# Editorial

# Precision Medicine Meets AI

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Weeks ago, I was at the International Parkinson and Movement Disorders Society Congress in Philadelphia (Sept 27-Oct 3, 2024) where international preeminent neurologists and scientists discussed issues and trends in diagnosis and treatment of movement disorders. In between the many sessions, some colleagues and I marveled at the fast-paced advance and anticipated intersection of precision medicine and AI. This intersection is happening and will fully happen and I can only imagine how this will improve patient outcomes. In Parkinson's disease for instance, disease prediction using wearable technologies through AI advancement have been recently studied systematically.

According to the US National Research Council, precision medicine involves the development of "a new taxonomy of human disease based on molecular biology," a knowledge base gained from sequencing the human genome, revolutionizing and optimizing healthcare.[1] Precision medicine is akin to personalized medicine, as of this time, where phenotypes of patients are determined with less-common responses to treatment or unique healthcare needs.[2] AI, on the other hand, generates insights based on sophisticated reading and learning from evolving voluminous electronic heath records, imaging and lab reports, and smart monitoring devices, among others.

Clinicians are assisted in diagnosis and treatment of brain disease, for example, knowing phenotypes of patients and the likelihood that certain treatments would work better based on AI's sophisticated computation of existing patient outcomes from previous screening, biomarker evaluation and patient's therapeutic responses.

This intersection of precision medicine and AI may be like, two separate bullet trains in adjacent tracks right now in terms of development, but the potential is enormous. I can only wish that operationally, they will be available soon.

Every clinician will wish for it. Meanwhile, we wait and keep doing our own research to study diseases and contribute to the body of knowledge we bring to science.

For this October issue, we have two cross-sectional studies, two case reports, one article each for retrospective study, systematic review, meta-analysis and viewpoint, in addition to two speeches.

Once again and always, we are most grateful to our editorial team for taking the time to review and advise articles worthy of publication.

## REFERENCES

1. National Research Council. Toward Precision Medicine: Building a Knowledge Network for Biomedical Research and a New Taxonomy of Disease (The National Academies Press, Washington, DC, 2011).
2. Johnson KB, Wei WQ, Weeraratne D, Frisse ME, Misulis K, Rhee K, et al. Precision Medicine, AI, and the Future of Personalized Health Care. *Clin Transl Sci*. 2021 Jan;14(1):86-93. doi: 10.1111/cts.12884. Epub 2020 Oct 12.