

One of the most impactful developments in 2024 has been the integration of generative AI into Google and Bing's search engines. The upgrade improves the efficiency of queries and but significantly changes the search revenue and advertising landscape. As with EMR database

integration the search systems are undergoing significant redefinition. It is important to note that this interoperability (data sharing and cross-platform communication) is a rich and fertile ground for bad actors, promoters of malware, on-line scams, disinformation and fake media.

### **Key Issues for Medical Clinics**

Healthcare professionals must ensure adequate human oversight whenever generative AI is utilized. The creation of formal codes of conduct, audits of behavior, establishing content approval protocols, and active training on ethics and best practices can change a practice culture and effectiveness.

### **Medical-legal Liability**

Healthcare providers must ensure that human interaction and oversight occur at an appropriate level whenever AI is utilized. It is essential to design and implement policies and procedures that can demonstrate enforced codes of conduct, scheduled audits, content approval protocols, and adhere to transparency practices. Priorities should include potential misdiagnosis, poor data input, lack of or unclear consent or AI use disclosure, inadequate follow-up, and information validity. Aside from the obvious need to ensure patient safety, the lack of defined policies by Malpractice Carriers regarding the use of generative AI warrants a reasonable effort by the practice to minimize risk of improper use.

A firm understanding of clinical decision support (CDS) algorithms are used by the generative AI should be examined as generative AI is incorporated into their EMR or that they may use independently. Understanding the generative AIs origins, its training data limitations and biases are critical for an end provider of care to interpret CDS recommendations and output. This is at the core of the liability equation a physician must navigate, especially with lack of medical practice case-law yet to be developed.

New advancements in medical education and professional development will provide for improved probabilistic skills (something everyone could use), transparency in how algorithmic output is used in diagnostic decision making, and more training on how CDS predictions are used in applied learning. <sup>5 6</sup>

### **Clinical Enhancements**

If properly trained and maintained, generative AI can enhance the efficiency and effectiveness of clinical practices. Clinicians can use generative AI to perform deep searches of medical literature, assist in clinical diagnosis and data interpretation, facilitate more efficient and confident patient education, aid in medical record documentation, and improve in-office customer service. All of these benefits, however, rely on the proper implementation and use of the technology.

### **Patient Confidence**

Patients must have confidence that their care is directed by a physician, not AI. At best they can see AI as a complement to the practices existing state of care and quality. At worse, they can perceive its use as an abdication of clinical decision making. The benefits of generative AI can be realized through proper use, diligence, and vigilance.

### **Biased Outputs:**

Generative AI may reflect the inherent biases present in the underlying training data and human-created "curation" of that data. Models that do not or are not capable of demonstrating its training set bias and origination should be viewed with concern.

### **False and Opaque Results:**

Generative AI can generate incorrect results, a phenomenon known as 'hallucination.' Skilled prompt engineering can significantly reduce this tendency.

#### **Patient Privacy:**

Private patient information defined by law as “Protected Data” cannot “leak” into AI content. Clear ownership of content, human review and editing, solid and current cybersecurity policies and disclosure policies are critical in establishing and protecting your rigor and professional obligation to protect your patient’s privacy.

A statement of your data policies should reach as far as your patients and vendors. This statement should be clear, public and assertive. It should also provide for an “opt-out” for those patients who do not want to be treated by a practitioner who uses AI to complement their practice. Given our age of disinformation and misinformation your practice needs a policy for caring for these patients with clear disclosures and documentation.

#### **Misuse and Over-reliance:**

Patients also may depend too heavily on information from generative AI much like they did when the internet provided them with Google search. Much like when you conducted visits to discuss their findings on Google, get ready. Generative AI will misinform more convincingly than any technology ever invented before it. It's crucial for hospitals, clinicians, and payers to clarify the intended use of AI solutions, emphasizing that AI-generated insights serve as recommendations, not mandates.

**Practice makes perfect. A perfect practice, prepares.**

#### **Role Training:**

Different obligations and positions require different orientations and training in how to use generative AI.

As a physician or practice principle, you have unique needs. As an employed practitioner, these needs and exposure are different. As a manager or a staff member, they too are different.

#### **Physicians:**

For physicians generative AI training should focus on facilitating quicker, less labor-intensive research of medical literature, honing query skills to identify potential and differential diagnoses, and drafting notes and emails more efficiently. This should be done with awareness of data privacy, human clinical intuition.

#### **Nurse Practitioners and Physician Assistants:**

Given that NPs and PAs need to maximize their patient visit time, and generate a disproportionate amount of documentation well designed and focused generative AI training can help achieve this goal. Like physicians, NP/PA training should also emphasize patient education and communication, and be supported by the nuances and empathy of human interaction, and personalizing content to reflect their individual style.

#### **Managers**

Managers must have a broad understanding of how each role in the clinic is using generative AI. This practical understanding is essential to managing the clinic in this new age of information management. Generative AI's potential, good and bad, is expansive: from scheduling, handling patient questions and correspondence, to generating reports and analyzing data, generative AI can greatly enhance a manager's effectiveness.

