



## **Protecting Your Practice**

### **Navigating Dental Risk**

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### **This Month-AI in Dentistry: Protecting Your Patients, Practice, and License**

Artificial Intelligence (AI) is transforming dentistry, enhancing diagnostic capabilities, treatment planning, patient management, and administrative workflows. From AI-powered radiographic analysis to automated scheduling systems, dental practices are becoming increasingly reliant on these technologies to improve efficiency, accuracy, and patient outcomes. The advantages offered by AI, though, present a host of risks that require careful management; dental professionals are faced with new legal, ethical, cybersecurity, and clinical challenges. This article explores key considerations dentists might consider when incorporating AI into their practices, providing a roadmap for responsible and secure AI adoption.

#### **Clinical Decision-Making and Liability Risks**

One of the primary uses of AI in dentistry is in diagnostic tools such as caries detection, periodontal disease analysis, and treatment planning.

#### **Risks to Consider:**

- If an AI system misidentifies a condition (e.g., missing early signs of oral cancer), who is legally responsible—the software vendor or the dentist? How will the courts handle these arguments when this is also new territory for the legal system?
- Consider whether patients are informed that AI is being used in their care—if AI has the potential to impact a diagnosis or treatment plans, how will this be addressed with the patient?

#### **Risk Management Strategies:**

- Use AI as a supplement, not a substitute, for clinical judgment.
- Ensure that staff are trained to understand the capabilities and limitations of the AI system.
- Document how AI tools contribute to clinical decisions and any conversations with the patient regarding the use of AI, in the patient's record.

#### **Data Privacy and Cybersecurity**

AI systems often rely on large datasets that include protected health information (PHI). This makes these systems a target for data breaches, which can result in serious legal and reputational consequences.

#### **Risks to Consider:**

- If patient records are accessed without authorization, perhaps due to poor security protocols or vulnerabilities in AI platforms, who is liable—the practice or the vendor?
- Once a data breach has occurred through the AI system, will the hacker have access to all other systems in the practice?

- Consider that many AI applications store data on cloud servers, potentially creating additional vectors for attack.

#### **Risk Management Strategies:**

- Partner with AI vendors who are HIPAA-compliant and have robust security certifications. Consult with your cybersecurity or IT teams to ensure appropriate security protocols are in place.
- Consider the use of end-to-end encryption, two-factor authentication, and regular security audits.
- Establish Business Associate Agreements (BAAs) with AI service providers handling PHI.
- Train staff in cyber hygiene and develop protocols for responding to data breaches.
- Confirm cybersecurity coverage limits with your insurance advisor.

#### **Ethical and Bias Considerations**

AI systems are only as good as the data they're trained on. If those datasets are biased or incomplete, the AI may produce results that are inaccurate or even discriminatory.

#### **Risks to Consider:**

- AI may underperform in diagnosing conditions in underrepresented populations (e.g., different ethnicities or age groups), thereby potentially introducing bias.
- Patients may be uncomfortable or distrustful if they are unaware that AI is being used in their care and litigation may result from nondisclosure.

#### **Risk Management Strategies:**

- Select AI tools that have been validated in diverse clinical populations. Consider how you might obtain this information.
- Maintain transparency with patients about how AI is used and its role in their care.
- Document any conversations with patients about the use of AI in your practice.

#### **Regulatory and Compliance Issues**

AI in dentistry falls under various regulatory frameworks that are still evolving. Understanding and adhering to these regulations is essential to avoid potential legal penalties.

#### **Risks to Consider:**

- Some AI applications may be marketed without FDA clearance, posing legal and clinical risks.
- Improper use of AI in handling patient data may lead to substantial fines.

#### **Risk Management Strategies:**

- Use FDA-approved AI tools.
- Conduct due diligence on vendors regarding regulatory compliance.
- Stay current on evolving laws through continuing education and professional associations.

- Incorporate legal reviews during the procurement process for new AI systems.

## **Integration and Operational Challenges**

Even the most sophisticated AI tools can fail if not properly integrated into clinical workflows. Poor integration may lead to inefficiencies, staff frustration, and errors.

### **Risks to Consider:**

- AI systems that do not align with existing practice management software may create bottlenecks.
- Improper use of AI due to lack of training or poor interface design may lead to errors.
- Staff and patients may resist new technologies, slowing implementation.

### **Risk Management Strategies:**

- Conduct a technology readiness assessment before implementation.
- Provide comprehensive training for all users, including simulations and continued learning.
- Choose AI solutions that integrate seamlessly with existing systems (e.g., digital imaging software, EHR).
- Designate a technology champion in the practice to oversee AI implementation and address challenges.

## **Strategic Planning and Future Considerations**

AI will continue to evolve, offering even more powerful tools for dental professionals. To manage risk effectively, dental practices will want to consider adoption of a long-term strategic approach.

### **Key Considerations:**

- Regularly assess AI tools for performance, compliance, and safety.
- Work with companies that have a track record and offer strong technical support.
- Maintain open communication with patients about the benefits and risks of AI use.
- Be prepared to adapt policies and workflows as AI capabilities and regulations evolve.

AI holds transformative potential for dentistry. By understanding the risks and implementing robust management strategies, dental professionals can harness the benefits of AI while safeguarding their patients, practices, and reputations.

For questions related to dental risk management, contact Dr. Julie Goldberg, Professional Dental Risk Specialist with PM Dental Protect, PMIG. [julie.goldberg@phmic.com](mailto:julie.goldberg@phmic.com).

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