



# Personalized Nutrition

Diagnostic tools for  
nutrition health monitoring

Q4 | 2019

INDUSTRY PULSE

FOOD &  
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FutureBridge

# QUARTERLY ANALYSIS

Oct 2019 - Dec 2019

**Collaboration**

Establish players like DSM, GSK, and Nestlé are resorting to collaborations to utilize novel R&D capabilities of startups

**Product Launch**

Players are launching platforms and personalized supplement powders

**Funding**

Hundred raises funding to boost R&D and product development

## FutureBridge Insights:

- **Data monitoring** is a very crucial step in **personalized nutrition** to **develop** a **holistic approach** for efficient meal planning.
- Established players like **DSM, GSK, and Nestlé** are resorting to **collaborations** to utilize **personalized wellness technologies** of startups and **strengthen their market hold in personalized nutrition.**
- **DSM** has made **personalized nutrition** a mainstay in its nutrition strategy and its **acquisition** of **AVA** unities all the previous development, which the company has done to **strengthen** its position in the **personalized nutrition** segment.
- **Supplement companies** are observed utilizing **questionnaire** approach to deliver **tailored solutions** to consumers.

## Things to look out for:

- Use of **combination of phenotypic and genotypic methods** to **provide better assessment and solutions.**
- **Commercial development** of new monitoring tool such as **smart toilets.**



## FutureBridge Insights

- **Personalized nutrition** segment is profoundly **changing** as more number of consumers are interested in meeting their **individual health goals**.
- The advancement in personalized nutrition domain is mainly **driven by need for convenient healthy options** that promote better health and provide **ease of use**.
- Companies are continuously working on the development of **efficient monitoring** tool to deliver tailored solution to the user.

## Personalized Nutrition domain is still in nascent phase with high growth opportunities

### Personalized Nutrition: Introduction

#### What is personalized nutrition?

- According to American Nutrition Association, "**Personalized nutrition** is a field that leverages human **individuality** to drive nutrition strategies that prevent, manage and **treat diseases** and **optimize health**."
- The motive of **personalized diet** is to preserve or increase health using relevant information about individual by genetic, stool-, urine-sample, and blood testing to provide **tailored supplements** and meals to the users.
- **Personalized nutrition** can be applied in two broad areas: **dietary management** of healthy as well as people suffering from specific diseases and **improving the public health** using dietary interventions.
- **Data-driven technologies** such as wearable's and mobile app, are the backbone of personalized nutrition as they monitor and evaluate health outcomes of any individual.
- Questionnaire, **Wearable's/mobile app's**, and **home-test kits** are the most exploited monitoring tools in personalized nutrition space.

#### Drivers

- High consumer interest
- Advances in diagnostics

#### Constraints

- High Cost
- The science and understanding for personalized nutrition is still underdeveloped




#### What are the different tools to monitor data?

Technology Type	Technology Provider
Questionnaire	<b>zipongo</b> Utilizes quiz to provide customized meal plans, nutrition recommendations
	<b>care/of</b> Utilizes nutrition quiz to provide tailored vitamin, protein, etc.,
	<b>hundred</b> Utilizes nutrition quiz to provide tailored supplements
	<b>WELLPATH</b> Utilizes nutrition quiz to provide tailored supplements
Wearable's / Mobile app's	<b>Teladoc HEALTH</b> Utilizes quiz to provide nutrition recommendations
	<b>SmartPlate</b> Utilizes photo recognition and AI technology
	<b>nutrino</b> Prove nutrition related data services and analytics
	<b>STYR</b> Wearable and app-based nutritional plan
	<b>OVIVA</b> Provides personalized services to improve health
	<b>allergy amulet</b> Portable food allergen and ingredient sensor
Home-test Kit	<b>Arivale</b> Genomic, blood analytes, gut microbiome and digital self-measurements
	<b>DAY TWO</b> Stool sample kit to analyze gut microbiome
	<b>dnanudge</b> DNA-testing for personalized nutrition services
	<b>habit</b> Blood testing for personalized nutrition services
	<b>Prenetics</b> DNA-testing for personalized nutrition services