**Clerical and Billing Staff:**

Like administrators, staff members may have a broad range of tasks and individualized uses. Tasks ranging from automating responses to routine inquiries, transcription, and translation, to managing digital records should all adhere to the clinic's Code of Conduct and Training.

**Medical Assistants:**

With generative AI tasks such as on-line patient triage, answering basic patient inquiries, researching fundamental questions, and updating medical records can be enhanced. Furthermore, depending on the specialty, size, culture, and authority given to a Medical Assistant, their use of generative AI can vary significantly.

**Standards of Communication:**

Practice makes perfect. And, a perfect practice, prepares. A founding principle of Practicebasics.com is an emphasis on fundamentals. By consistently executing basic work plans and daily practices within a complex, variable, and often transitioning clinic, stability and excellent performance can be attained. Communicating the clinic's policies to your patients can maintain their confidence that generative AI is used properly and ethically by the clinic.

A sample disclosure statement is provided in the appendix of this whitepaper.

**Establish an Internal Code of Conduct:**

During the training process, it's vital to seek input from each role to develop a working code of conduct for the practice. If this is not happening at a corporate level yet; appreciate that competent practitioners and astute patients are already using generative AI (my preference is ChatGPT-4). Establishing an internal code of conduct that is an actionable HR policy enforces boundaries and behaviors in the clinic.

A sample Code of Conduct statement is provided in the appendix of this whitepaper.

**Conclusion**

Utilizing generative AI in a clinical practice requires the leadership of the practice to understand that the present and evolving nature of this new utility. It also requires they assess its risks and potential rewards. A proper understanding of AI's architecture, ethical boundaries, capabilities for use and misuse are prerequisites to establishing how your clinic is going to use generative AI. Ignoring or rashly allowing undefined use of generative AI can expose the practice to medical and legal liability and can expose patients to harm. For that reason, regardless of a practitioner's opinion about technologically augmented care, they must at the very least understand it and define its use in their clinic.

**References:**

- 1 Adams, K. (2023, July 11) [The 3 Hottest Areas for Healthcare Generative AI](#). MedCity News
- 2 Brown, A. (2023, July 19) [AI Won't Replace Doctors. But It May Help With Burnout](#). Medpagetoday.com
- 3 Lawry, T. (2023, July 25) [The future of AI in medicine and what it means for physicians and practices](#) Tom Lawry. American Medical Association
- 4 Medicine, U. of M. S. of. (August 2023), [Study Warns That Doctors Are Not Prepared for AI Transformation of Medicine](#). SciTechDaily.
- 5 Johnson, K. [ChatGPT Can Help Doctors—and Hurt Patients](#). Wired.
- 6 Admin. (2023, April 27). [Power of ChatGPT in Healthcare: How Generative AI is Transforming The Industry?](#)

## Additional Resources:

### Clinic Operations and Coding

[What Every Health System CFO Needs to Know Before Using AI for Medical Coding](#) MedCity July 2023  
[ChatGPT Can Help Doctors—and Hurt Patients](#) July 2023

[AI in Primary Care? Sure, Bring It On -- But Check With End Users First](#) MedPage Today Dr. Fred Pelzman Aug 2023

[Physicians: Shape Your AI Future or Someone Else Will](#) Medscape Eric J. Topol, MD; Adam Rodman, MD, MPH October 02, 2023

[Study Warns That Doctors Are Not Prepared for AI Transformation of Medicine](#) SciTEchDaily.com Aug. 2023

### Support for Patients with Disabilities

[AI Could Change How Blind People See the World](#) Wired July 2023

[Empowering Individuals With Disabilities Through AI Technology](#) Forbes Aug. 2023

### Free Training

[15 of the best ChatGPT courses you can take online for free](#) Mashable July 2023

[Practicebasics Introduction to Generative AI](#) Updated monthly.

### Generative AI in Healthcare

[The 3 Hottest Areas for Healthcare Generative AI](#) MedCity News July 2023

[Machine Learning Model Accurately Identifies High-Risk Surgical Patients](#) MedPage Today July 2023

[AI Won't Replace Doctors. But It May Help With Burnout.](#) MedPage Today July 2023

[The future of AI in medicine and what it means for physicians and practices](#) Tom Lawry American Medical Association July 2023

[Where generative AI can make headway in healthcare](#) Healthcare IT News, Dr. Shiv Rao Aug 2023

### General Business Adoption

[ChatGPT is going to take your job!](#) Business Insider July 2023

[How to Get Your Company Started With Generative A.I.](#) Inc. July 2023

[ChatGPT Plus can mine your corporate data for powerful insights. Here's how](#) ZDnet.com David Gewirtz Aug. 2023

### Sample General Statement of AI Use in the Clinic (PDF)

**Practicebasics** Relevant, timely, intelligent.

**Clinic Name [Name]**  
**General Statement of Generative AI Use and Policies**

**Introduction**  
Our practice, [name] is committed to integrating advanced technologies to deliver quality care, including generative artificial intelligence (Generative AI) to enhance patient safety, care delivery, improve outcomes, and optimize clinical operations. We are dedicated to complete transparency of our use, and our professional obligation to use this new technology responsibly with a dedication to continuous improvement, regulatory compliance, and improved patient care.

