Five Major Areas of Advancement in Genomics/Genetics Expected for 2019 according to Wamberg Genomic Advisors

For consumers, it will be the year we cross the chasm from recreational to clinical application of genetics testing

NEWS PROVIDED BY
Wamberg Genomic Advisors →
Dec 27, 2018, 07:00 ET

LA JOLLA, Calif., Dec. 27, 2018 /PRNewswire/ -- Wamberg Genomic Advisors (Wamberg), the first independent and trusted intermediary that objectively assesses genomic/genetic test labs and service providers, reports on expectations in genomics/genetics advances in 2019. Wamberg's technical experts, led by Mark Winham, Chief Scientific and Operating Officer, constantly evaluate relevant scientific trends and genetic testing labs.

Regarding expectations in genomics/genetics for 2019, Winham said, "We expect that 2019 will be known as the year that the public discerns the difference between well-known genetic testing companies focused on genealogy, and those that deliver increasing clinical insights for disease risk and wellness management. For consumers, it will be the year we see the adoption of clinical genetic testing mirror the rise seen in recreational genetics. Notable changes will be an increase in the adoption of genetic risk testing of inherited disease such as cancer and heart disease. Even as we make these advances, we are still at the initial stages of genetic/genomic testing and its application in anticipating disease and determining preventive and care paths for patients."

Winham noted five major areas of advancement in genetic/genomics in 2019 to include 1) accelerated adoption; 2) interpretation of genomic data; 3) RNA interpretation; 4) liquid biopsy; and 5) reproductive health.

Top-line insights on each of the five are below:

1. Accelerated adoption:

- 23andMe, Ancestry.com and MyHeritage have led the way from a consumer "recreational" perspective, getting people comfortable with genetics/genomics. Now, companies like Color Genomics, Inc., Invitae, Ambry Genetics, and Myriad Genetics are driving clinical adoption of genetic risk testing in cancer and heart conditions. According to Winham, these companies will help consumers understand that genetic risk testing has far reaching effects in understanding predisposition to disease and resulting approaches to wellness management and treatment.

  He expects that beyond heart disease and cancer, other chronic diseases of aging are likely to be adopted for genetic risk testing in the next year or two, for example: diabetes. On the other hand, he noted that the adoption of non-medically actionable conditions, including neurological conditions such as dementia, will remain in question by the medical community.

2. Interpretation of Genomic Data

- Development and use of Polygenic Risk Scoring (a genome-wide score based on variation in multiple genetic factors for better prediction of genetic risk) will continue to rise. This will be enabled by a mix of machine learning, the generation and access to more genomic data, and access to quality phenotypic data. Polygenic Risk Scoring for heart disease, especially coronary artery disease is going through a step-change right now to identify people at risk. Also, more genomic data will be generated on diverse populations, expanding genomic data beyond that currently derived overwhelmingly from people of European descent.

3. RNA

- RNA stands for ribonucleic acid. It is arguably more biologically relevant than DNA – a combined understanding in the variation and function of both DNA and RNA will be greater than the sum of the two parts. To date, testing and reporting of RNA modification and function has lagged DNA due to technical difficulties, but these are being overcome. Expect to see significant progress in the next one to two years.

4. Liquid Biopsy

- Liquid biopsy is a term used for the capture and detection of DNA that has escaped from cells, or so-called cell-free DNA (cfDNA). Cell-free DNA was first used as a non-invasive pre-natal test to detect and analyze fetal DNA in blood instead of amniotic fluid. Liquid biopsy is now being extended as a less invasive means to capture and analyze the DNA that has escaped from a cancerous tumor, and has profound ramifications for the early detection of cancer, and as a "companion diagnostic" to gauge the effectiveness of cancer treatments. How to interpret the results of liquid biopsy in cancer has been a challenge, however large-scale clinical studies are now underway by companies such as Grail, and will improve utility over the next few years.

5. Reproductive Health

- Carrier screening by prospective mothers and fathers is on the increase. Some individuals may undergo genetic testing to know their status, and only choose a genetically compatible partner to eliminate/reduce risk of hereditary disease. For IVF, we expect that embryos will be more routinely screened for inheritance of disease as part of selection for implantation. In addition, there may be increased "trio" testing (mother, father, child) to gain a better understanding of inheritance patterns and pre-disposition to disease in families.

About Mark Winham

Winham has 30+ years of industry experience, ranging from the clinical laboratory to medical device to life science operations. Previous companies include Sanofi, Johnson & Johnson, Advanced Medical Solutions, Applied Biosystems, Life Technologies, Millennium Health and Human Longevity. He has developed and applied many cellular and molecular biology techniques, and in recent years has worked extensively in the areas of DNA sequencing and genomics.

About Wamberg Genomic Advisors

Wamberg Genomic Advisors is the first company dedicated to making genomic-based programs and services, not typically covered by health insurance, available at prices everyone can afford. Advanced DNA testing can provide insights to individuals and health-care providers for better-informed decisions about overall health, patient-care paths, and the quality and longevity of life. Wamberg Genomic Advisors delivers genomic products and services to employers and their employees via their trusted benefit brokers, and to policyholders of life insurance companies through qualified agents. To discover more about Wamberg Genomic Advisors and the future of genomics,
visit wamberggenomic.com and cancerguardian.com.

SOURCE Wamberg Genomic Advisors

Related Links

http://www.wamberggenomic.com