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Harnessing the Power of AI

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AI ISSUE

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Federal government steps in to ensure safe, secure and trustworthy development of artificial intelligence.

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Should artificial intelligence (AI) be regulated? One could argue that even the human brain is regulated to some extent by extrinsic factors. Has that been a benefit to human thinking? Could such extrinsic regulatory factors be beneficial for AI? These are difficult legal, ethical, scientific and philosophical questions—particularly at the intersection of AI and healthcare. Enter, in a very big way, the federal government to attempt to address these questions, not only in healthcare scenarios but in a host of other fields as well.

On Oct. 30, 2023, President Biden issued Executive Order # 14110 aimed at managing the risks of artificial intelligence (AI). The Executive Order establishes new standards for AI safety and security to purportedly protect Americans' privacy, advance equity and civil rights, stand up for consumers and workers, promote innovation and competition, and advance American leadership around the world. The Executive Order is the first of its kind to tackle the thorny issue of regulating AI. It is aimed at building on the recent voluntary commitments from 15 leading companies to drive the safe, secure and trustworthy development of AI. What does the Executive Order do?

New Standards for AI Safety and Security

As AI's capabilities grow, so do its implications for Americans' safety and security. The Executive Order directs the most sweeping actions ever taken to protect Americans from the potential risks of AI systems. The Executive Order will:

- Require that developers of the most powerful AI systems share their safety test results and other critical information with the United States government. In accordance with the Defense Production Act, the Executive Order will require that companies developing any foundation model that poses a serious risk to national security, national economic security, or national public health and safety must notify the federal government when training the model and must share the results of all red-team safety tests. These measures will ensure AI systems are safe, secure and trustworthy before companies make them public.

- Develop standards, tools and tests to help ensure that AI systems are safe, secure and trustworthy. The National Institute of Standards and Technology (NIST) will set rigorous standards for

extensive red-team testing to ensure safety before public release. The Department of Homeland Security (DHS) will apply those standards to critical infrastructure sectors and establish the AI Safety and Security Board. The departments of Energy and Homeland Security will also address AI systems' threats to critical infrastructure, as well as chemical, biological, radiological, nuclear and cybersecurity risks. Together, these are the most significant actions ever taken by any government to advance the field of AI safety.

- Protect against the risks of using AI to engineer dangerous biological materials by developing strong new standards for biological synthesis screening. Agencies that fund life-science projects will establish these standards as a condition of federal funding, creating powerful incentives to ensure appropriate screening and manage risks potentially made worse by AI.

- Protect Americans from AI-enabled fraud and deception by establishing standards and best practices for detecting AI-generated content and authenticating official content. The Department of Commerce will develop guidance for content authentication and watermarking to clearly label AI-generated content. Federal agencies will use these tools to make it easy for Americans to know that the communications they receive from their government are authentic—and set an example for the private sector and governments around the world.

- Establish an advanced cybersecurity program to develop AI tools to find and fix vulnerabilities in critical software, building on the Biden-Harris Administration's ongoing AI Cyber Challenge. Together, these efforts will harness AI's potentially game-changing cyber capabilities to make software and networks more secure.

- Order the development of a National Security Memorandum that directs further actions on AI and security, to be developed by the National Security Council and White House Chief of Staff. This document will ensure that the United States military and intelligence community use AI safely, ethically and effectively in their missions, and will direct actions to counter adversaries' military use of AI.

Protecting Privacy

Without safeguards, AI can put Americans' privacy further at risk. AI not only makes it easier to extract,

identify and exploit personal data, it also heightens incentives to do so because companies use data to train AI systems. To better protect Americans' privacy, including from the risks posed by AI, President Biden has called on Congress to pass bipartisan data privacy legislation to protect all Americans, especially children, and the Executive Order directs the following actions:

- Protect Americans' privacy by prioritizing federal support for accelerating the development and use of privacy-preserving techniques—including ones that use cutting-edge AI and that let AI systems be trained while preserving the privacy of the training data.
- Strengthen privacy-preserving research and technologies, such as cryptographic tools that preserve individuals' privacy, by funding a Research Coordination Network to advance rapid breakthroughs and development. The National Science Foundation (NSF) will also work with this network to promote the adoption of leading-edge privacy-preserving technologies by federal agencies.
- Evaluate how agencies collect and use commercially available information—including information they procure from data brokers—and strengthen privacy guidance for federal agencies to account for AI risks. This work will focus in particular on commercially available information containing personally identifiable data.
- Develop guidelines for federal agencies to evaluate the effectiveness of privacy-preserving techniques, including those used in AI systems. These guidelines will advance agency efforts to protect Americans' data.

Advancing Equity and Civil Rights
Irresponsible uses of AI can lead to and deepen discrimination, bias and other abuses in healthcare, justice and housing. The federal government has already taken action by publishing the "Blueprint for an AI Bill of Rights" at https://www.whitehouse.gov/ostp/ai-bill-of-rights/ and issuing an additional Executive Order directing agencies to combat algorithmic discrimination at https://www.whitehouse.gov/briefing-room/statements-releases/2023/02/16/fact-sheet-president-biden-signs-executive-order-to-strengthen-racial-equity-and-support-for-underserved-communities-across-the-federal-government/, while enforcing existing authorities to protect people's rights and safety. To ensure that AI advances equity and civil rights, the Executive Order directs the following additional actions:

- Provide clear guidance to landlords, federal benefits programs, and federal contractors to keep AI algorithms from being used to exacerbate discrimination.
- Address algorithmic discrimination through training, technical assistance and coordination between the De-

partment of Justice and federal civil rights offices on best practices for investigating and prosecuting civil rights violations related to AI.
- Ensure fairness throughout the criminal justice system by developing best practices on the use of AI in sentencing, parole and probation, pretrial release and detention, risk assessments, surveillance, crime forecasting and predictive policing, and forensic analysis.

