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Submitted via email: ai_standards@nist.gov

June 10, 2019

Elham Tabassi
National Institute of Standards and Technology
100 Bureau Drive, Stop 200
Gaithersburg, MD 20899

Re: RFI: Developing a Federal AI Standards Engagement Plan

Dear Ms. Tabassi:

Anthem, Inc. (Anthem) appreciates the opportunity to provide comments on the Request for Information (RFI) on Developing a Federal Artificial Intelligence (AI) Standards Engagement Plan released by the National Institute of Standards and Technology (NIST) on May 1, 2019 (*84 Fed. Reg. 18490*). Anthem's response draws on our significant experience in working to improve healthcare outcomes and lower total costs for the consumers we serve as well as on our company's continued commitment to innovation.

Anthem believes in the substantial promise that Artificial Intelligence/Machine Learning (AI/ML) presents for advancing disease prevention, diagnosis and treatment. We are involved at the ground level in exploring the potential application of these emerging technologies and concepts to create more personalized healthcare and chart the course to a healthier future for all Americans. Our vision is to use AI to create the right tools to help patients better navigate their health.

Collaboration with the private sector to develop AI technical standards and tools will sustain U.S. AI leadership in the long-term. Specifically, Anthem believes that NIST's framework for AI should reflect three foundational principles:

1. Public-private collaboration is critical to advancing AI innovation and deployment;
2. AI applications vary significantly across sectors, and standards and tools should reflect this reality; and,
3. Active U.S. participation in existing international standards-setting fora is critical to maintaining U.S. AI leadership.

Within these overarching principles, Anthem recommends that NIST integrate the following considerations into its AI framework.

Leveraging Private Sector Progress

Anthem supports the emphasis on private sector leadership laid out in the White House Executive Order on *Maintaining American Leadership in Artificial Intelligence*.[1] Similarly, the U.S. should lead the way in collaborating with standards-setting organizations such as the Institute of Electrical and Electronics Engineers (IEEE) and the International Organization for Standardization (ISO) in developing AI standards.

NIST should leverage existing private sector progress developing tools for AI. This means building on the current pace of innovation by supporting industry's development of definitions, best practices, and tools for AI, and avoiding prematurely setting standards for what is still very much a developing technology. This will help to ensure that standards and tools reflect technical considerations and real-world applications.

To this point, as of November 2018, the U.S. chairs the ISO/ IEC JTC 1/SC 42 committee on Artificial Intelligence.[2] NIST should work with the SC 42 committee to become an approved External Liaison, similar to the IEEE. Further, NIST should urge the SC 42 chair to appoint a U.S. representative to become an approved Internal Liaison for ISO/TC 215 on Health Informatics, so that the U.S. can lead standard-setting for health-related AI technology. As recently stated by the Deputy Assistant to the President for Technology Policy, the United States wants to work with other countries "to build a future where artificial intelligence helps patients receive more accurate and comprehensive disease diagnosis."[3]

Setting Standards While Continuing to Foster Innovation

Anthem believes that there must be a balance between establishing standards and fostering innovation in AI. Frequently excess regulation stifles innovation by creating barriers to the use of technology. Indeed, reducing barriers to the use of AI technologies is one of the six strategic objectives in the President's Executive Order. AI standards should serve as guideposts to facilitate technological advances. We strongly agree with the Organization for Economic Cooperation and Development Council's (OECD) Recommendation on Artificial Intelligence,[4] recently adopted by the U.S., regarding shaping an enabling policy environment for AI. Principle V 2.3 (b) of the OECD's Recommendation urges that "[g]overnments should review and adapt, as appropriate, their policy and regulatory frameworks

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[1] "Executive Order on Maintaining American Leadership in Artificial Intelligence." *The White House*, The United States Government, www.whitehouse.gov/presidential-actions/executive-order-maintaining-american-leadership-artificial-intelligence/.

[2] The International Organization for Standardization/International Electrotechnical Commission Joint Technical Committee 1 (ISO/IEC JCT 1) is the standards development environment where experts come together to develop worldwide Information and Community Technology standards for business and consumer applications. See: https://jtc1info.org/ and https://jtc1info.org/technology/artificial-intelligence/ For background on the SC 42 Committee, see https://jtc1historyblog.wordpress.com/sc-42/

[3] OECD. "White House OSTP's Michael Kratsios Keynote on AI Next Steps." *U.S. Mission to the Organization For Economic Cooperation & Development*, 22 May 2019, https://usoecd.usmission.gov/white-house-ostps-michael-kratsios-keynote-on-ai-next-steps/.

