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Microbiome Commercialization Trends - Navigating Increased Competition & 2021 Trends We Got Right

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Who Is GenBiome Consulting

01 *Personalized Nutrition*

02 *Microbiome*

03 *Genetic Testing*

04 *CPG + VMS*

05 *Digital Health*

*GenBiome's unique value proposition is leveraging real-world product development engagements + first principles data-driven insights to support development of products + services that **CHANGE ENTIRE CATEGORIES***

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GenBiome Consulting Focus Areas



Topic Roadmap

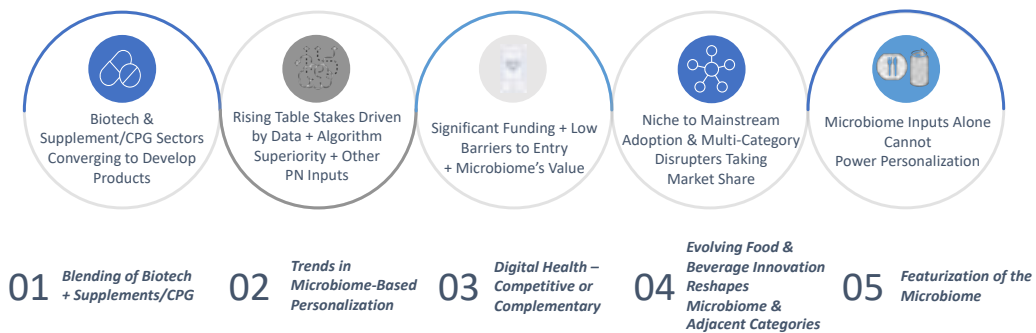
01 *2021 Trends Recap – Right vs Wrong*

02 *2022/2023 Trends – Consumer, Competition & Consolidation*

Q&A – What Trends Are You Seeing & What Might Am I Missing?

01 - 2021 Trends Recap – Right & Wrong

2021 Trend Recap - 5 of 5 Predicted 2021 Trends Realized – Real World Examples Validate Each Trend



Trend 1 – Blending of Biotech + Supplements/CPG

Got Right

- ✓ **M&A Increasing** – 2022/2023 trend
- ✓ **Rx Failures Increasing** – JnJ, Finch, Takeda, Seres all had Rx program failures, ceased separate MB Rx business units or collaboration deals - - > driving Rx companies to pivot to consumer or consolidate to survive
- ✓ **Rx Leadership Moving to Consumer MB** – Dirk Gevers becomes CSO of Seed Health & Jonathan Krive fr. AsiaBiome joins Holobio



2021 Slide

Got Wrong

- ✓ **Directionality** – Assumed only MB Rx companies would move consumer - - > Seed is case study w/launch of LUCA Biologics & Sarkis Mazmanian gut-brain-axis collaboration

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Trend 2 – Increase Focus on Microbiome-Based Personalization Integration

Got Right

- ✓ **Personalization Partnerships** – 2022/2023 trend - -> IFF Health x Salus Optima
- ✓ **Personalized MB Test Results Drive Efficacy** – WellTheory & Digbi Health programs integrates MB testing to support care journey, engagement & behavior modification
- ✓ **MB Rx Companies Amassing Novel Datasets**– Persephone Biosciences MyBabyBiome project could enable novel infant microbiome personalization tests or products



2021 Slide

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Trend 3 – Digital Health Competitive or Complementary

Got Right

- ✓ **Digital Health Increasingly Competitive** – Salvo Health, Mahana Therapeutics, Viome, Vivante Health, Digbi Health Function Health continue to compete w/traditional MB testing companies
- ✓ **New Entrants Increasing Competition** – Tiny Health, Evvy & others in stealth mode could be highly disruptive to traditional MB testing companies

Got Wrong

- ✓ **Hope of Traditional MB Testing Companies Establishing Competitive Moat** – To date core MB testing companies haven't found a way to develop competitive blocking mechanisms



2021 Slide

Trend 4 – Functional F&B + Non-Traditional Supplement Brands Push Microbiome Into Mainstream

Got Right

- ✓ **Food & Beverage Category Driving Growth** – OLIPOP's functional soda remains fastest growing functional beverage despite increased competition, BelliWelli IBS bites gain Sprouts distribution, Sunday's healthy "Oreo" launches signaling intersection of better for you + function driving category
- ✓ **Powder Supplements Growing** – Top-tier science is driving growth of microbiome x metabolic health prebiotic fiber companies Supergut & January's Edens