## FutureBridge Insights

- Entities are utilizing **data-driving technologies** such as wearable and mobile apps to offer **personalized diet recommendations**.
- The **questionnaire** is the most **cost-effective** compared to other monitoring tools available in the market.
- Advances in the diagnostic assessment made **home testing kits** as a **reliable health assessment tool** in personalized nutrition space.
- **Wearable's/mobile apps** stand first in data monitoring space as they are more **convenient and user-friendly**.

## Personalized Nutrition segment utilizes questionnaire, wearable's/mobile app, and home-test kits for data monitoring

	Questionnaire	Wearable's / Mobile app's	Home-test Kit
Technology Description	<ul style="list-style-type: none"> <li>• In <b>questionnaire</b> approach customer <b>registered</b> through online website and <b>fill</b> basic information such as <b>Age, sex, internet access, pregnancy, food intolerances, and allergies</b>.</li> <li>• Later, questionnaire are devised based on <b>dietary habits, stress balance, sleeping habit</b> and <b>general health habits</b> such as smoking, workout, etc. to analyze the lifestyle habit of the customers.</li> <li>• In final stage, questionnaire are formed based on the <b>goals customer want to achieve</b> through the supplementation.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Wearable's / Mobile app's</b> system seamlessly <b>track</b> lifestyle, diet, nutrition, exercise, and calories through <b>portable gadgets</b>.</li> <li>• The <b>data collected</b> is then <b>used</b> to channelize to give <b>solutions</b>.</li> <li>• Some tracking devices offers <b>voice recognition features</b> for convenient data feeding.</li> <li>• The <b>solution</b> can be in the form of <b>supplements</b>, weight management or chronic management solutions.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Microbiome testing</b> is an rapidly maturing segment within the <b>personalized nutrition</b> domain. It involves the <b>mapping</b> of an individual's <b>gut micro flora</b> to understand his/her nutritional need and to predict future diseases/disorders.</li> <li>• <b>Nucleic acid testing</b> involves the analysis of an individual's DNA or RNA molecules for development of personalized medicine or therapies. Companies develop easy to use <b>DNA kits</b>, and novel innovative software's for analysis.</li> <li>• <b>Data collection</b> source for above methods are: blood, stool, urine, and skin swab.</li> </ul>
Example	<p style="text-align: center;"><b>care/of</b></p>  <p><b>Product:</b> Care/of vitamins, mineral and herbs  <b>Company:</b> Care/of (U.S.)  <b>Data collection type:</b> Questionnaire  <b>End output:</b> <b>Personalized supplements</b>  <b>Features:</b> Care/of app for assistance</p>	<p style="text-align: center;"><b>STYR</b></p>  <p><b>Tracker:</b> SHYFT Activity Tracker  <b>Company:</b> Styr Labs (U.S.)  <b>Data collection type:</b> Wearable  <b>End output:</b> App-based Nutritional plan  <b>Features:</b> Vitamin supplements in starter kit</p>	<p style="text-align: center;"><b>DAY TWO</b></p>  <p><b>Product:</b> Day Two sample kit  <b>Company:</b> Day Two (Israel)  <b>Data collection type:</b> Stool sample  <b>End output:</b> App based nutritional plan  <b>Features:</b> Measure past average blood sugar levels of over week/ month</p>



## FutureBridge Insights

- Noteworthy development is observed in **personalized nutrition**.
- **Hundred** receives **\$8 million** funding which will help the company in **strengthening** its position in the **personalized nutrition** segment across the **US**.
- Entities like **dnanudge**, **Teladoc Health**, and **HealthCodes** have expanded their footprints in **personalized nutrition** space with their recent development.
- **Entities** such as **Hundred**, **Teladoc Health**, and **Kyoku** are utilizing **questionnaire** approach to deliver **tailored solutions** to consumers.
- **HealthCodes DNA** have positioned its recent launch as **quick** and **easy DNA test Kit**.