**1. Transparency**  
[Clinic name] commits to communicating with clarity when using generative AI, ensuring that patients, staff, and other participants in our clinic understand how and why AI is utilized in our clinical operations. Procedures and protocols involving the use of generative AI will be explained clearly when requested by our patients.

**2. Fairness and Non-discrimination**  
[Clinic name] pledges to use generative AI applications that have been tested for biases and to continuously monitor for potential discriminatory outcomes. We pursue real-time monitoring of the systems we use to complement our clinical operations and are dedicated to ensuring all patients receive fair assessment and treatment, irrespective of race, gender, age, sexual identification, or socioeconomic status.

**3. Privacy and Data Protection**  
[Clinic name] will uphold strict confidentiality and privacy standards, ensuring the ethical collection, storage, and processing of patient data. Patient information used to inform generative AI systems will adhere to HIPAA regulations, the clinic's data privacy policies, ensuring informed consent and data anonymization where necessary.

**4. Safety and Security**  
Generative AI systems integrated into [Clinic name] operations will be thoroughly vetted for safety and efficacy. We will implement robust cybersecurity measures to protect sensitive data and healthcare processes from breaches or manipulation.

**5. Honesty and Integrity**  
[Clinic name] is committed to truthful representation of our generative AI use, its limitations, potential risks, and maintaining honesty in patient engagement and marketing materials.

**6. Professional Responsibility**  
Our healthcare professionals are expected to engage with generative AI responsibly, prioritizing patient safety, wellness and ethical practices. Continuous education and training on AI will be provided to ensure our staff are competent and informed users of generative AI.

**7. Continuous Monitoring and Education**  
[Clinic name] will conduct regular reviews and updates to adapt to new medical knowledge, technological advancements, patient feedback of generative AI use, performance, identified concerns and their resolution. [Clinic name] will also conduct new employee training in the use of generative AI and ongoing training.

**8. Regulatory Compliance**  
All AI technology used will comply with healthcare regulations, professional standards, and legal requirements. Because of the developing nature of the application [Clinic name] will monitor changes and updates in relevant laws and regulations.

**9. Patient Engagement and Participation**  
[Clinic name] values the input of its patients, other professional peers and resources in providing care. Collaboration with industry experts. At [Clinic name] we believe in the transformative potential of generative AI to enhance patient safety, improved outcomes and provider efficiency. We remain steadfast in our commitment to ethical use and through this Statement of Use intend to communicate our core values and responsibilities.

# Proposed Generic Detailed Step-by-Step Process

## Proposed Generic Detailed Step-by-Step Process

### 1. Introduction to Generative AI in Healthcare

**Duration:** 10 minutes

**Content:**

- Define generative AI and provide examples of its use in healthcare (e.g., predictive analytics, automated documentation).
- Discuss the potential benefits, such as improved efficiency and accuracy.
- Highlight the importance of ethical considerations and responsible use.

### 2. Initial Staff Interviews

**Duration:** 15 minutes

**Content:**

- Explain the purpose of the interviews: to understand current usage and perceptions of AI among staff.
- Provide a list of key questions:
  - How do you currently use AI in your role?
  - What are your thoughts on the integration of AI in patient care?
  - What benefits do you see in using AI?
  - What concerns do you have about AI in healthcare?
- Outline the process for conducting interviews and collecting responses.
- Discuss how the feedback will be used to shape policies.

### 3. Evaluation of Existing Policies and Procedures

**Duration:** 10 minutes

**Content:**

- Review the clinic's current documentation practices.
- Identify any existing policies related to AI.
- Highlight areas that need improvement or updating.
- Provide examples of common gaps in policies.

### 4. Defining Best Practices

**Duration:** 15 minutes

**Content:**

Present a set of best practices for AI use in the clinic:

- Regular training for all staff on AI tools and their applications.
- Clear distinction between AI-generated recommendations and physician decisions.
- Stringent data privacy and security protocols.
- Regular audits of AI use to ensure compliance and identify issues.
- Discuss how these best practices protect the clinic and ensure high-quality patient care.

### 5. Regulatory Guidelines

**Duration:** 10 minutes

**Content:**

- Overview of key federal regulations, including HIPAA, that impact AI use in healthcare.

1

- Discuss potential state-specific regulations that may apply.
- Emphasize the importance of compliance and the risks of non-compliance.

### 6. Implementation Plan

**Duration:** 10 minutes

**Content:**

- Outline the steps to implement the new AI policies and procedures.
- Develop a detailed implementation timeline.
- Assign responsibilities for different tasks (e.g., training, policy updates).
- Establish a monitoring and evaluation system.
- Explain the process for ongoing feedback and continuous improvement.

### Q&A Session

**Duration:** 10-20 minutes

**Content:**

Open the floor for questions and discussions.

Address any concerns or suggestions from the staff.

Reinforce the importance of collaboration and continuous learning.

### Conclusion

This framework provides a structured approach to integrating generative AI into a medical clinic, ensuring that staff are well-informed and policies are robust. The orientation session aims to foster a collaborative environment where staff feel empowered to use AI responsibly and effectively in their daily operations.