

# State of The Global Supplement Industry 2023 & Beyond

Prepared For:



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# Presentation Contents

- I. Introduction and Objectives
- II. Global Supplement Industry Overview
- III. US Supplement Industry Overview
- IV. US Top Consumer Trends in 2023 & Beyond
- V. Conclusions and Discussion

# Introduction



Our consultancy focuses on developing new business opportunities for our clients through industry research, strategic partnerships, investments, and capital raising in the \$170 billion global supplement industry.

[www.nutritionadvisors.com](http://www.nutritionadvisors.com)

# What is the Nutrition Business Journal?



## Staking claims

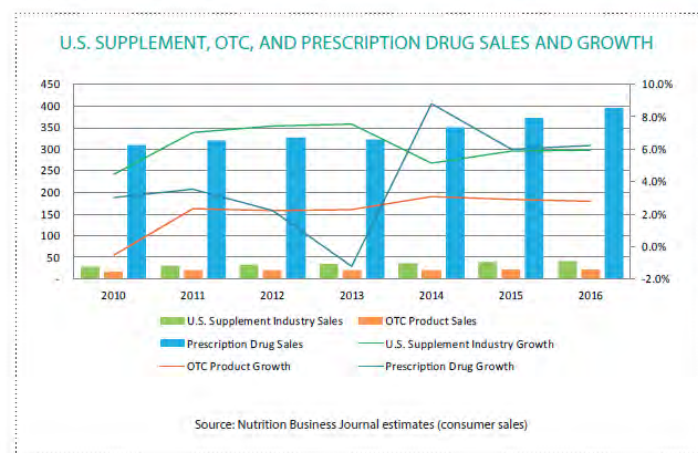
Small steps toward a new understanding of health condition claims

By Bill Giebler

A nutrient's climb to health claim status is an arduous one. Even vitamin C, arguably the first nutrient to take up residency in the mainstream vitamin cupboard, proceeds through the marketplace without the benefits of general health claims. In fact, very few nutrient-related health claims are approved by the FDA, and those few are notably specific, even for nutrients

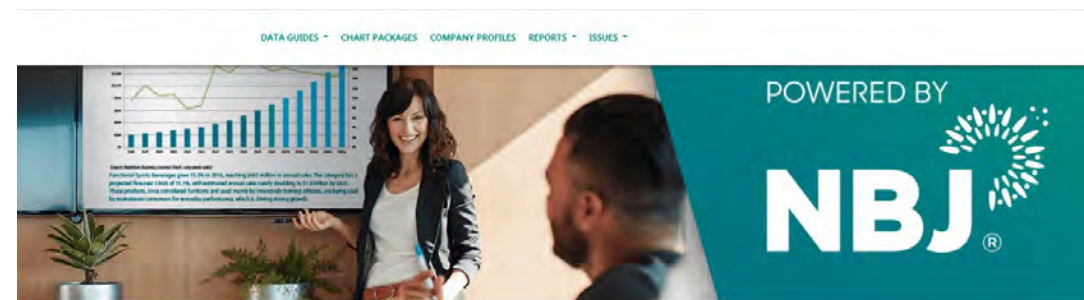
### NBJ Takeaways

- Nutrient health claims are few and acquiring them is cumbersome
- General health claims may lack the marketplace meaning they once held
- The FDA's all-encompassing definition of disease increasingly limits supplement claims
- Any movement around any claims may be beneficial to the industry



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Are you powered by NBJ? See how CMOs, start-ups and industry leaders are using NBJ to power their business.

### Data Guides

Introducing our NEW Data Guides. Compiled from the year's most popular report chapters, these low-priced data-filled reports provide you with deep understanding of the categories critical to your business.

### Condition Specific



www.nutritionbusinessjournal.com



# 2023 in Rancho Palos Verdes, CA

Tuesday July 25 – Thursday July 27, 2023

## Confirmed Keynote Speakers:

- **Urvashi Bhatnagar**, Vice President, Genpact,  
Co-Author of Sustainability Scorecard
- **Erica Dhawan**, Award Winning Keynote  
Speaker and Author on Collaboration, *Cotential*
- **Merlin Sheldrake, Ph.D.**, Author, *Entangled  
Life*

[www.nbjsummit.com](http://www.nbjsummit.com)

[tom@nutritionadvisors.com](mailto:tom@nutritionadvisors.com)

The State of the U.S. and Global  
Nutrition Industry

Supply to Shelf

Growing Business in a State of Volatility

Future Accelerants

Keynote presentations

# Presentation Objectives

- To provide the most up-to-date and comprehensive market data
- To frame the success of natural products and dietary supplements within the context of today's challenges
- To offer NBA's perspective on consumer trends that may shape the industry's future
- To empower NHPNZ members with data and insights that can inform your businesses

## **II. Global Supplement Industry Overview**

# The Supplement Market in Today's Challenging Economy

There are both **driving** and **opposing** forces impacting the dietary supplement industry.