## Entities are expanding in the personalized nutrition segment through acquisition, funding, and product launch

### Industry Developments- Q4-2019

hundred

07 November 2019

The **personalized vitamin** subscription company, **Hundred** (US) **raised** **\$8M** funding from **Insight Partners**. The funding will be used to **expand** the company's business in the **US market**.

dnanudge

02 December 2019

DNA testing pioneer, **DnaNudge** (UK) has **launched** pop-up services in **Walmart & Partners** (UK), **Canary Wharf** (UK), and **John Lewis & Partners White City** (UK) for three months initially.

Teladoc  
HEALTH

04 December 2019

**Teladoc Health** (US) announced the **expansion** of its clinical services with the **launch** of **Teladoc Nutrition**, which is a **personalized nutrition** counseling platform. Teladoc Nutrition is a convenient **nutrition counseling** session which can be scheduled through **Teladoc.com** or the **Teladoc app**.

19 November 2019

DSM AVA

Leading science-based company in health & nutrition, **Royal DSM** (Netherlands) has **acquired** the **personalized nutrition** company **AVA** (US) that provide **nutrition** and coaching **recommendations** across health and wellness segment.

kyoku

03 December 2019

**University of South California's** (US) students **launched** **Kyoku**, which is a **personalized supplement** company. The company was **founded** in **2018** by Harrison Valner and Ryan Roddy. The company has **raised** a total of **\$1.2 million** in funding with **Science Inc.** as a lead investor.

HEALTHCODES  
HEALTH • NUTRITION • FITNESS • DNA

10 December 2019

Leading **personalized nutrition** company, **HealthCodes DNA** (US) has **developed** five new **genetic tests** for health, fitness, and nutrition. The whole procedure for a **DNA test** is **quick** and **easy**.

Funding

Acquisition

Expansion

Product Launch

Others- Startup Activity

Note: Logos are hyperlinked with company website

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## FutureBridge Insights

- **Entities** are using **collaboration strategy** to expand their market in the **personalized nutrition** market.
- Through the collaboration, **GSK and Nestlé** are trying to build better **understanding** on the **gut microbiome** which will later help them in developing **tailored solutions**.
- The **collaboration** will help **DSM** to explore the personalized nutrition **diagnostic platform**, which will allow the company to offer **efficient custom solutions** to the consumers.

## Established players like DSM, GSK, and Nestlé are resorting to collaborations to utilize novel R&D capabilities of startups

### Major Collaboration of Q4-2019

08 October 2019, Tuesday



Royal DSM signed a **research agreement** with **Wellmetrix**, a personal health testing developer to explore diagnostic platforms for **personalized nutrition**.



The **joint team** will use **Wellmetrix diagnostic platform** to perform non-invasive and point-of-need measurements of key health **biomarkers** as part of a nutrition intervention using combinations of **DSM's nutritional solutions**.



[Read this story](#) →

08 October 2019, Tuesday



**Personalized** prebiotics and microbiome analysis company, **Carbiotix** has signed a **collaboration** agreement with **Food Marble Digestive Health** (Ireland), provider of digestive health **tracking devices**.



The companies will perform an **eight-week** study to examine if breath hydrogen can be used as a real-time measure of changes in **microbiome composition**. They will **utilize** two different **prebiotic fibers** and will be examined in 20 individuals.



[Read this story](#) →

14 November 2019, Thursday

V I O M E

**Personalized nutrition** startup, **Viome (US)** has announced that they have signed **partnership** agreement with **GSK (UK)**, which is a world's leading vaccine company.



This collaboration with **Viome** will **help GSK** for better understanding regarding the **gut microbiome** and the role they perform in the **body's immune system**. The **collaboration** is help in the **prevention** of specific **chronic diseases** as well as for reducing the cases of relapses.