[4] OECD Legal Instruments, *Recommendation of the Council on Artificial Intelligence*, https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449.

and assessment mechanisms as they apply to AI systems to encourage innovation and competition for trustworthy AI."

Standards Should be Crafted to Address the Different Risks of AI Technology in Different Industries

NIST should also urge the various workgroups developing AI standards to ensure that standards are tailored to address the different risks in different industries using AI. Certain industries, such as aviation and medicine, pose greater risk to consumers than a consumer entertainment device. Different standards should be based on the consequences of failure to consumers. For example, the maximal acceptable failure rate for AI technology in aviation will need to be much lower than for the use of AI technology in other industries where the consequence to human life is not as critical. Demands for interpretability of AI-based decision processes, as well as privacy and security needs, will differ by industry as well. . Therefore, in the standards development process, it is important to engage stakeholders from across all industries to ensure all perspectives are considered in developing standards.

A Key Issue for AI is Trustworthiness (Including Privacy and Information Security)

No matter the standards-setting organization, trustworthiness in AI is a key overarching issue. As the ISO/IEC JCT 1/SC 42 put it, "Leading industry experts in [the AI field] believe that an essential aspect to wide-spread adoption [of AI] is the need to address trustworthiness issues, including robustness, resiliency, reliability, accuracy, safety, security, privacy from the get-go with standards and best practices."[5] In addition to the organizations mentioned above, in April the European Commission's High Level Expert Group on AI released "*Ethics Guidelines for Trustworthy AI*"[6] presenting a potential framework for achieving trustworthy AI that NIST could look to.

One area where NIST must play an active role is in setting standards for privacy associated with AI in healthcare. Stewards of health data, such as healthcare providers and health insurance companies, have an obligation under both HIPAA and the Department of Health and Human Services' Common Rule to protect sensitive protected health information (PHI) and maintain patient privacy. Stewards are also expected to use health data to improve care and provide the public with better medicines and treatments. Artificial Intelligence and secure encrypted data potentially offer a tremendous opportunity to obtain healthcare improvements without compromising patient privacy.

Federated Learning trains a centralized model with training data over many distributed clients without the clients revealing the training data. There are both consumer and industrial applications of federated learning in healthcare. Federated learning algorithms independently computes an update to the current model based on its local data without communicating the underlying data. Individuals' data will partially train models locally. The partially-trained models are returned to a central coordinating system. Mobile

[5] ISO/IEC JCT 1 landing page for SC 42, Trustworthiness study group (SG 2), https://jtc1info.org/technology/artificial-intelligence/

[6] European Commission, "*Ethics Guidelines for Trustworthy AI*," https://ec.europa.eu/futurium/en/ai-alliance-consultation/guidelines#Top.

phones will be able to train a model and return it to a coordinating system. Hospitals will be able to train a model and return it to health insurers and research institutions. The benefit to the public at large is that AI systems will more accurately predict medical outcomes, and therapies will be precisely targeted to the right patients.

A NIST privacy standard will increase the public's confidence that the privacy of personal health information is maintained. The underlying data that is training the model should not be recoverable from the model itself. There is a need for a common standard for the degree of privacy that a given federated system has achieved. NIST should create standards that the public can rely on to ensure the meaning of guarantees. Independent testing entities will help ensure that standards are met by products.

In the development of information security standards applicable to AI, NIST could also make a substantial contribution by advocating for adoption of the NIST Cybersecurity Framework if the standards-setting organizations are not already considering it. NIST could consider engaging with the ISO/IEC JCT 1 Trustworthiness Study Group (SG 2) to recommend the Cybersecurity Framework as a best practice.

Broad Stakeholder Input

We very much appreciated NIST's recent workshop on Federal Engagement on AI Standards, and we look forward to reviewing the draft plan that NIST will develop. We recommend that throughout the process of developing the plan that NIST ensure that there is a broad universe of stakeholders invited to the table to ensure that perspectives from many industries are considered.

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We welcome the opportunity to discuss our recommendations. Should you have any questions or wish to discuss our comments further, please contact me at (916) 403-0522, or Anthony.Mader@Anthem.com.

Sincerely,

Anthony Mader
Vice President, Public Policy

Anthem is a leading health benefits company dedicated to improving lives and communities, and making healthcare simpler. Through its affiliated companies, Anthem serves more than 78 million people, including over 40 million within its family of health plans. We aim to be the most innovative, valuable and inclusive partner. For more information, please visit www.antheminc.com or follow @AnthemInc on Twitter.