Frequently Asked Questions: Digital Health & AI in Osteopathic Medicine

Disclaimer

- Information provided through the AOiA Digital Health Innovation Community of Practice is for educational purposes only
- Users must obtain approval from their healthcare institutions before implementing any technologies or processes in patient care or operations
- All implementation decisions should align with local institutional policies and procedures

Opportunities & Challenges

What is Artificial Intelligence?

- Artificial Intelligence, or AI, is a field of computer science where machines are designed to perform tasks that typically require human intelligence, such as recognizing patterns, learning from data, problem-solving, and making decisions
- These systems aim to enhance human capabilities, supporting healthcare professionals with tasks that range from analyzing medical data to predicting patient outcomes

What types of AI technologies could be used by osteopathic physicians?

- Machine Learning (ML): A form of AI where systems learn from data to improve their performance over time. ML can help predict patient outcomes, customize treatment plans, and identify trends in patient health
- Natural Language Processing (NLP): This technology enables AI to understand and process human language, which can be useful for analyzing clinical notes, improving patient communication, and streamlining documentation
- Computer Vision: Used in medical imaging, computer vision can assist physicians by analyzing X-rays, MRIs, and other scans, potentially spotting issues more quickly or precisely than traditional methods
- Robotic Process Automation (RPA): This automates repetitive administrative tasks like data entry, billing, and appointment scheduling, freeing up time for osteopathic physicians to focus on direct patient care
- Predictive Analytics: This involves using data to forecast future health events, such as disease risks, helping to personalize preventive care for individual patients

Will AI eventually replace the roles of healthcare providers?

- The answer to this varies based on who you ask and the role of the provider, generally most believe that AI cannot replace healthcare providers
- AI is designed to support, augment and enhance healthcare, not replace the vital roles that healthcare providers play.
    - For example, AI cannot perform essential tasks related to patient examination and procedures (i.e., knee injection) without humans.
- In osteopathic medicine, AI can handle routine administrative tasks, analyze complex data, be a healthscribe and assist with decision-making, allowing physicians to dedicate more time to hands-on, holistic patient care

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- By managing tasks that don't require human touch or clinical judgment, AI enables osteopathic practitioners to deepen their patient relationships and focus on treating the whole person and even to chart during hands on Osteopathic Manipulative Treatment (OMT) procedures, ensuring that technology enhances rather than overshadows the essential human elements of healthcare

What are the greatest opportunities for digital health & AI in osteopathic medicine?

- Enhanced personalized care by automating routine tasks, allowing physicians to decrease desktop burden and focus on high-touch and high-tech, human-centered care
- Increased health promotive, holistic care with access to vital information and behavioral metrics in the home via wearable devices
- Improved workflow efficiency and accessibility to advanced clinical knowledge
- Advanced education and continuous learning
- Increased capacity for data-driven decision making at training levels and elevate bedside patient care
- Fostering innovation in osteopathic-principles and practice

How will AI help with personalization and healthcare delivery for patients?

- Personalized care using predictive analytics specific to individual needs to optimize outcomes
- Improved preventive care with real-time tracking, early intervention, and personalized recommendations, insights and patient education
- Customized patient engagement through adaptive communication tools

How can AI and digital health technology help address workforce shortages in healthcare?

- High-volume, low-acuity tasks automated to free up clinical resources
- Enhanced training efficiency through virtual education platforms
- Optimized workforce scheduling and resource management for equitable care delivery

How can patients benefit from digital health and AI in osteopathic care?

- Remote monitoring and telemedicine increase care access, especially for underserved populations
- AI-powered tools assist in chronic disease management, wellness and prevention, helping patients stay engaged with their care plans
- Improved outcomes through personalized treatment strategies and real-time feedback mechanisms

Ethical Considerations & Patient Privacy

What ethical concerns should we consider when using AI with patients?

- Protecting patient privacy through encryption and secure data storage
- Maintaining empathy and the human touch despite remote patient care
- Establishing mechanisms to identify biases, hallucinations, and confabulations, with recalibration systems where necessary

How can we address privacy concerns with patient data?

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- Implement robust data protection policies, including encryption and secure storage
- Provide education and transparency about data usage and protection practices
- Ensure compliance with HIPAA, SOC2, HITRUST and GDPR to maintain legal standards and patient trust
- Leverage the Digital Medicine Society's (DiMe) Seal when considering digital health software products as it builds trust in the market, accelerates the adoption of digital health tools to improve health outcomes, and invites a continuous cycle of rigorous evaluation to elevate the practices of digital health.

Implementation & Training

How are osteopathic organizations positioning themselves to address both the opportunities and challenges of AI?

- Provide AI educational resource hub and training programs for students, staff, faculty, and administrators in Undergraduate Medical Education (UME) and Graduate Medical Education (GME) spaces
- Provide digital health technology resources and expand networks for colleges of osteopathic medicine to collaborate and share technology resources and best practices
- Foster collaborative innovation through partnerships via engagement with research and industry digital health leaders
- Drive policy and advocacy efforts to support ethical and responsible AI use
- Focus on practical implementation strategies for trainees to seamlessly integrate technology into clinical care

How can digital health and AI enhance physician training and competency?

- Develop standardized curricula integrating digital health technologies into existing medical education frameworks at all training levels
- Create open-access digital platforms for collaborative education and AI simulation tools
- Create space to dialogue and elevate education paradigms toward co-creation with AI (e.g., chatbot advisors and tutoring systems)
- Establish continuous real-time and personalized digital learning programs to ensure practitioners remain up to date with clinical practice guidelines

What challenges exist in verifying physician competency and validating scientific research as AI develops?

- Evolving competency standards in response to technological advancements
- Ensuring ethical use of AI in research with transparent methodologies
- Balancing the use of AI tools with traditional hands-on clinical skills
- Validating AI-generated research outputs through rigorous protocols

Security & Resilience

How can healthcare systems enhance security and protect against cyberattacks?

- Implement robust cybersecurity measures, including firewalls and intrusion detection
- Provide comprehensive training for healthcare staff on data security best practices
- Ensure compliance with HIPAA and GDPR for data protection
- Stay informed about emerging threats and reference international frameworks such as SOC2, HITRUST, GDPR for best practices

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Practice Management & Administrative Efficiency

How can AI and Digital Health enhance efficiency in administrative tasks?

- Automate documentation using AI-powered natural language processing and optical character recognition at the bedside
- Optimize patient scheduling with intelligent algorithms
- Automate billing and coding processes to reduce administrative burdens
- Enhance communication across care teams using digital collaboration tools
- Utilize data analytics for practice management and quality assurance
- Increase diagnostic speed and accuracy in fields such as radiology, ophthalmology, and cardiology

Future Directions & Policy

What are some key policy objectives for advancing digital health in osteopathic medicine?

- Drive policy changes to promote AI and digital health adoption in education and practice
- Secure federal and state funding for AI research and development initiatives
- Develop accessible, collaborative education frameworks in partnership with accrediting bodies at all levels of medical training and practice via technology-centric metrics and milestones

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