Reinventing the Future of Medicine

Jesse M. Ehrenfeld, MD, MPH, FAMIA, FASA, FCPP
President
American Medical Association

Senior Associate Dean, Professor of Anesthesiology
Director, Advancing a Healthier Wisconsin Endowment
Medical College of Wisconsin

Presentation Summary

- Highlight the AMA's top advocacy priorities and how they support physicians and patients.

- Explore how the AMA's Recovery Plan for America's Physicians seeks to help doctors recover from the strain of the pandemic.

- Examine the role of the AMA and physician leaders driving the future of AI and health care technology.
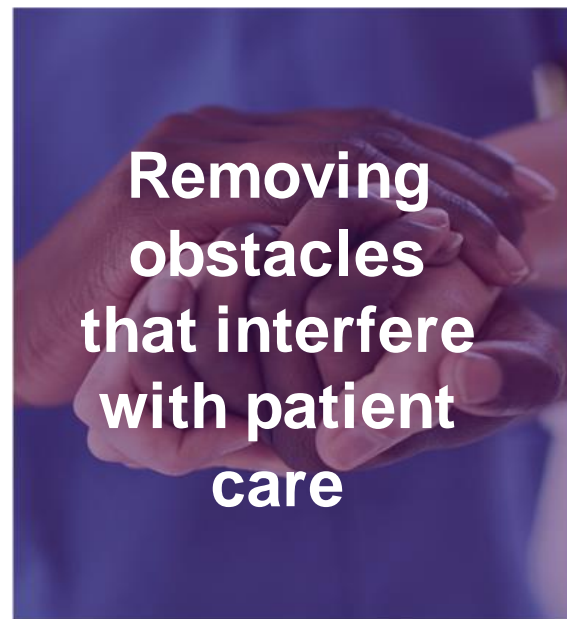
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About me

- **American Medical Association,** President
- Senior Associate Dean, Professor of Anesthesiology (with tenure), Director of the Advancing a Healthier Wisconsin Endowment at the **Medical College of Wisconsin**
- Faculty at **Harvard Medical School** (previous)**, Vanderbilt University** (adjunct)**, Uniformed Services University of Health Sciences** (adjunct)
- Technical advisor to **World Health Organization** Digital Health Technical Advisory Group
- **Association for the Advancement of Medical Instrumentation** (AAMI) Artificial Intelligence Committee Co-Chair
- Special Advisor to the 20th **U.S. Surgeon General**
- Combat Veteran, **U.S. Navy**

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We are the physicians' powerful ally in patient care

Representing physicians with a unified voice

Removing obstacles that interfere with patient care

Leading the charge to confront public health crises

Driving the future of medicine

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Promoting the Art and Science of Medicine and the Betterment of Public Health

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A Recovery Plan for America's Physicians

The AMA is working at the highest levels to:

- **Reform Medicare payments** to promote thriving practices and innovation;

- **Tackle Prior Authorization** to reduce burdens on practices and delays in care;

- **Stop Scope Creep** that threatens patient safety**;**

- **Reduce burnout** and address stigma around mental health; and

- **Advance Telehealth** to maintain coverage and payment

Read more about the
AMA Recovery Plan for
America's physicians

#FightingForDocs

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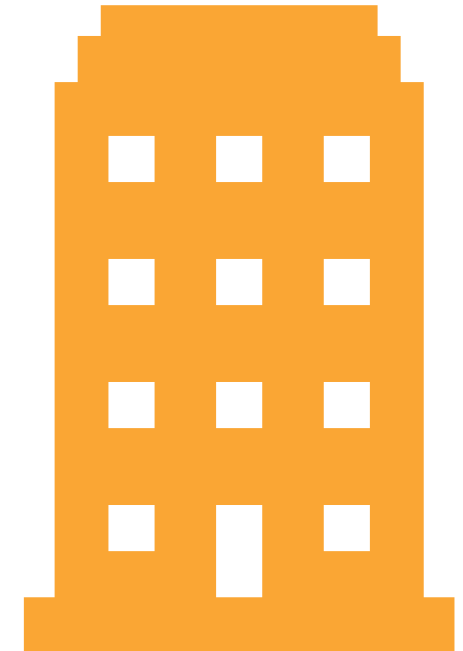
How the AMA is driving the future of medicine

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Physicians key requirements for technology adoption

1. Does it work?

2. Will I receive proper payment?

3. Will I be liable?

4. Will it work in my practice?

AMA Digital Health research, 2016, 2019, 2022

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How the AMA influences innovation

Guiding
- Developing standards & common language
- Developing policy & regulation
- Providing ethics principles
- Ensuring appropriate liability

Informing
- Reporting health care AI news
- Tracking health care AI trends
- Collecting & disseminating use cases
- Conducting research & writing white papers
- Speaking & convening on AI topics

Funding
- Funding development, validation and implementation of health care AI
- Supporting health care AI research
- Advancing payment & coverage for use of AI in health care

INFLUENCING health care AI

DELIVERING health care AI

Developing
- Direct R&D of AI solutions
- Providing AI development guidelines and best practices
- Providing developer tools & resources

Validating
- Evaluating solution efficacy
- Evaluating solution operability & usability
- Evaluating solution privacy & security

Implementing
- Direct implementation of AI solutions
- Providing implementation best practices
- Providing implementation consulting services

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Medicine's next frontier – Health2047

- Silicon Valley-based innovation firm **founded by the AMA in 2016**.