## *Driving*



- Dedicated consumers who are consistent with purchases.
- COVID-19 cases continue with new variants, so immune health will stay relevant to consumers as their behavior and awareness changed with the Pandemic
- Macro demographic trends
- (e.g. Gen Z and Baby Boomers increased interest in health as they age)

## *Opposing*



- In a recession, some consumers will trade down, buy less bottles and buy cheaper supplements.
- Global supply chain issues showing no signs of letting up.
- Increase of cost of raw material is expected (Increase in energy, transportation and operational cost).
- When it comes to digital media, advertisers are seeing very low ROI. Customer acquisition costs are at an all-time high because of the US election/Medicare are buying up media.



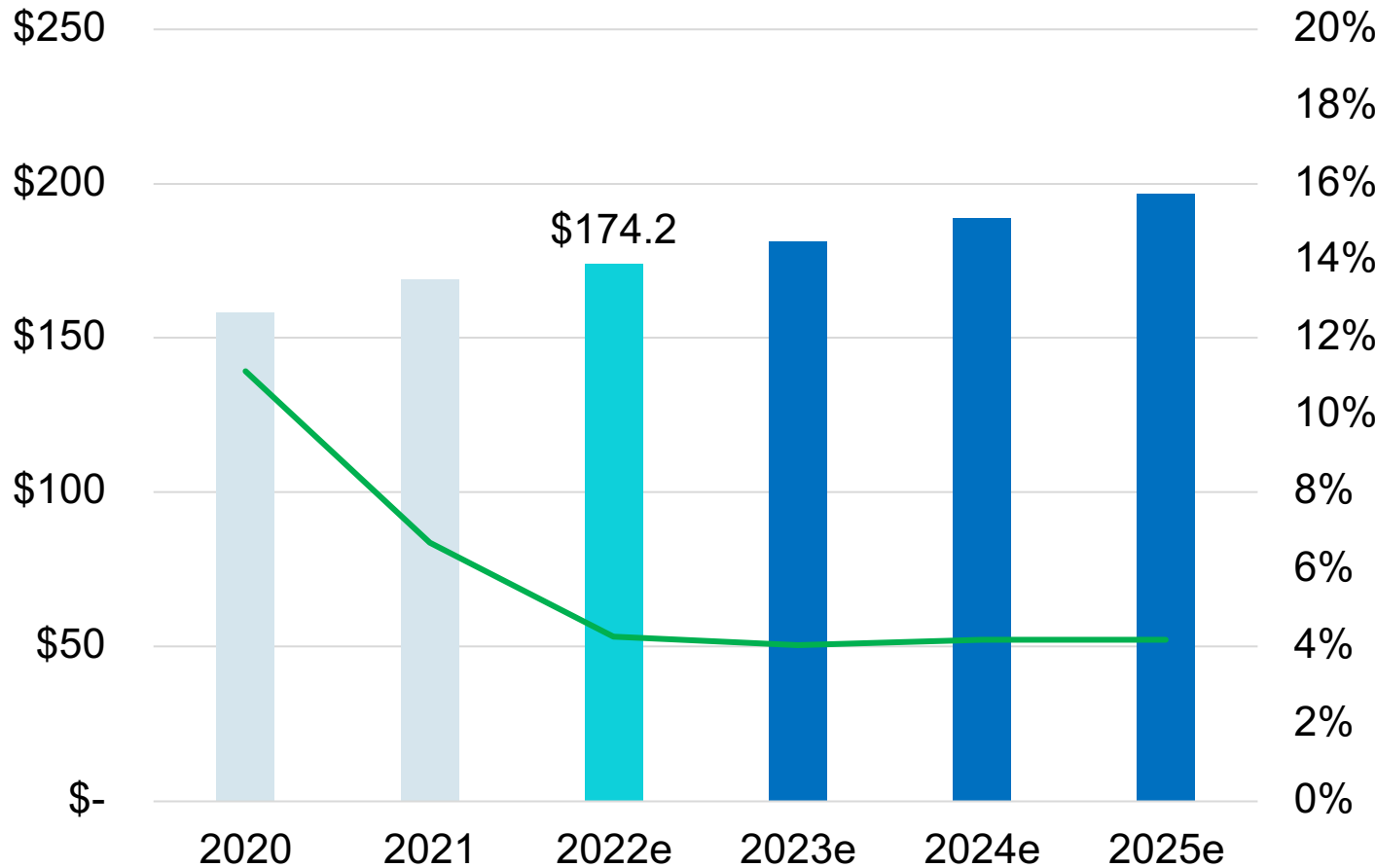
# Methodology and Sources for Global Market Sizing