Standing Up for Consumers, Patients and Students
AI can bring real benefits to consumers—for example, by making products better, cheaper and more widely available. But AI also raises the risk of injuring, misleading or otherwise harming people. To protect consumers while ensuring that AI can make Americans better off, the Executive Order directs the following actions:

- Advance the responsible use of AI in healthcare and the development of affordable and lifesaving drugs. The Department of Health and Human Services will also establish a safety program to receive reports of—and act to remedy—harmful or unsafe healthcare practices involving AI.
- Shape AI's potential to transform education by creating resources to support educators deploying AI-enabled educational tools, such as personalized tutoring in schools.

Supporting Workers
AI is changing America's jobs and workplaces, offering both the promise of improved productivity but also the dangers of increased workplace surveillance, bias and job displacement. To mitigate these risks, support workers' ability to bargain collectively, and invest in workforce training and development that is accessible to all, the Executive Order directs the following actions:

- Develop principles and best practices to mitigate the harms and maximize the benefits of AI for workers by addressing job displacement; labor standards; workplace equity, health and safety; and data collection. These principles and best practices will benefit workers by providing guidance to prevent employers from undercompensating workers, evaluating job applications unfairly or impinging on workers' ability to organize.
- Produce a report on AI's potential labor-market impacts, and study and identify options for strengthening federal support for workers facing labor disruptions, including from AI.

Promoting Innovation and Competition
America already leads in AI innovation—more AI startups raised first-time capital in the United States last year than

in the next seven countries combined. The Executive Order ensures that we continue to lead the way in innovation and competition through the following actions:

- Catalyze AI research across the United States through a pilot of the National AI Research Resource—a tool that will provide AI researchers and students access to key AI resources and data—and expanded grants for AI research in vital areas like healthcare and climate change.
- Promote a fair, open and competitive AI ecosystem by providing small developers and entrepreneurs access to technical assistance and resources, helping small businesses commercialize AI breakthroughs and encouraging the Federal Trade Commission to exercise its authorities.
- Use existing authorities to expand the ability of highly skilled immigrants and nonimmigrants with expertise in critical areas to study, stay and work in the United States by modernizing and streamlining visa criteria, interviews and reviews.

Advancing American Leadership Abroad

AI's challenges and opportunities are global. The federal government will continue working with other nations to support safe, secure and trustworthy deployment and use of AI worldwide. To that end, the Executive Order directs the following actions:

- Expand bilateral, multilateral and multistakeholder engagements to collaborate on AI. The State Department, in collaboration with the Commerce Department, will lead an effort to establish robust international frameworks for harnessing AI's benefits and managing its risks and ensuring safety.
- Accelerate development and implementation of vital AI standards with international partners and in standards organizations, ensuring that the technology is safe, secure, trustworthy and interoperable.
- Promote the safe, responsible, and rights-affirming development and deployment of AI abroad to solve global challenges, such as advancing sustainable development and mitigating dangers to critical infrastructure.

Ensuring Responsible and Effective Government Use of AI

AI can help government deliver better results for people. It can expand agencies' capacity to regulate, govern and disburse benefits; and it can cut costs and enhance the security of government systems. However, use of AI can pose risks, such as discrimination and unsafe decisions. To ensure the responsible government deployment of AI and modernize federal AI infrastructure, the Executive Order directs the following actions:

- Issue guidance for agencies' use of AI, including clear standards to protect rights and safety, improve AI procurement and strengthen AI deployment.
- Help agencies acquire specified AI products and services faster, more cheaply and more effectively through more rapid and efficient contracting.
- Accelerate the rapid hiring of AI professionals as part of a governmentwide AI talent surge led by the Office of Personnel Management, U.S. Digital Service, U.S. Digital Corps and Presidential Innovation Fellowship. Agencies will provide AI training for employees at all levels in relevant fields.

As the American AI agenda is advanced at home, the Executive Order contemplates that the federal government will work with allies and partners abroad on a strong international framework to govern the development and use of AI. Consultation on AI governance frameworks has already begun with Australia, Brazil, Canada, Chile, the European Union, France, Germany, India, Israel, Italy, Japan, Kenya, Mexico, the Netherlands, New Zealand, Nigeria, the Philippines, Singapore, South Korea, the United Arab Emirates and the United Kingdom. The Executive Order also supports and complements Japan's leadership of the G-7 Hiroshima Process, the United Kingdom Summit on AI Safety, India's leadership as chair of the Global Partnership on AI, and ongoing discussions at the United Nations.

The actions that the Executive Order directs are vital steps forward in the federal government approach to safe, secure and trustworthy AI. More action will be required, and work will continue with Congress to pursue bipartisan legislation to help lead the way in responsible innovation. To learn more about the federal government's work to advance AI and to join the federal government effort, you can go to: AI.gov. ⁄⁄

The material contained in this column is informational only and does not constitute legal advice. For specific questions, dentists should contact their own attorney.