- Partners with early-stage startups to bring healthcare innovations to market, with physician collaboration at the center.

- Health2047 invests in three strategic pillars:
  - Data
  - Chronic disease
  - Productivity

HEALTH 2047

Visit: **Health2047.com**

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A platform to share ideas and expertise about digital health

As a free technology platform, PIN platform hosts **18k+ users** and has created **7000 connections** between the world of medicine and the world of technology innovation

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Future of Health

Closing the Digital Health Disconnect: A Blueprint for Optimizing Digitally Enabled Care

Research collaboration led by

manatt

- Physicians and patients have embraced digital health and want progress to continue.

- Despite progress, the full potential of digitally enabled care has not yet been realized; the industry is at an inflection point to navigate existing/emerging models.

- Collaboration will be essential to ensure care fragmentation is not exasperated and that continuity of care and improved outcomes can be improved.

- AMA recently launched an initiative focused on the **Future of Health – Closing the Digital Health Disconnect: A Blueprint for Digitally Enabled Care**

  - *40+ contributors: Health systems, VCs, health plans, physicians in various settings, patients, companies, specialty societies*

  - *Join us!*

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Learn more about the AMA's Future of Health work:

BLUEPRINT FOR OPTIMIZING DIGITALLY ENABLED CARE

FOUNDATIONAL PILLARS	Build for **patients, physicians** and **clinicians**	Design with an **equity lens**	Recenter care around the patient-physician **relationship**	Improve and adopt payment models that incentivize **high-value care**	Create technologies and policies that **reduce fragmentation**	Scale **evidence-based** models quickly

SHAREHOLDER OPPORTUNITIES

Physicians
Implement workflow tools that create efficiency and optimize care; participate in technology design and implementation; connect with peers; optimize EHRs; partner to extend capabilities

Health plans
Evaluate effectiveness of new models; offer equitable payment; better design value-based payment (VBP); enable equitable cost sharing to in-person services; require information sharing with members' primary care physicians (PCPs); simplify administrative burden

Employers
Incentivize employee relationships with PCPs; require information sharing with employees' PCPs and adherence to quality metrics; develop multicondition platforms; create on-site virtual care environments

Policy makers
Permanently extend telehealth flexibilities; increase broadband and effectiveness research funding; strengthen interoperability; support equitable coverage and payment of telehealth services

Health tech companies
Seek patient and provider input; center designs in health equity; simplify provider workflows; incorporate "privacy by design"; improve coordination with other providers

Venture capital and private equity funds
Direct investments to companies that work with incumbents to help ensure coordination of care and reduced fragmentation, address needs of vulnerable populations and perform efficacy research of their products

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The perils of poorly designed health technology

- The COVID-19 pandemic brought renewed attention to how poorly pulse oximetry devices work for people with dark skin pigmentation.

- Researchers have known about these risks for more than 30 years.

- Pulse oximeters have been widely used for decades to inform medical decisions, despite serious flaws in how they were designed.

- AMA continues to call on the FDA to ensure greater accuracy of pulse oximeter readings for patients of all skin colors, and to better educate medical workers on their current limitations.

Eliminating racial bias in medicine is an obligation we all share

DEC 6, 2022 • 5 MIN READ   By Jesse M. Ehrenfeld, MD, MPH, President 𝕏

The recent focus on the fact that pulse oximetry devices routinely convey inaccurate measurements of blood oxygen levels in patients with darker skin pigmentation should surprise no one, as researchers documented this concern more than 30 years ago.

Your Powerful Ally

The AMA helps physicians build a better future for medicine, advocating in the courts and on the Hill to remove obstacles to patient care and confront today's greatest health crises.

Join the AMA

Pulse oximeters are widely used to inform medical decision-making and to make critical decisions in acute care settings, so it is essential that these devices are accurate and reliable in all people. The risk posed by inaccurate readings is typically an overestimate of oxygen levels in patients with darker skin pigmentation, resulting in these patients being less likely to receive supplemental oxygen and life-saving treatment.

The Food and Drug Administration (FDA) issued a safety communication in February 2021 to inform patients and health care professionals that pulse oximeters have limitations and may deliver inaccurate results under certain circumstances, included due to skin pigmentation.