2021 Slide

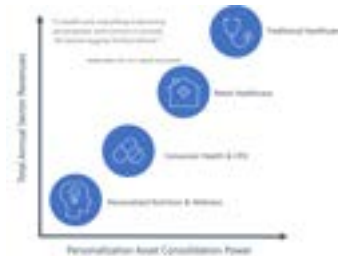
Trend 5 – Featurization of the Microbiome

Got Right

- ✓ **Larger Companies Partnering or Acquiring MB Brands** – 2022/2023 trend w/Microba's recent announcement validating this trend
- ✓ **Microbiome Benefits Not Core USP** – Early stage F&B brands initially positioned products w/MB benefits, but as brand grows this doesn't stay core to consumer messaging...similar trend happening across testing & powder supplements
- ✓ **Retail & Digital Health Exploring MB Concepts** – Stealth companies or projects exploring how MB products or services can support strategic needs

Got Wrong

- ✓ **Hope of Traditional MB Companies Establishing Competitive Moat** – To date core MB companies haven't found a way to develop competitive blocking mechanisms



2021 Slide

02 - 2022/2023 Trends – Consumer, Competition & Consolidation

Trend 1 – Increasing M&A + Consolidation + Collaborations

Consumer – M&A



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MB Rx – M&A



MB Testing & Services – M&A



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Trend 1 – Increasing M&A + Consolidation + Collaborations

Consumer – Partnerships

Seed Health Launches Gut-Brain Development Program with Axial Therapeutics To Translate Caltech Research into Probiotic

July 11, 2022 at 4:00 PM EDT

For more news, visit www.globalvantageconsulting.com



Novozymes and LinusBio explore probiotic protection against toxic metals

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MB Rx – Partnerships

Enterome signs major strategic R&D collaboration with Nestlé Health Science

March 10, 2022 at 10:00 AM EST

Boehringer Ingelheim and Biome Collaborate to Discover IBD Microbiome Biomarkers

February 2, 2022 at 10:00 AM EST

Microbe Life Sciences Completes Successful IPO & Announces Partnership with Ginkgo Bioworks

October 14, 2021 at 10:00 AM EST

Microbe Life Sciences (MIBI), a premier microbiome science company, announced today the transaction to acquire

Persephone raises in \$15M to support country's biggest cancer microbiome study

Persephone Bioscience, a preclinical biotech focused on microbiome-based therapeutics, raised \$15 million in seed funding on Tuesday. The company will use the money to advance its first-in-class oncology therapeutics, as well as to continue developing its preventive medicine for infants.

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MB Testing - Partnerships

SYNLAB and Microbe expand strategic agreement on advanced gut microbiome test

September 1, 2022 at 10:00 AM EST

Sonic Healthcare Acquires Strategic Stake in Microbe Life Sciences

September 1, 2022 at 10:00 AM EST

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Trend 2 – Increasing Competition in MB Testing – Moving More Clinically Integrated

SalvoHealth

Speak with a gut doctor now, not later

vivante

WellTheory

Glaciosa Consulting

Trend 3 – B2B Microbiome Ingredient Outlook – Consolidation & Differentiation...But Will Start-Ups Disrupt Encumbents?

novozymes
Rethink Tomorrow

iff

DSM

ADM

Glaciosa Consulting

Vertically Integrated – Driven by acquisition of Precision Biotics, Microbiome Labs & Biota w/additional partnerships is representing the future of vertically integrated microbiome company

Personalization & Concierge B2B – IFF acquisition of Health Wright & latest partnership w/Salus Optima to power personalization signals goal of providing customers turnkey holistic wellness platform to drive sales. DSM’s funding of Hologram signals similar personalization focus & potential vertical integration

Traditional M&A Ingredient Approach – Both companies take a fairly traditional approach to driving innovation & revenues via M&A. ADM’s Mafrig food partnership could enable move into MB F&B categories

Trend 4 – Our Small Intestine is Microbiome’s New Hot Spot...Driven by Novel Capsule Technology

Transforming Personalized Health through Unprecedented Access to Actionable Health Data from the GI

APPLICATIONS

- Gut Microbiome Mapping
- GI and Pulmonary Healthcare
- Personalized Diagnostics & Analytics

Simple, Small, Universal

A 4-hour fast-dissolve design enables targeted delivery to the small intestine

No Nymble Capsules in a Prescription Bottle, plus only 10% administration with the Nymble Capsule

© GlaxoSmithKline

Trend 5 – Macro Health & Healthcare Trends Will Exert Largest Influence on Microbiome Category



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© GoodRx Company



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03 - Q&A – What Trends Are You Seeing & What Might Am I Missing?




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