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October 19, 2026

Dockets Management Staff
U.S. Food and Drug Administration
5630 Fishers Lane
Room 1061
Rockville, MD 20852

**RE: Considerations for the Regulation of Generative AI-Enabled Medical
Devices Discussion Paper [FDA-2026-N-7874]**

Dear Sir/Madam:

The Personalized Medicine Coalition (PMC), a multi-stakeholder group comprising more than 150 institutions from across the health care spectrum, thanks the U.S. Food and Drug Administration (FDA) for the opportunity to submit comments related to the discussion paper titled Considerations for the Regulation of Generative AI (GenAI)-Enabled Medical Devices.ⁱ PMC believes that emerging and potential uses of AI may begin to improve patient experiences with health care and help address challenges to the clinical adoption of personalized medicine.ⁱⁱ PMC commends the FDA for recognizing regulatory challenges for GenAI-enabled medical devices and contemplating ways to advance regulatory approaches for these devices. We appreciate FDA's early engagement with stakeholders on possible approaches to risk assessment, premarket evaluation, postmarket monitoring, and other topics relevant to the regulation of GenAI-enabled devices. PMC shares FDA's ultimate goal of enabling a nimble regulatory approach that allows patients timely access to safe and effective GenAI-enabled medical devices.

Personalized medicine is a rapidly evolving field in which physicians use diagnostic tests and individual details about a person and their health to determine which medical treatments will work best for each patient or use medical interventions to alter molecular mechanisms that impact health. By combining data from diagnostic tests with an individual's medical history, circumstances, and values, health care providers can develop targeted treatment and prevention plans with their patients.

Personalized medicine is helping to shift patient and provider experiences away from trial-and-error toward a more streamlined process for making clinical decisions, which leads to improved patient outcomes, a reduction in unnecessary treatment costs, and better patient and provider satisfaction. PMC and its members are leading the way in personalized medicine and in developing evidence showing how patients and the health care system can benefit from appropriate testing and tailored treatment as soon as possible during their clinical experiences.

Statement of Neutrality

PMC's members may present their own responses to the FDA's discussion paper titled Considerations for the Regulation of Generative AI-Enabled Medical Devices and actively advocate for those positions. PMC's response is designed to provide feedback so that the general concept of personalized medicine can advance, and is not intended to impact adversely the ability of individual PMC members, alone or in combination, to submit separate responses to FDA on this discussion paper.

PMC advocates for public policies that can help AI realize its full potential for improving patient access to personalized medicine and for making the health care system more efficient across disease areas. Many of the characteristics that may make GenAI useful – including flexibility, natural-language interaction, personalization, and multimodality – can also introduce new challenges for evaluating performance and identifying failures. PMC generally supports a regulatory framework that is appropriately risk-based, scientifically rigorous, predictable, and sufficiently flexible to accommodate technological change. In developing a risk-based framework for oversight, regulators should consider differing levels of explainability in how AI models arrive at their outputs. Regulators should also allow adaptive regulatory approaches that allow for iterative development and continuous improvement of AI-based tools and technologies.

The following comments were informed by PMC's *Policy Principles on AI*, developed in collaboration with PMC's AI Working Group.ⁱⁱⁱ We encourage the FDA to consider these recommendations as it further develops its approach to GenAI and when developing any future guidance documents relevant to AI-enabled medical products that support personalized medicine.

Considerations for Risk Assessment

There are many use cases for AI in health care relevant to personalized medicine and, depending on the use case, developers may be subject to different regulatory requirements. PMC's focus is on ensuring the right framework for AI is used throughout the total product lifecycle. GenAI is designed to create new content by leveraging a large corpus of data used for its training. These models learn the underlying distribution of the input data and can produce novel outputs such as images, text, or audio. Common applications include image generation, text generation, and music or speech synthesis. In health care applications, this includes generating synthetic medical data, creating personalized treatment plans, and simulating patient responses to different health care therapies.^{iv} The right framework for regulatory oversight of AI will ensure confidence in the performance and use of AI and mitigate risks to patients while continuing to foster innovation.

