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Phenomics Health Inc. Acquires Patented Pharmacometabolomic Technology

*First Integrated Pharmacogenomics and Metabolomics Platform
Offers Potential to Improve Patient Outcomes, Lower Costs in Medication Therapy*

Ann Arbor, MI – November 22, 2019 – Phenomics Health Inc., a bioinformatics platform-based precision medicine company, today announced it has acquired the patented pharmacometabolomic technology portfolio of Precera Bioscience, based in Franklin, Tenn.

Phenomics Health plans to integrate the new technology with its own patented, advanced pharmacogenomics platform to offer healthcare providers a more complete view of patients' potential and actual response to medications than is currently available.

To be marketed under the PrecīsMed brand and licensed to clinical laboratories and healthcare systems, this patented pharmacometabolomic technology enables detection, quantitative measurement, and comprehensive assessment of more than 200 medications in a patient's bloodstream.

Combined with Phenomics Health's technology, the resulting information from PrecīsMed will help clinicians personalize drug therapy by determining what medications and dose a patient is actually taking (whether prescribed or not), drug-drug interactions, and how genetics may impact the body's ability to process those medications.

"This is the first time that both advanced pharmacogenomics and pharmacometabolomics platforms have come together under one roof," said Dr. James S. Burns, co-founder, Chairman and President, Phenomics Health. "PrecīsMed could help improve patient treatment outcomes, avoid adverse drug reactions, and reduce patient treatment costs – the real definition of precision medicine."

Current Medication Therapy Remains Ineffective

Studies have found that 33% of medications taken by patients are not in their medical record, and approximately 50% of prescribed medications are not taken at all. In addition, about 55% of medications are taken at levels outside of their prescribed range while another 50% experience significant drug interaction alerts arising from unknown medications. [1,2,3,4]

"Poor adherence to medication leads to increased morbidity and death and is estimated to incur costs of approximately $100 billion per year[5]," according to a report published in the *Mayo Clinic Proceedings*.

Patients who suffer from comorbid disorders often require treatments with multiple medications, which can result in missed, wrong, or multiple dosages. Additionally, genetics can play a role in determining

whether a medication is as effective as it could or should be, as well as disease state, drug-drug interactions, and socio-cultural or environmental conditions.

Clinical studies published in 2018 have demonstrated that PrecīsMed can accurately assess prescribing trends, medication adherence and electronic health record (EHR) coverage, as well as define medication concentrations in patients with comorbid disorders.[6]

Phenomics Health also plans to use the information gathered from de-identified patient population data to inform its machine learning and AI-based bioinformatics platform, which can be mined for present and future research.

How it Works
A patient's blood sample is obtained using a simple finger stick. The sample would then be analyzed using Phenomics Health's patented methods, algorithms, and data analytics to identify and measure medications in a patient's bloodstream.

The PrecīsMed technology is applicable for identifying medications used in treating multiple patient disorders, including depression, anxiety, chronic pain, post-operative pain, opioid usage, cardiovascular and metabolic disease, diabetes, and hypertension.

"Our newly enhanced platform integrates Phenomics Health's disease-drug response network discoveries and patient pharmacometabolomic profiles to enhance the precision and predictability of medication selection," said Dr. Brian D. Athey, co-founder, Chief Science and Technology Officer, Phenomics Health. "The information gathered through its use could change the direction of how clinicians prescribe and manage medications, greatly improving a patient's response."

About Phenomics Health Inc.
Phenomics Health Inc. (PHI) is a bioinformatics platform-based precision medicine company using artificial intelligence and machine learning to translate advanced genetic, epigenetic, multi-omics, and health Big Data into novel pharmacological clinical treatment decision support products and services.

PHI's proprietary Phenome Analytics Platform is designed to help clinicians and health systems select appropriate medications, drug combinations and doses that improve individual patient and population health outcomes while reducing adverse drug reactions. Discoveries from the University of Michigan Medical School, leading to exclusive licensed proprietary informatics technology, form the basis for Phenomics Health's products and services.

Products and services developed by PHI will focus on variants in the non-coding domain of the human genome consisting of spatial, temporal, and mechanical regulatory mechanisms of gene regulation. A transformative understanding of regulatory genomics, the transcriptional hierarchy, and the structural dynamics of the nucleus has provided the ability to resolve previously unrecognized mechanisms of action across multiple therapeutic areas. Phenomics Health also provides contract and collaborative research services to test mechanisms and pathways for new or repurposed drugs.

For more information about Phenomics Health, please visit www.phenomicshealth.com.

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