MII Network

TOMATO Solanum lycopersicum

AVG, 123 grams - 22 kcal

7:49 PI

100%

foodminds

a division of Padilla

PERSONALIZED WELLNESS:

Today's Landscape and Opportunities Ahead



ESCIENCE

Personalized Wellness is a means of providing individually informed and precisely tailored care for each unique individual, and it represents a sweeping and likely lasting shift from the traditional top-down, one-size-fits-all nature of Western medicine. That's because growing research suggests that personal metrics — from our psycho-social and anthropometric data down to our microscopic makeup — may point the way to new and effective health care solutions.

Nutrigenetics: How genetic variability between people affects individual metabolism of nutrients and subsequent health outcomes (e.g., how you process dietary cholesterol and its influence on risk for developing CVD).

Nutrigenomics: Effects of dietary components on genes themselves (e.g., dietary changes can impact gene activity like protein production, which in turn can affect hormone levels and ultimately weight loss).

Nutritional Epigenomics: Influence of diet on changes in gene expression without changing DNA sequence itself (e.g., turning "on" or "off" genes and proteins based on dietary patterns).



90% potential difference in gut microbiota between individuals.^[1]



100 trillion bacteria in the GI tract essential for health — more than 10 times the number of total human cells.^[2]



12 million potential genetic differences exist from one person to the next.^[3]



20 known genes associated with the development of obesity alone.^[4]

THE MARKET

Personalized Wellness product innovation soars as the science tries to keep pace. As technology advances, the marketplace is expanding rapidly, from personal scanners and sensors to ingestibles and wearables. Wearable devices can now offer nutrition and activity tracking, smart scales that measure weight and BMI, heart rate monitors, GPS tracking technology, sleep stage analysis, oxygen saturation monitors and menstruation tracking. Direct-to-consumer genetic testing and microbiome analysis kits are also leading the charge toward the proliferation of personalized health care. All this user data may then translate into customized meal plans, shoppable recipes, tailored fitness routines and recommended supplement regimens.

The Quantifiable Self: The conceptualization of an individual based on the vast array of numerical measurements that can be recorded and analyzed from an individual at any given time via wearable technologies.^[5]

mHealth: Mobile Health (mHealth) is a general term for the use of mobile technology in reference to health care services. The most widespread example would be using smartphones to track fitness data.^[6]

Wearables: Digital tools that are worn in different capacities to collect data through the skin. While wristwatch-like trackers may be most well-known, wearables are expanding to shoes, shirts and other apparel. Wearables can help track physical movements, heart rate, perspiration, and other functions. Additional uses include monitoring stress levels and preventing falls among the elderly.^[7]



2,000: approximate number of genetic tests regularly used in clinical settings today.^[8]







320,000: health and fitness apps on major app stores as of 2018,^[10] nearly double the amount available in 2015.^[11]



90%: consumers who find personalization appealing.^[12]

THE FUTURE

While today's Personalized Wellness field is largely made up of individualized diet and exercise plans and early generations of data-capturing technologies, the business of personalization is evolving rapidly. What types of individual information should guide wellness interventions, and how can that information be accessed, monitored, and analyzed? What areas of health and wellness stand to benefit from an increasingly personalized approach?

Ingestibles: Small shaped objects that can be swallowed by a person and transmit digital signals sent to outside computers. Examples of real-world applications include using pill-shaped cameras that can survey the digestive process from the inside to replace endoscopic procedures, or "smart pills" that can track different body parameters.^[7]

Embeddables: Miniature devices that are inserted under the skin or deeper into the body. In the future, embeddables may use nanotechnology and be so tiny that doctors would simply "inject" them into our bodies. The most ubiquitous example of an embeddable is a pacemaker, but future applications with nanotechnology could include monitoring blood sugar in diabetic patients.^[7]

Digiceuticals: Physician-prescribed apps used as stand-alone or complementary therapies in the treatment of a disease. The increasing number of FDA-approved digiceuticals may pave the way toward greater insurance reimbursement and impact future use of prescribed medication.^[13]



3: fields with the best market potential for digital health and nutrition solutions: diabetes, obesity and depression.^{[11][14]}



\$7 BILLION: estimated savings/year with use of digital health apps in diabetes prevention, diabetes care, asthma treatment, and cardiac and pulmonary rehabilitation.^{[11][15]}



\$19.5 BILLION: expected worth of the wearables market by 2021.^[16]

13 the inc

136%: expected growth of the personalized nutrition industry from 2015-2020.^[17]

PERSONALIZED WELLNESS PERSPECTIVES AT FOODMINDS

Navigating the Landscape and Harnessing Opportunities



More research is needed to guide and perfect personalized health tools. It's too early to fully integrate the limited findings of today's research into evidence-based interventions, though the future is bright. What's more, it's still unclear just how lifestyle and behavior affect epigenetics and microbiome status – and vice versa.

The market is primed for innovation, though the current body of science may raise more questions than it's answered. Researchers have a wealth of information to mine as users contribute personal data to the field. Meanwhile, routine clinical visits generate thousands of underutilized medical data points. Integrating this trove of information with current and past research in an open-source format could allow for more cost- and time-efficient data collection.



