

RISK MANAGEMENT CONSIDERATIONS

When Adopting AI Clinical Decision Support Tools in Pediatric Dental Practice

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INTRODUCTION

The adoption of artificial intelligence (AI) in dentistry is evolving at a rapid pace and offers the potential for enhanced diagnosis, personalized treatment planning, and more efficient operational workflows.¹ For example, the 2026 AAPD Annual Session MiniClinic presentation by Dr. Alexandra B. Otto on *Unleashing the Power of AI in Dentistry* described several innovative uses in a busy pediatric dental practice. However, AI usage is not without legal risks and its deployment requires the implementation of robust risk management strategies for its use in clinical care to protect patients, dentists, and practices. This article discusses some risk management considerations when selecting and adopting AI clinical decision support tools (AI tools) in pediatric dental practice.

AI TOOL SELECTION

When selecting an AI tool, it is important to consider the purpose for which the tool is being adopted and the tool's ability to meet that purpose. The ADA provides guidance on key validation, clinical use, and performance questions for assessing a tool's applicability for a particular clinical practice.² It is also important to verify whether, based on the functions of the tool, FDA clearance is required; and if so, whether it has been obtained. For example, AI tools that use patient dental images meet the prerequisites for requiring FDA oversight.³ If an AI tool appears to meet the dentist's intended purpose, there are additional tool and vendor specific considerations that need to be addressed from a risk management perspective.

AI Tool Considerations

AI tools present risks if they are not deployed with an understanding of how they operate and do not include guardrails for responsible incorporation into the workflow of the dental practice. Below are key factors to consider when selecting an AI tool.

Data requirements. It is important to understand the data that is required for the tool to function. Clinical decision support tools will by their nature require the use of Health Insurance Portability and Accountability Act (HIPAA) protected health information (PHI).⁴ Depending on the functions of the tool, other personal identifiable information may also be required. It is also important to understand who has access to the data and for what purpose. For example, AI vendors may engage third parties for tool deployment including data processing and storage, which will invoke privacy, security, operational, and contracting considerations.⁵

Technology requirements. It is essential to understand the technology requirements of an AI tool such as hardware, network capacity and bandwidth; and its ability for integration and interoperability with other office systems in the pediatric practice.

Performance measures. Another tool specific consideration is the availability of performance measures associated with practice specific implementation. Are validation results provided prior to full scale implementation and with system updates? Are audit reports that identify defects, bias, security issues, safety concerns, and hallucina-

tions/inaccuracies available on a routine schedule? For a tool that provides diagnostic support, what performance measures are available to document the tool's accuracy and consistency of results? For ambient scribe tools that provide dental record documentation, how does the system perform in an open operatory configuration with multiple speaking providers as opposed to a private operatory configuration?⁶ What level of accuracy does the tool deliver and how are modifications/corrections tracked, and provider approval documented?

AI tool training. Understanding how the tool was and continues to be trained is an important consideration. Assurances that the tool was trained with representative patient data to minimize the risk of bias and discrimination should be sought.

Other logistical considerations. Provisions for data retention (e.g., duration), access (e.g., for dental practice audits and litigation holds), and storage (e.g., emergency backups), both during the contract period for the use of the AI tool and after contract termination, should be understood. In addition, clarity regarding the documentation of provider review, correction, and approval of system output is important. The cost of the tool and the services included within that cost should be clearly understood.

Vendor Considerations

In addition to a thorough review of any AI tool, it is important to conduct due diligence on the vendor. Is the vendor financially stable and does it have the resources to deliver on the services it is offering? Is the vendor familiar with and committed to compliance with AI and healthcare regulatory requirements including privacy, security, and patient safety. Evidence of a vendor's commitment to compliance should be verified through examination of performance and security audits, data handling protocols, and security certifications.⁷

AI TOOL ADOPTION

Once an AI tool has been selected for adoption, a careful review of the vendor contract for its use needs to be conducted. Engaging a legal advisor is highly recommended to ensure the AI tool's compliance with applicable laws; to provide support in negotiation of an agreement that protects the patients, dentist, and practice; and to make sure there is full understanding of vendor and dentist obligations, including how the contract may be terminated and the parties' responsibilities post termination.