In this context, the two-axis risk assessment framework in Section IV of FDA's discussion paper, in particular the recognition that a function's level of independent activity, moderated by the severity of the consequences of an erroneous result, should inform regulatory expectations. These dimensions begin to distinguish between tools that provide information, tools that direct users toward a particular action, and tools that take action with limited or no human intervention. They also begin to recognize that similar levels of autonomy may carry different risks depending on the clinical consequences. However, we urge the FDA to reevaluate the factors it suggests should alter a function's risk classification. Specifically, FDA claims that GenAI-enabled *in vitro diagnostic* measurement and signal processing functions raise increased concern as their outputs typically cannot be independently assessed by the user. Because such functions do not direct users to perform an action, FDA should not automatically propose to treat them as higher risk. Regulatory oversight should take the form of an appropriate risk-based and flexible approach. FDA's framework would benefit from considering whether the intended user can understand the basis and limitations of an output, recognize uncertainty, and obtain meaningful review before acting.

Regulatory Treatment Based on Intended User

The discussion paper raises questions about whether GenAI-enabled patient-facing functions may present different risk considerations from GenAI-enabled health care provider (HCP)-facing functions. FDA also asks a related question with respect to GenAI-enabled functions intended for use by HCPs without specialty-level training in the clinical domain for which the function is intended. FDA’s framework would be best applied based on the intended use of the function itself, rather than by assigning a level of risk based on who deploys it.

GenAI can generate highly personalized and persuasive outputs that patients may reasonably interpret as tailored medical advice. FDA could consider directiveness along a continuum that accounts for specificity, personalization, confidence, context, repetition across a conversation, and whether the model adapts its recommendation after receiving additional patient information. A generic explanation of treatment options, for example, presents different considerations than a response that integrates an individual’s symptoms and medications and recommends a specific course of action. Therefore, the relevant regulatory question is whether the intended user has an opportunity to understand the output’s limitations, recognize uncertainty or error, and obtain appropriate review before a consequential action occurs. Safeguards could be put in place depending on an intended use. These may include uncertainty communication, source traceability, explicit boundaries on intended use, escalation pathways, confirmation steps, and human review for higher-consequence recommendations.

A similar approach could be considered to address differences between HCPs with and without specialty training in a specific domain. A GenAI-enabled function that responsibly extends access to specialty knowledge may offer meaningful patient benefit, particularly in settings where specialist access is limited. Professional credentials alone should not determine risk. Risk may increase when safe use depends on knowledge the intended user cannot reasonably be expected to possess, when an output falls outside the user’s usual scope of practice, or when specialist-level conclusions are presented without sufficient information about uncertainty, limitations, or the need for consultation. FDA should consider the knowledge reasonably available to the intended user and whether the GenAI-enabled device provides adequate context and pathways for referral or consultation.

Competency-Based Approach

PMC understands that the FDA is considering a competency-based approach to premarket evaluation of GenAI-enabled devices. Exhaustive testing of every possible input and output is unlikely to be practical for open-ended GenAI systems. A structured set of competencies may provide a scalable way to evaluate safety behavior, clinical proficiency, communication, robustness, subgroup performance, and agentic capabilities.

As described in Section V of the discussion paper, the competency-based approach would consist of non-clinical benchmarking and clinical confirmation. Under such an approach, the final user-facing device, as configured and intended to be deployed for real-world use – and not the foundation model standing alone or other isolated subcomponent – would be evaluated. Benchmarking can efficiently test broad capabilities and known failure modes, while clinically representative evidence can help establish whether those capabilities translate into safe and effective real-world performance. This approach is worth exploring further for its ability to be tailored to a device’s intended use and be proportionate to its risk.

Postmarket Monitoring

To assess potential benefits and risks to patients comprehensively, FDA’s evolving framework should consider a GenAI-enabled device’s total product lifecycle. This approach could include the use of real-world monitoring to identify and address issues or challenges that may emerge with implementation of AI, as well as identify realized benefits that could expand a product’s utility and permissible uses.