[Read this story](#) →

22 November 2019, Friday



**Nestlé** (Switzerland) has partnered with **Center for Microbiome Innovation (CMI)**, **University of California (US)** to build better understanding on **microbiome's** impact on human health in order to accelerate the development of **nutritional solutions**.



The collaboration will benefit from CMI's microbiome expertise and lead to new opportunities to **accelerate microbiome discoveries** through joint research programs and access to scientific and technological capabilities. It will also enhance Nestlé's **research** and **development** network.



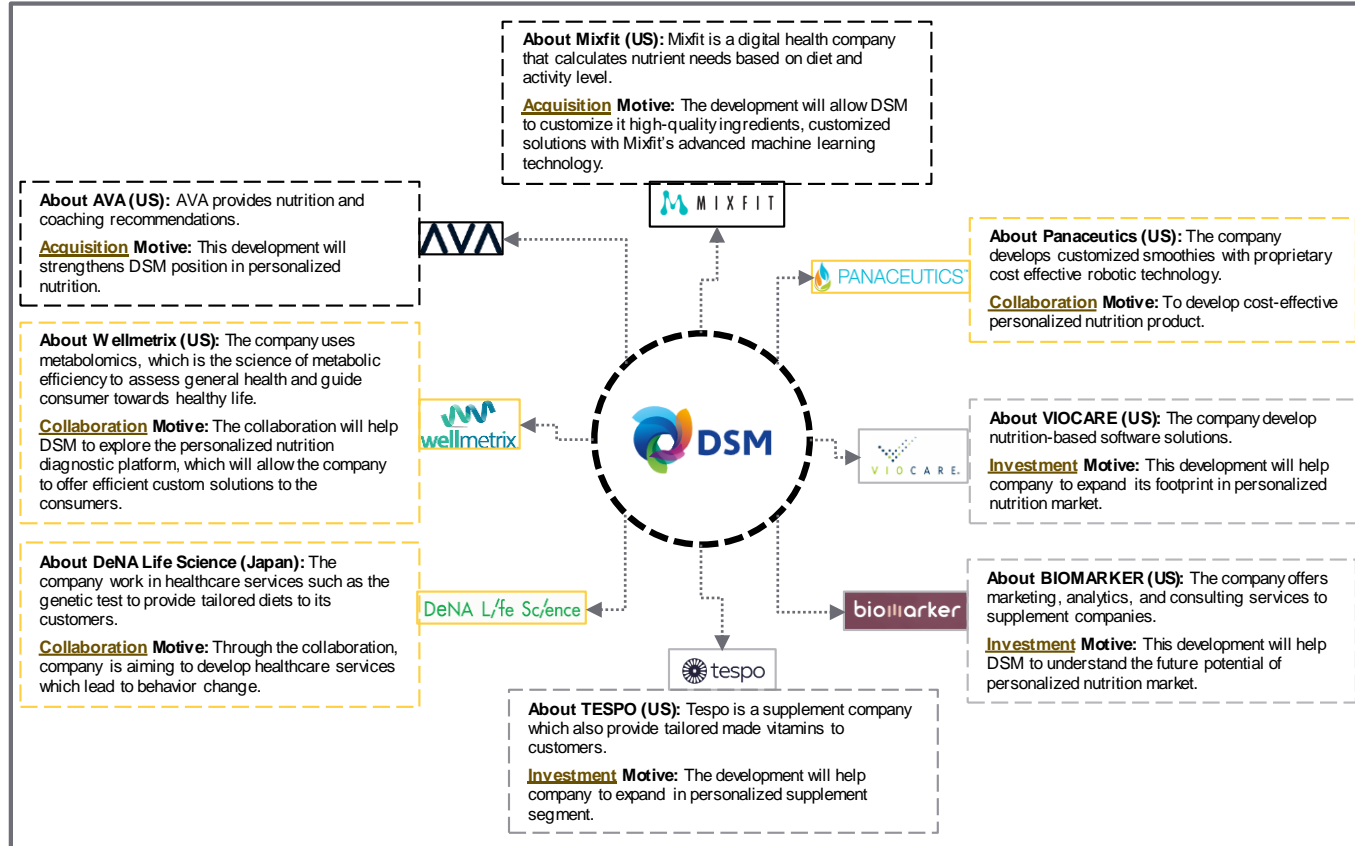
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## FutureBridge Insights