0

Cross-disciplinary relationships are essential for driving future discovery. Large-scale government projects and private research undertakings alike are needed to inform next steps. Further, involving credentialed health professionals in the research, analysis and development phases is a critical need to determine relevant, realistic and targeted solutions for tomorrow's health and wellness consumer.

Technology will get smarter quickly given this deep well of data and motivated marketplace. Companies previously uninvolved in medicine and nutrition are driving stakes into this territory due to the popularity of these services and potential for large market gains. Some companies are joining hands with like-minded organizations, research labs, medical teams, and other companies to build credible, consumer-friendly products.

It's an exciting time to explore the world of Personalized Wellness. There is still much to be learned, and early adopters must keep in mind the state of the science is illuminating yet constantly evolving. As is the case with any evolving approach or technology, what is true today may be obsolete tomorrow. One thing is certain: In the not-so-distant future, systems for preventing, diagnosing and treating health issues will look vastly different and be increasingly individualized.

ABOUT FOODMINDS

FoodMinds, a division of Padilla, is a food and nutrition affairs company that expertly navigates science, public affairs, consumer values and communication to create breakthrough strategies and help clients meet business and public health objectives. The firm has 40 employees, including 20+ registered dietitian nutritionists along with a global network of food and nutrition affairs experts.

The FoodMinds Personalized Wellness Team offers a range of specialized services:

- Data-Driven Insights. Equipping you with strategic research and analysis to understand your target users' needs, preferences, challenges and values so you can differentiate yourself in a growing marketplace.
- Strategic Communication Programs. Creating educational content, key messages and communication strategies aimed at reaching your target audiences, from consumers to health professionals to media and policy makers.
- Health Professional & Influencer Engagement. Cultivating and leveraging relationships to elevate your visibility and credibility with trusted health professional and influencer audiences.
- **Regulatory Landscape Monitoring and Analysis.** Sharing inside-track updates and sharp policy counsel to preserve your competitive edge.
- Science Pipeline Development. Connecting you to third-party experts and researchers to map out evidence and build opportunities that support your long-term marketing strategy.

At FoodMinds, we recognize the health and wellness landscape is rapidly changing, so we create new opportunities to help our clients create a better story, not just tell their story better. Please email ContactUs@foodminds.com, or visit FoodMinds.com for more information.

References:

- 1. Ursell, L., Metcalf, J., Parfrey, L. et al. Defining the human microbiome. Nutr Rev. 2012;70(Suppl 1):S38-S44. doi:10.1111/j.1753-4887.2012.00493.x
- Cryan JF & Dinan TG. Mind-altering microorganisms: The impact of the gut microbiota on brain and behaviour. Nature Reviews Neuroscience. 2012;13: 701–712.
- Attia, J., Ioannidis, J., Thakkinstian, A., et al. How to use an article about genetic association A: background concepts. JAMA. 2009;301(1):74-81.
- O'Rahilly S. Human genetics illuminates the paths to metabolic disease. Nature. 2009;462:307–314. doi: 10.1038/nature08532.
- Patel, M., Asch, D., Volpp, K. Wearable devices as facilitators, not drivers, of health behavior change. JAMA. 2015;313(5):459-460. doi:10.1001/ jama.2014.14781.
- Rouse M. mHealth (mobile health). SearchHealthIT. https://searchhealthit. techtarget.com/definition/mHealth. Updated November 2018. Accessed March 29, 2019.
- Federal Communications Commission. Ingestibles, Wearables and Embeddables. https://www.fcc.gov/general/ingestibles-wearables-andembeddables. Accessed March 29, 2019.
- Neimark J, Rawls B. Should You Test Your Gut Microbiome?. Rawls MD. https://rawlsmd.com/health-articles/test-gut-microbiome. Updated April 6, 2018. Accessed March 29, 2019.

- Global Wellness Institute. Global Wellness Economy Monitor. https:// globalwellnessinstitute.org/industry-research/2018-global-wellness-economymonitor/. October 2018.
- Young L. Global News. There are thousands of health and fitness apps, and not much evidence they work: study. https://globalnews.ca/news/4215969/ do-fitness-apps-work/. Updated May 18, 2018. Accessed March 29, 2019.
- Liquid State. 4 Digital Health App Trends to Consider for 2018. https:// liquid-state.com/digital-health-app-trends-2018/. Updated January 29, 2018. Accessed March 29, 2019.
- 12. Epsilon Marketing. The power of me: The impact of personalization on marketing performance. January 2018.
- 13. Farr, C. Can "Digital Therapeutics" Be as Good as Drugs? MIT Technology Review. April 7, 2017.
- Research 2 Guidance. mHealth Economics 2017 Current Status and Future Trends in Mobile Health. November 2017.
- 15. IQVIA Institute. The Growing Value of Digital Health: Evidence and Impact on Human Health and the Healthcare System. November 2018.
- Wearable Medical Devices: Technologies and Global Markets [Abstract]. (January 2017). Market Research. ID: 5285115.
- Dietary Supplements in an Age of Personalized Nutrition; How the trend towards personalized health will impact the dietary supplements market [Abstract]. (January 2016). GlobalData. ID: CS1064IS.

