New wearable sensors and other tools can advance personalized health

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Accurate measure of energy intake and expenditure has proven challenging, but with recent innovations in bioinformatics and engineered devices—such as wearable sensors, software applications and

web-based tools—food and nutrition research can advance.

Recent interest in personalized and precision nutrition can lead to more interdisciplinary innovation in improving future research tools.

A new paper, "Opportunities and Challenges of Technology Tools in Dietary and Activity Assessment: Bridging Stakeholder Viewpoints" that appears in the journal *Advances in Nutrition* provides a unique perspective of each stage of the technology tool life cycle—from development, to research and multi-user applications.

This paper exemplifies a convergence of efforts of scientists from food and nutrition sciences, exercise physiology, bioengineering and bioinformatics, collaborating to address cross-cutting issues in improving the measurement of energy intake and expenditure.

According to lead author Sai Krupa Das, Ph.D., a scientist on the Energy Metabolism Team at the Jean Mayer USDA Human Nutrition Research Center on Aging (HNRCA) at Tufts University, "The future of personalized health, including nutrition and physical activity guidance, relies heavily on our knowledge of individual behavior. To gain the knowledge necessary to inform personalized health interventions targeting nutrition and physical activity, we first must be able to accurately assess related behaviors."

More information: Sai Krupa Das et al, Perspective: Opportunities and Challenges of Technology Tools in Dietary and Activity Assessment: Bridging Stakeholder Viewpoints, *Advances in Nutrition* (2021). DOI: 10.1093/advances/nmab103

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