- DSM is utilizing a **merger and acquisition** strategy to remain at the **forefront** of the **personalized nutrition** segment.
- Through the **collaboration**, DSM is analyzing new **personalized wellness technologies** which will later help DSM in the development of efficient personalized nutrition platform for the consumers.
- According to Dr. James Bauly, Global Head Personalized Nutrition at DSM, "As **consumers become increasingly aware of the benefits of individualized combinations of nutritional ingredients at effective and safe doses, DSM is committed to supporting the development of personalized nutrition solutions that address nutritional gaps and support a healthy lifestyle.**"

## DSM strengthens its market position in personalized nutrition segment through strategies of investment, collaboration, & acquisition



□ Acquisition □ Investment □ Collaboration

## FutureBridge Insights

- **Data monitoring** is a very crucial step in **personalized nutrition** to **develop** a holistic approach for the treatment of **chronic disease**.
- The study **reveals** monitoring and testing of **urine samples** provides **important information** about the individual's health, hence can be used as an analyzing tool for the **personalized nutrition** platform.
- Researchers work on “**smart toilets**” could be a **breakthrough** in **personalized nutrition** as it will allow companies in gathering real-time information.

## Researchers reveal smart toilet concept to promote advancement in personalized monitoring system

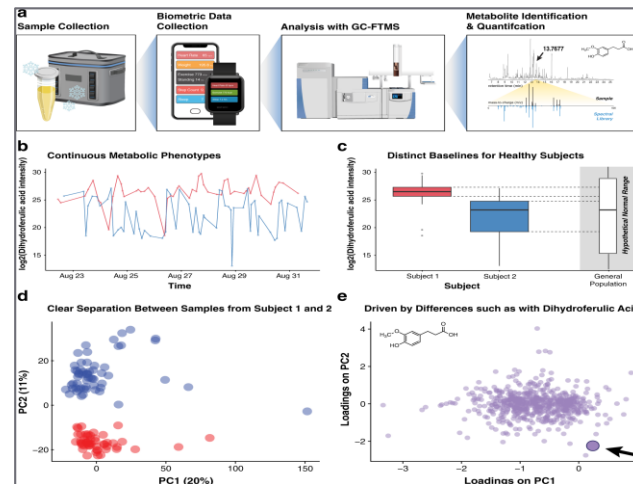


### Breakthrough Science: Smart Toilets

14 November 2019, Saturday



- **Wearable** and smart technologies are currently **ruling the health monitoring segment**. To make it more advance, researchers are continuously working to develop a holistic approach, that will allow the **analysis of metabolic health information** of the individual.
- Researchers at the University of Wisconsin–Madison (US) and the Morgridge Institute for Research (US) believes **remarkable range of metabolic health information** is stored in the **urine**.
- Research conducted by professor Joshua Coon and Ian Miller, reveals **urine contains a virtual liquid history of an individual's** nutritional profile, also metabolic links to more than 600 human conditions such as cancer, diabetes, and kidney disease.
- The next step of the study is to design a **smart toilet embedded with portable mass spectrometer, which will allow the monitoring of urine samples**.
- According to Joshua Coon, a UW–Madison professor of chemistry and biomolecular chemistry, “*We know in the lab we can make these measurements, and we're pretty sure we can design a toilet that could sample urine. I think the real challenge is we're going to have to invest in the engineering to make this instrument simple enough and cheap enough. That's where this will either go far or not happen at all.*”