Only more recently has the FDA begun reevaluating the performance of pulse oximeters in me oxygen saturation in patients of color, with an eye toward updating their clinical use guideline AMA House of Delegates called on the FDA to ensure the accuracy and reliability of pulse oxim patients with varying degrees of skin pigmentation, and make certain that health care person are educated on the limitations of pulse oximeter technology so they can account for measure

It should be noted that two types of pulse oximeters exist. Prescription pulse oximeters are rev receive 510(k) clearance, and can only be obtained by prescription. These are used in hospitals offices and similar clinical settings. The second type, over-the-counter pulse oximeters, are sol retail locations and should not be relied upon for medical purposes. Over-the-counter pulse o reviewed by the FDA.

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Eliminating bias in digital health

AMA's new **In Full Health** initiative aims to advance equitable innovation in health care by establishing shared principals and a common understanding of drivers of inequities in digital health.

In Full Health will help physicians better:

o **Understand** how structural racism, sexism and bias impact health innovation and resource allocation;

o **Invest** in health innovations from and for historically marginalized communities; and

o **Engage** industry influencers in addressing systems-level barriers and needs.

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A new era of AI in health care

How physicians view AI in health care

- AMA convened experts from across the Federation of Medicine to better understand the profession's perspectives and concerns related to AI product transparency and explainability.

  - Radiology, cardiology, ophthalmology, pathology, surgery, dermatology, internal medicine

- **Perspective: AI, if done right, can improve outcomes**

- **Concern: Lack of transparency threatens trust**

  - Development – how were tools designed, validated and in which populations?

  - Data Quality - Inaccurate or mislabeled data threaten performance and trust

  - Bias – Do the data sets used to develop, test and validate the AI span diverse ethnic and racial populations? How limited or generalizable are the AI outputs?

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Significant uncertainty about regulatory approach to AI

- AMA agrees that existing regulatory paradigm for hardware medical devices is not well-suited to appropriate regulation of AI-based devices.

- AMA supports FDA's efforts to explore new approaches to regulation of these tools.

- AI regulation must ensure that only safe, high-quality, clinically validated AI is brought to market.

- AI must not introduce bias into its results.

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How will ChatGPT change medical practice?

- Even the most advanced algorithms and AI-enabled tools can't diagnose and treat diseases; but that's the wrong approach.

- AI is great for the textbook patient or solving narrow clinical questions, but it can't substitute for judgement, nuance and thought.

- But AI and algorithms **can** help doctors.

- Imagine AI tools that seamlessly integrates into EHRs or that provides predictive text for physician notes.

- ChatGPT will only become more advanced, but even in current form it can be a tool to tackle burdensome administrative tasks.

Artificial Intelligence in Medicine & ChatGPT: De-Tether the Physician

Anthony M DiGiorgio ✉ & Jesse M Ehrenfeld

Journal of Medical Systems **47**, Article number: 32 (2023) | Cite this article

4026 Accesses | **3** Citations | **17** Altmetric | Metrics

A computer, ChatGPT, has now successfully passed the United States Medical Licensure Exam (USMLE) without any training [1]. However, put real world symptoms in it's prompt and it gives a very canned response with extensive hedging and qualifiers, as if reading directly from WebMD.

Even the most advanced algorithms and AI-enabled tools still can't diagnose and treat diseases; this is the wrong approach. The probabilistic algorithms are too narrow. They simply can't substitute for judgement, nuance and thought. Crucially, the forthcoming FDA regulatory framework for AI enabled devices is proposing to be much more stringent on AI tools that make diagnoses and recommend treatments, especially if it is an algorithm that continues to adapt and learn over time [2]. At this moment, from a technological and regulatory standpoint, where AI can excel and should be leveraged is in unburdening physicians, de-tethering us from our computers and restoring the patient-physician relationship.

AI: Not Ready to Replace Doctors

The push for algorithm-based medicine has been a large part of "quality drive," on the heels of the *To Err is Human* report. More protocolized medicine should lead to fewer medical errors, the argument goes. Docto... ...l by algorithms substituted for... Suddenly, we had to justif... armed with a computer p...

Journal of Medical Systems
The Home of Clinical Informatics Research

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Earning … and keeping the patients' trust

- FDA
- Consumer Products Safety Commission
- Post-market surveillance
- Opportunity for companies to differentiate & lead

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Earning … and keeping the physicians' trust

- What we need from lawmakers
  - Clear and consistent regulatory guidance that ensures safety and performance

  - Progress on pathways towards payment for high quality, high value AI

  - Limiting physician's liability exposure for AI performance

  - Regulators and AI developers must work together to build trust in AI data use

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May 12, 2019

AMA | Physicians' powerful ally in patient care

October 2, 2021

AI & the Boeing 737 MAX