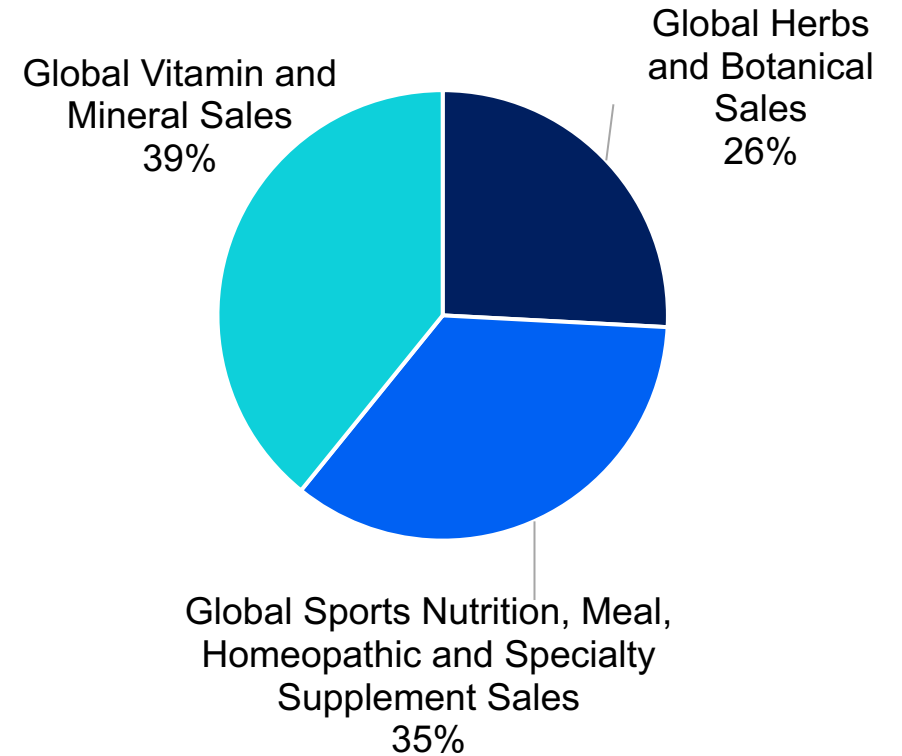


# Global Supplement Market Size

NBJ Global Supplement Sales (\$B) And Growth 2020-2025e



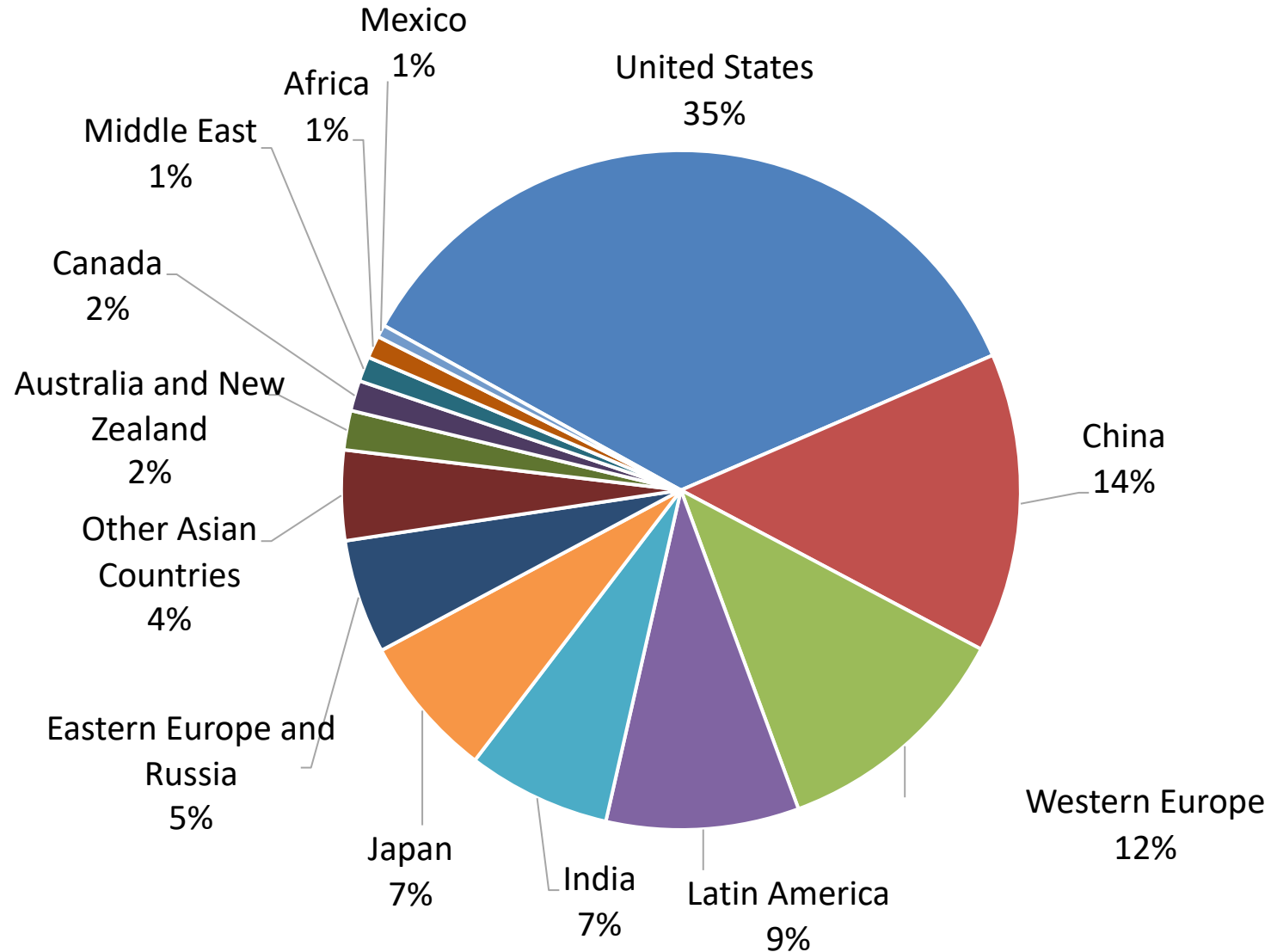
By Category, 2022e  
\$174.2B



Source: Nutrition Business Journal 2023 January Supplement Business Report (\$bil., consumer sales)