Variable outputs, changing deployment environments, model updates, and dependencies on third-party foundation models make ongoing evaluation of GenAI-enabled devices particularly important. The FDA’s total product lifecycle approach, as described in Section VI of the discussion paper, is a critical starting point for managing modifications, real-world performance monitoring, and continuous risk assessments. Within this framework, Predetermined Change Control Plans can enable the controlled evolution of AI models in the postmarket setting.

In PMC’s response to FDA’s draft guidance on AI-enabled device software functions we previously encouraged robust postmarket monitoring and verification of AI-enabled devices. We recommend a similar approach in the context of this framework. Emphasizing ongoing quality systems, postmarket surveillance, user feedback, and adverse event monitoring as components of FDA’s lifecycle framework is consistent with other stakeholder work in this area.^v Postmarket plans for GenAI-enabled devices may include relevant elements such as performance thresholds, subgroup analyses, sampling methods, reassessment cadence, triggering events, escalation procedures, and the actions expected when thresholds are crossed. Triggering events may include clinically meaningful changes to the foundation model, prompts, retrieval sources, guardrails, orchestration logic, user interface, intended population, deployment setting, or connected tools.

FDA has emphasized that it is important for developers to consider how to effectively evaluate and monitor GenAI-enabled devices once they are deployed. The discussion paper states that FDA “is considering whether it is appropriate to accept greater premarket uncertainty regarding a GenAI-enabled device’s benefit-risk profile through greater reliance on postmarket monitoring.” Such an approach may be appropriate for some functions where errors are readily detectable and reversible, monitoring can identify deterioration promptly, and there is a reliable mechanism to intervene before harm accumulates. Where FDA accepts greater premarket uncertainty, there should be clear data-quality expectations, preservation of relevant logs and version information, and a defined plan for how postmarket evidence will address the remaining uncertainty.

Conclusion

PMC appreciates FDA’s interest in advancing timely patient access to safe and effective Gen AI-enabled medical devices. We look forward to working with you and your colleagues to further shape concepts in the discussion paper so that the current and future role of AI in advancing personalized medicine is considered in any further action taken by the FDA. If you have any questions about the content of this letter, please contact me at cbens@personalizedmedicinecoalition.org or 202-499-0986.

Sincerely,



Cynthia A. Bens
Senior Vice President, Public Policy

ⁱ U.S. Food and Drug Administration. *Considerations for the Regulation of Generative AI-Enabled Medical Devices: Discussion Paper and Request for Feedback*. August 2026. <https://www.fda.gov/media/194242/download>. (accessed October 14, 2026).

ⁱⁱ C.S. Ajmal, S. Yerram, V. Abishek, et al. "Innovative Approaches in Regulatory Affairs: Leveraging Artificial Intelligence and Machine Learning for Efficient Compliance and Decision-Making." *AAPS Journal* 27 (2025): 22. <https://doi.org/10.1208/s12248-024-01006-5> (accessed October 14, 2026).

ⁱⁱⁱ Personalized Medicine Coalition. Response to White House Office of Technology Policy Request for Information on the Development of an AI Action Plan. March 14, 2025. <https://www.personalizedmedicinecoalition.org/wp-content/uploads/2024/11/PMC-Comment-Letter-OSTP-RFI-AI-Action-Plan-FINAL.pdf>. (accessed October 14, 2026).

^{iv} Advanced Medical Technology Association, The Role of Artificial Intelligence (AI) in Healthcare, November 11, 2024, <https://www.advamed.org/member-center/resource-library/the-role-of-artificial-intelligence-ai-in-healthcare/>. (accessed October 14, 2026).

^v Advanced Medical Technology Association. Response to Congressional RFI on AI in Health Care. May 9, 2024, <https://www.advamed.org/industry-updates/news/advamed-responds-to-congressional-rfi-on-ai-in-health-care/> (accessed October 14, 2026).