Read this story 

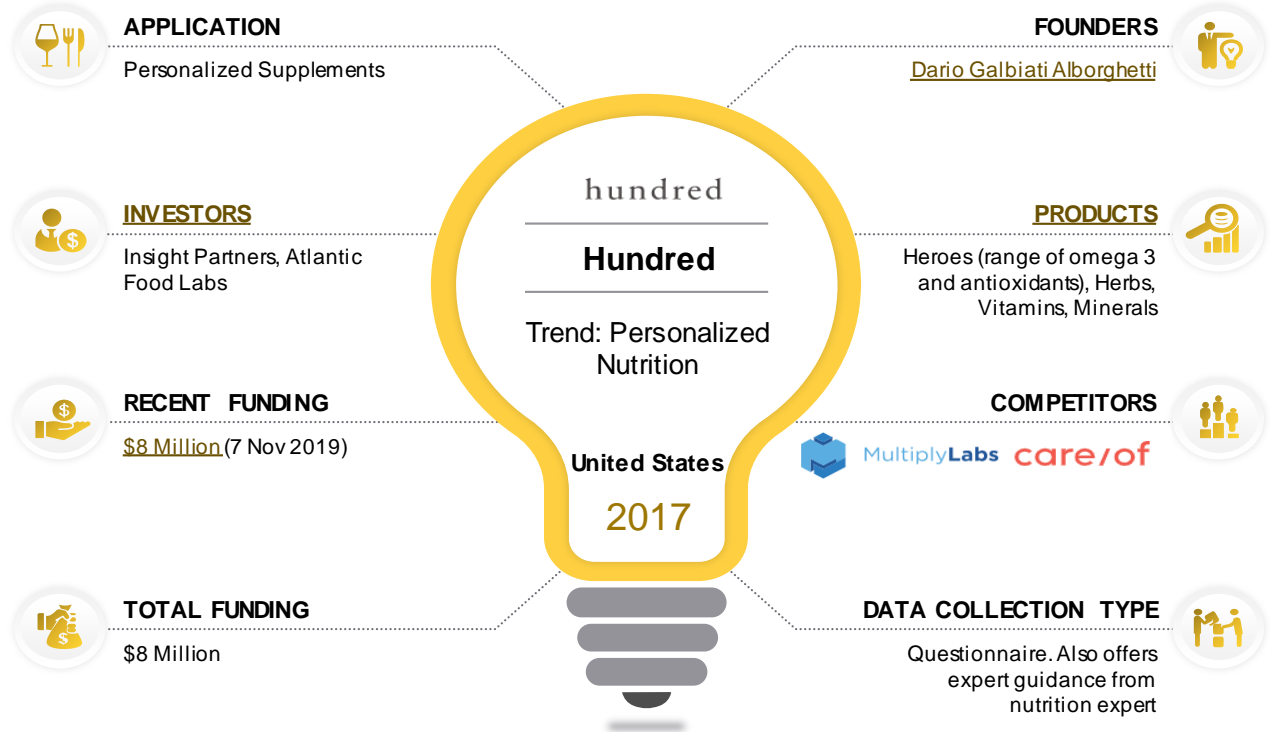


## FutureBridge Insights

- Hundred is a direct-to-consumer personalized vitamin company, who is aiming to develop a **holistic approach** for supplements at an **affordable price**.
- Hundred utilizes a **questionnaire platform** to gather individual data. The company also offers **nutrition expert** support at an **accessible price** to further guide its consumers about their nutritional requirement.
- **Hundred** received **\$8 million** funding from Insight Partners, which will help the company in **strengthening** its position in the **personalized nutrition** segment across the **US**.
- The company provides a **complete solution** by pairing them with a dedicated **nutrition expert** complementing a vast array of **health goals** for its users.

## Personalized vitamin brand, Hundred raises \$8M funding

### STANDOUT STARTUP



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