# \$174.2B Global Supplement Market By Region



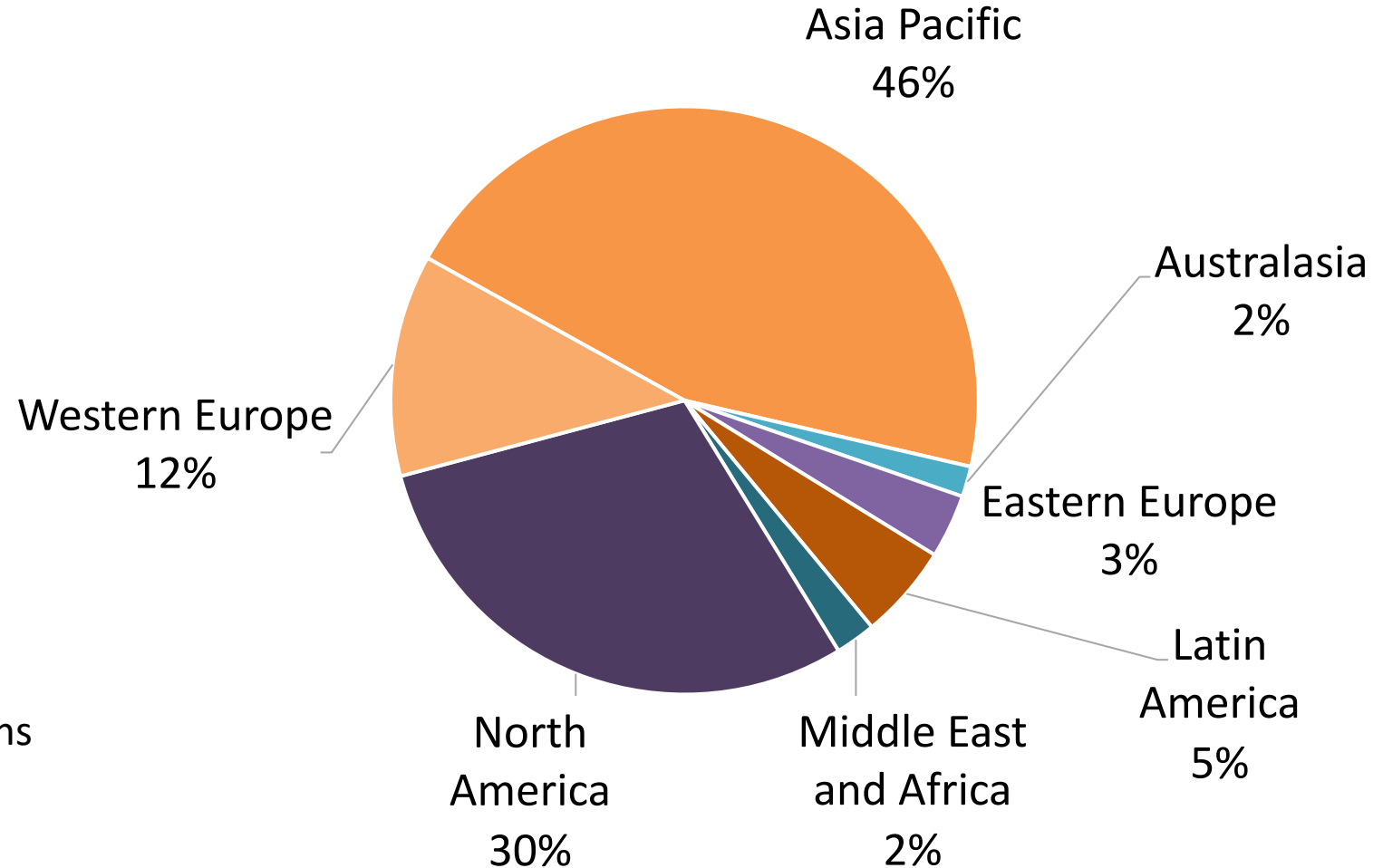
Source: Nutrition Business Journal 2023 January Supplement Business Report (\$bil., consumer sales)



**EUROMONITOR  
INTERNATIONAL**

# \$233B Global Sales by Region

**Euromonitor's VMS + Sports + Herbal Categories**



Euromonitor's category definitions available in appendix, page 77

Source: ©Euromonitor International  
Consumer Health, Currency \$USD, Standard YOY Exchange Rate

# Global Supplement Growth by Region



## NBJ's Supplement Category

	2020	2021	2022e
Latin America	21%	10%	9%
Other Asian Countries	8%	7%	7%
Middle East	9%	7%	7%
Africa	12%	9%	7%
Mexico	15%	9%	5%
United States	15%	8%	4%
India	9%	8%	4%
Canada	9%	6%	5%
China	8%	7%	4%
Eastern Europe and Russia	13%	7%	3%
Western Europe	8%	4%	2%
Australia and New Zealand	4%	4%	3%
Japan	3%	2%	2%

Source: Nutrition Business Journal 2023 January Supplement Business Report (\$bil., consumer sales)



## Euromonitor's VMS + Sports + Herbal Categories

	2020	2021	2022e
Latin America	15%	9%	9%
North America	8%	7%	6%
Middle East and Africa	7%	11%	7%
Australasia	3%	12%	1%
Eastern Europe	4%	9%	2%
Western Europe	5%	10%	0%
Asia Pacific	4%	9%	2%

Source: ©Euromonitor International  
Consumer Health, Currency \$USD, Standard YOY Exchange Rate

