Anthony Mader
Vice President, Public Policy
Anthem, Inc.
1121 L Street
Sacramento, CA 95814
(916) 403-0522

Submitted via email: ai_standards@nist.gov

July 19, 2019

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

Re: Comments on Draft Plan for Federal Engagement in Developing AI Technical Standards and Related Tools

Dear Ms. Tabassi:

Anthem, Inc. (Anthem) appreciates the opportunity to provide comments on the Draft Plan for Federal Engagement in AI Standards (Draft Plan) released by the National Institute of Standards and Technology (NIST) on July 5, 2019. 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 consistent 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 in exploring the potential application of these emerging technologies and concepts to develop a more personalized healthcare experience, charting 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.

We were pleased to see that NIST adopted several of Anthem's recommendations in the Draft Plan, and overall we support it. We offer a few suggestions that could improve the Draft Plan, as detailed below.

AI Benchmark Data Sets

We agree with NIST's statement in Section 1(E) of the Draft Plan that "Additional….benchmarks are needed across a broader range of domains to ensure that AI solutions are broadly applicable and widely adopted." Anthem sees the need for standardized data sets in healthcare to be used for benchmarks to facilitate development of AI.

NIST Recommendation # 2: Promote focused research to advance and accelerate broader exploration and understanding of how aspects of trustworthiness can be practically incorporated within standards and standards-related tools.

The Draft Plan proposes to specifically focus on how trustworthiness can be a core element of AI standards development. This includes research, evaluation and metric development. Anthem appreciates that the Draft Plan specifically addresses that trustworthiness in AI is a key overarching issue. Particularly in health care, trust between entities and systems working to treat disease and improve health and patients is critical to compliance, adherence and ultimately positive outcomes. Deficiencies in trust are likely not only to impact a particular AI product, but AI tools and generally and possibly trust in recommendations from health professionals and systems broadly.

Anthem strongly endorses this recommendation. Given our longstanding relationship with key stakeholders in the future application of AI (patients, providers, and employers), we understand that the successful application of AI to improve the lives of U.S. and global citizens will be predicated on trust, transparency, and safety.

In addition to the specific activities enumerated in this recommendation, Anthem first suggests that a research emphasis on federated learning be added to preserve patient privacy. Federated learning is a technology which allows centralized models to be trained 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. Eventually, mobile phones will be able to train a model and return it to a coordinating system, and 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, allowing therapies to be precisely targeted to the right patients.

We also suggest that NIST and research funding agencies test and evaluate the best method(s) to independently validate AI model performance prior to going to market and at reasonable time intervals or milestones. Any AI model going to market should be accompanied by supportive documentation outlining how the model makes decisions. Additionally, a standardized report should potentially be developed to report on performance, which would include model performance by user group.

NIST Recommendation # 3: Support and expand public-private partnerships to develop and use AI standards and related tools to advance trustworthy AI.

The Draft Plan proposes to strategically increase federal participation in the early stages of standards development. It also proposes that the federal government lead non-traditional collaborative models for standards development and increase data discoverability and access. Additionally, the Draft Plan recommends the federal government lead benchmarking efforts to assess the trustworthiness of AI systems and foster collaborative environments to promote creative problem solving (e.g., AI challenge problems and testbeds).

Anthem strongly supports this recommendation, which we included in our comment letter to NIST's Request for Information (RFI) on Artificial Intelligence Standards. We believe this means building on the current pace of innovation by supporting the private sector'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.

NIST Recommendation # 4: Strategically engage with international parties to advance AI standards for U.S. economic and national security needs.

The Draft Plan sets out a proposed approach for the federal government to participate in the international development of AI standards. Specifically, it proposes that the federal government champion U.S. AI standard priorities on the international stage, increase the exchange of information with parallel agencies in like-minded countries, and track AI development by foreign governments and entities globally.

Anthem broadly agrees with the strategy of international engagement for the development of AI standards. As recently stated by the Deputy Assistant to the President for Technology Policy, the U.S. wants to work with other countries "to build a future where artificial intelligence helps patients receive more accurate and comprehensive disease diagnosis."[1]

More specifically, 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. We believe these organizations' efforts align well with the criteria outlined in Section 2 of the Draft Plan.

Anthem also supports the considerations of priorities and guidance cited in Section 2(A) and (B) and the standard-developing organization activities cited in Appendix II. As noted in the Draft Plan, the federal government will evaluate whether its level of engagement in various activities should be monitoring, participating, influencing, or leading. For its work with the ISO, the U.S. chairs the ISO/ IEC JTC 1/SC 42 committee on AI.[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

---

[1] 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/.

[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; *also see* https://jtc1historyblog.wordpress.com/sc-42/

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.

Finally, an issue which we urge NIST to bring to the table when engaging with international standards-setting organizations is the need to tailor standards to different levels of risk. As we outlined in our comment letter to the NIST RFI on AI Standards, NIST should encourage the various workgroups developing AI standards to ensure that standards are tailored to address the different risks in different industries using AI. Overall, our examination of published literature across the entire field of AI reveals that there is a wide range of risk depending on the industry that AI is applied to, and additionally that there is even a wide range of need for oversight depending on the specific application of AI within a given industry. For example, in healthcare AI there is lesser risk in patient-provider matching compared to surgical support or treatment recommendations. Anthem believes that it is essential that policies be established to address these different risk profiles, and we suggest that standards which account for them be developed.

***

We value the opportunity to provide input to this process and 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.