개인 유전체 기반 다이어트

최 경 환

이원다이애그노믹스

심포지엄 : 건강기능식품, 어떻게 할 것인가?

대한임상건강증진학회 추계학술대회

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Chapter 01. The Future of Wellness
Chapter 02. Genomic data in Life style
Chapter 03. Beyond the clinical, Go to real life
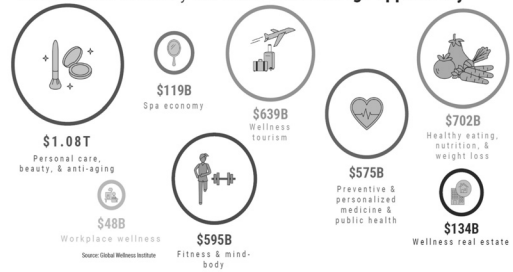Chapter 04. Personal Diet based on Genetic information
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What's Next in Wellness?

A $4.2 TRILLION MARKET

The wellness economy is a **multi-market mega opportunity**

$119B
Spa economy

$639B
Wellness tourism

$702B
Healthy eating, nutrition, & weight loss

$1.08T
Personal care, beauty, & anti-aging

$575B
Preventive & personalized medicine & public health

$48B
Workplace wellness

$595B
Fitness & mind-body

$134B
Wellness real estate

Source: Global Wellness Institute

Source: CBINSIGHTS

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Wellness, Why now?

DEVELOPED & EMERGING MARKETS
...embrace wellness

MILLENNIAL POPULATION
...go hyper-health conscious

HEALTHCARE SYSTEM
...in crisis

SOCIAL MEDIA MARKETING
...amplifies wellness

Source: CBINSIGHTS

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What is a choice to better way?

PROACTIVE

Improving health,
Improving satisfaction
Reducing costs

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The wellness landscape is vast

Personalized nutrition typically involves creating customized products or services based on factors such as one' genetic makeup, lifestyle, or environment.

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Personalizing Diet

Wearables and apps are helping to track nutrient intake

"At-home testing kits take off"

Personalized pills look to boost wellness

Customized food and beverage gains traction

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What determines your health?

Our DNA is believed to be one of the most important parts in understanding our health

40% Consumer Behaviors	TOBACCO USE, DIET & EXERCISE, ALCOHOL USE, SLEEP HABITS, SOCIAL CONNECTEDNESS
30% Genomics	
20% Socioeconomic & Environmental Factors	EDUCATION, JOB STATUS, FAMILY/ SOCIAL SUPPORT, INCOME, COMMUNITY SAFETY
10% Health Care	
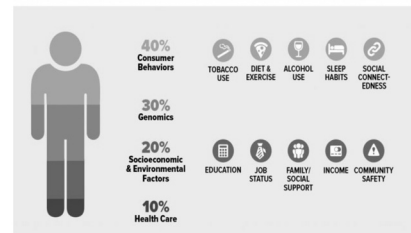
Image source: NEJM 2007

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What determines your health?

Environmental factor

Healthcare

Consumer Behaviors

The key is not new information
It's going back to the "root information"

"Genomics"

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What determines your health?

GENOMICS
Our genes can suggest what diseases we might be predisposed to, but it's an incomplete picture of human health.

PHENOTYPE
A snapshot of the current state of health that can be used to prevent, diagnose and treat disease or improve health.

LIFESTYLE/ENVIRONMENT
External factors like diet, exercise, medications, microbiota and even where we live influence our metabolic state.

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What determines your diet?

NUTRIGENOMICS

DIETARY HABITS

MICROBIOTA

FOOD BEHAVIOR

METABOLOMICS

PHYSICAL ACTIVITY

PRECISION
NUTRITION
PLATE

DEEP PHENOTYPING

Image source: nutrients

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Genomics information Can Help to

CLINICAL UTILITY
When a patient or provider meaningfully uses genetic data to help make a clinical decision

LEGEND

Utility is applicable

Utility will soon be applicable

The focus in consumer genomics has thus far been on clinical applications

CLINICAL
Genetic variants that are linked to diseases and potential health risks and provide clinical information for family planning

Are you at risk of breast cancer or Alzheimer's? What drug(s) should you take? Are you preparing for a family?

WELLNESS
Genetic variants that can influence responses to certain lifestyle and environmental factors

Do you have insomnia? Should you take supplements? How might your genes affect your diet?

LIFESTYLE
Genetic variants that can influence personal characteristics and attributes

Do you like the taste of cilantro? Are you predisposed to be a sprinter? What is your ancestry?

PERSONAL UTILITY
When a consumer derives satisfaction or value from knowing the results of a genetic test

Source: ROCKHEALTH

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Expansion of Genomic Business

PRESENT
+ MORE AWARENESS
Gov't funding
Joint ventures

+ BETTER PRODUCTS
Genomics companies

+ RELEVANT USES CASES
Research, Pharma

FUTURE DATA AVAILABLE FOR INTERPRETATION & INSIGHTS

CONSUMERS
Buy-in & give data

GENOTYPIC DATA
What do my genes say? What specific mutations do I have?

PHENOTYPIC DATA
Do I show signs of disease? What do my medical records say?

CURRENT DATA AVAILABLE FOR INTERPRETATION & INSIGHTS

Source: ROCKHEALTH

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Personal Diet based on Genetic information: EDGC – mygenplan

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Personal Diet based on Genetic information: 23andme + Lark

Lose Weight with 23andMe and an AI App!

Personal Diet based on Genetic information: Nurtigenomix

Personal Diet based on Genetic information: Nurtigenomix

Personal Diet based on Genetic information: DNAfit

Personal Diet based on Genetic information: DNAfit

Personal Diet based on Genetic information: VITA MOJO + DNAfit

Personal Diet based on Genetic information: genopalate

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Personal Diet based on Genetic information: mygenomebox

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Innovation of Global company

Nestle pivots to health research with artificial intelligence and DNA testing for personalised diets

Campbell Soup drops Habit, selling its nutrition company to Viome

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Next step…

Can DNA and blood tests reveal which foods are optimal for and individual's diet?

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There is no way but to go…

Position of the Academy of Nutrition and Dietetics: Nutritional Genomics

VS

Effect of personalized nutrition on health-related behaviour change: evidence from the Food4Me European randomized controlled trial

Carlos Celis-Morales, Katherine M Livingstone, Cyril FM Marsaux, Anna L Macready, Rosalind Fallaize, Clare B O'Donovan, Clara Woolhead, Hannah Forster, Marianne C Walsh, Santiago Navas-Carretero … Show more

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