Applicable Laws

Federal and state laws will provide context for contract provisions as it relates to health information, privacy, and AI regulation. Adoption of a clinical decision support tool creates a vendor relationship that requires compliance with the federal HIPAA law, which includes the execution of a Business Associate Agreement (BAA) before the exchange of any PHI.⁸ The BAA must specify how PHI will be used by the vendor, which may preferably be limited to treatment, payment, and healthcare operations. If agreed upon, the BAA must also delineate any use beyond treatment, payment, and healthcare operations, such as training, testing, developing, improving, and expanding the AI tool. While the vendor may be interested in using PHI from the dental practice for these additional purposes, it is important to understand that such uses of PHI are likely not considered "healthcare operations." If uses other than treatment, payment, and healthcare operations are permitted in the BAA, provisions for de-identification of the PHI must also be articulated.⁹ De-identification can be complex. For example, dental images have embedded Digital Imaging and Communications in Medicine (DICOM) metadata – a globally recognized standard for image formatting that includes patient details, provider information, and imaging parameters – that

need to be addressed when de-identifying PHI.¹⁰ Of note, the use of PHI for purposes other than treatment, payment, and healthcare operations that is not de-identified requires written approval of subject patients, which is revokable. Careful consideration of the burden associated with this obligation needs to be given before agreeing to the use of non-de-identified health information. When using an AI tool, the possibility of re-identification of de-identified data is real because of the pattern recognition capacity of AI. **Caution should be taken before agreeing to uses other than treatment, payment, and healthcare operations.** Not all vendors, particularly those less familiar with the healthcare landscape will understand the complexities of HIPAA privacy and security obligations.

Some states have passed laws imposing strict hurdles for AI use. State healthcare information and privacy law may also include patient protections that must be adhered to when deploying an AI tool. **For example, the use of AI scribes for recording patient clinical encounters may require patient consent depending on whether the dental practice is in a one-party or two-party (all-party) consent state.** There are twelve two-party consent states that include California¹¹, Florida¹², and Illinois¹³.¹⁴ The use of AI tools for diagnostic and treatment decisions or written or verbal patient communications may require specific disclosures to patients.¹⁵ Depending on the AI tool and jurisdiction, an informed consent protocol that informs the patient of the tool's function, known shortcomings, method of use in the context of the shortcomings, and reason it is believed to improve care must be employed.¹⁶

Other Key Contractual Considerations

The understanding of the AI tool acquired during the selection process is important during the contract negotiation process. The dentist's focus during negotiation is to protect the interest of the practice and patients, which is different than the

vendor's focus to advance and protect the interests of the company and AI tool. There are several evolving contract provisions that require consideration to ensure favorable terms for the dentist.¹⁷

Warranties and representations. The contract should outline minimum measurable performance thresholds that the vendor commits to maintain and provisions for timely resolution of material defects. The contract should also document that the data used to train, validate, and operate the AI tool were lawfully obtained and tested for bias and discriminatory outcomes. Compliance by the vendor to regulatory requirements including privacy, security, and patient safety is an essential contract provision. The vendor's obligations should extend to its third party subcontractors.

Liability and indemnification. To ensure vendor accountability, indemnification provisions should cover third party claims from the vendor's misconduct and negligence (e.g., infringement of IP rights), violations of law and regulations (e.g., privacy and security violations), and breach of contract or warranties and representations. Remedies should be specified for failures to fulfill obligations (e.g., no cost contract extension, payment of fines due to regulatory non-compliance, expenses associated with data breaches, and contract termination for egregious failures). The contract should appropriately allocate responsibility for patient harm caused by AI error (e.g., algorithmic error and inaccurate outputs) as opposed to provider clinical judgment.

Insurance coverage. The contract should require the vendor to provide proof of insurance coverage to cover its liabilities (e.g., cyber liability, technology errors and omissions, and malpractice coverage). It is advisable for the dentist to review their insurance coverage to confirm there are no AI injury exclusions.

Data ownership and termination provisions.

The contract should outline data ownership and usage rights. From a dental practice perspective, the dentist will want to own inputs and outputs, restrict the use of the data to the practice, and confirm the dentist's continued right to access data stored by the vendor and third parties for patient care, practice compliance and performance audits, and dentist defense requirements. The contract should include provisions for un-coupling data from the vendor in the case of contract termination with an obligation for the vendor to return outputs and then destroy the data confirmed by written certification of destruction.

Other obligations. AI tool development is ever evolving and therefore it is essential for the contract to include provisions requiring the vendor to provide advance notice of material version updates and changes and giving the dentist the right to reject or delay updates pending internal review.

SUMMARY

To suggest we are in the early stages of a fast-evolving legal area is an understatement. The opportunities that AI present to advance the delivery of oral healthcare are not without risk.

The key to the adoption of AI in dental practice is the understanding that regardless of the AI technology utilized, the dentist is ultimately the responsible, licensed provider for ensuring patient safety, standard of care, effectiveness, quality, and compliance. Hence, AI cannot be the scapegoat for an error in diagnosis or treatment.¹⁸ Some might therefore suggest it is safer to steer away from AI use entirely. However, this would be a faulty conclusion because the legal standard of patient care incorporates best practices including new devices for diagnosis and treatment. In other words, failure to adopt helpful AI technology could in the future lead to legal liability. Others may be drawn to AI adoption because it is cutting edge and at the frontier of dentistry. However, charging

ahead without focused consideration of the legal risks can lead to patient safety issues and practice compliance failures. The goal of this article is to strike a balance for adoption of AI tools that recognizes the value of AI solutions and provides considerations for managing the risks of implementation. Ensuring due diligence during the selection and adoption process can support the safe deployment of AI tools. As the AI tools improve and expand the need for continued analysis of the associated and inherent risks will need to be evaluated and addressed.

To summarize, some of the prudent best practices for managing risk when deploying AI tools include:

- Engage in diligent selection and adoption protocols when considering the deployment of AI tools.
- Keep up to date on the federal and state laws and regulatory guidance regarding AI usage in healthcare, including those that address patient consent and disclosure.¹⁹
- Comply with the privacy requirements associated with PHI and personally identifiable information. Pediatric dental practice policy should prohibit the use of identifiable patient information in publicly available AI tools such as ChatGPT and Claude.²⁰
- Pediatric dental practice staff should be trained on the use of adopted AI tools and roles and responsibilities clearly delineated. It should be understood by all that AI is a supplemental tool for the planning, delivery, and documentation of healthcare and that a "human in the loop" is the practice policy. AI tools are not a substitute for clinical judgment. Review and approval of all AI generated recommendations and documentation (e.g., patient referrals, prescriptions, and procedure codes) should be required. Decisions to follow or depart from AI recommendations should be documented. Training

should be updated on a regular schedule and incorporate lessons learned from practice audits and performance assessments.

- AI tools should undergo routine monitoring including external vendor and internal practice performance audits and security risk assessments. This is especially crucial considering the dynamic nature of AI tools.
- Don't do it alone; engage an AI governance team that includes a legal advisor and IT consultant.

Perhaps most importantly, families should be assured that AI is simply another tool to help the pediatric dentist take care of a child's oral health needs. **It is not a substitute for the dentist's expertise and judgment, as the provider has ultimate legal responsibility for patient care, but will help the dentist make an accurate and effective diagnosis, treatment plan, and dental record.**²¹

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