# Global Top VMS Brands

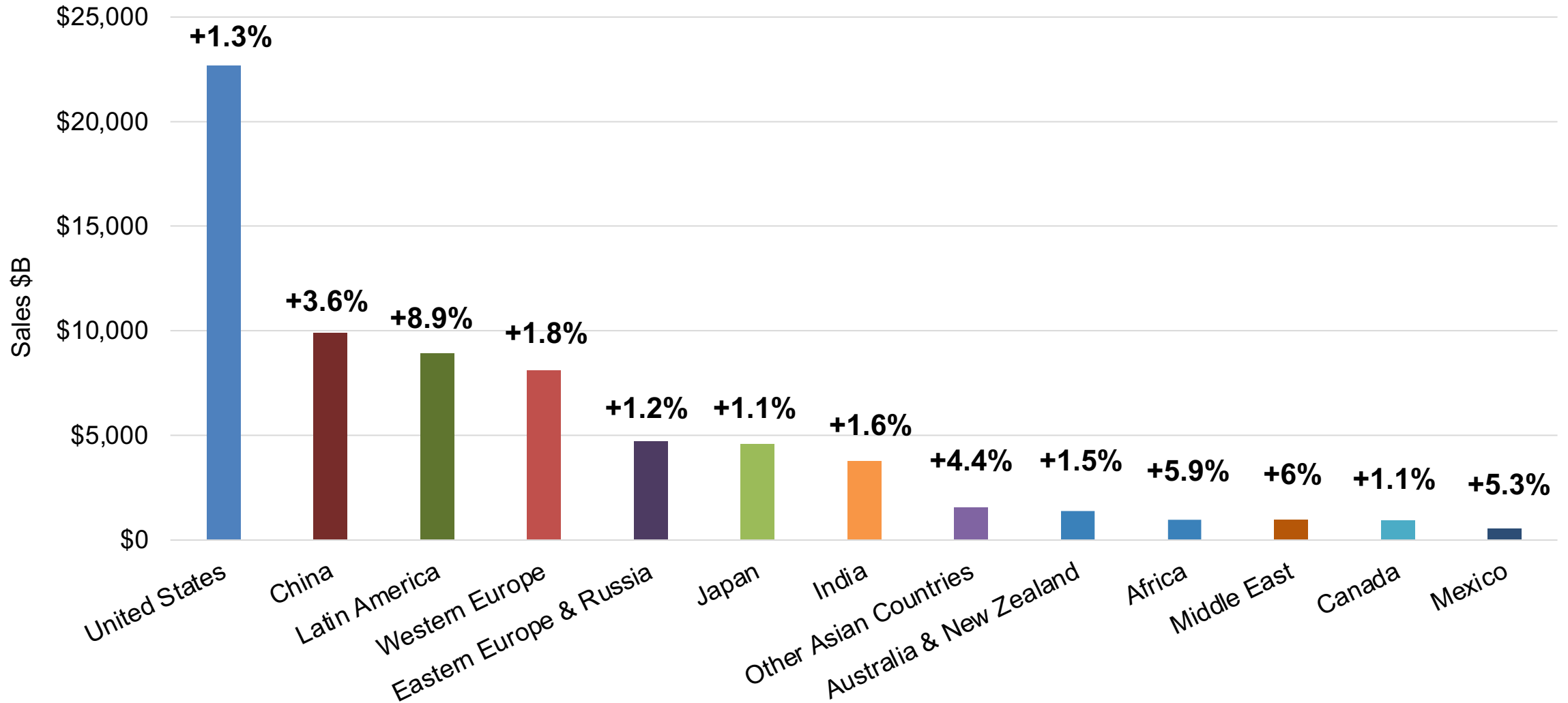
Global Ranking in VMS	Company Name	2022 VMS Sales (\$B)	Brands
1	Amway Corp	4,714.9	<b>Nutrilite</b>
2	Haleon plc	4,426.9	<b>Centrum</b>
3	Nestlé SA	3,828.4	<b>Nature's Bounty</b>
4	By-health Co Ltd	3,295.0	<b>By-Health</b>
5	Bayer AG	2,599.7	<b>One-A-Day, Redoxon, Supradyn</b>
6	Herbalife Nutrition Ltd	2,318.0	<b>Herbalife Nutrition</b>
7	KT&G Corp	1,886.1	<b>Cheong-Kwan-Jang</b>
8	Otsuka Holdings Co Ltd	1,824.9	<b>Nature Made</b>
9	Health & Happiness (H&H) International Holdings Ltd	1,818.2	<b>Swisse</b>
10	Suntory Holdings Ltd	1,754.7	<b>Brand's, Sesamin</b>
11	Procter & Gamble Co	1,374.3	<b>New Chapter, Voost</b>

**Which countries are thriving in which product categories?**



# Vitamin + Mineral Sales - 2022e

Vitamin + Mineral 2022e by Country

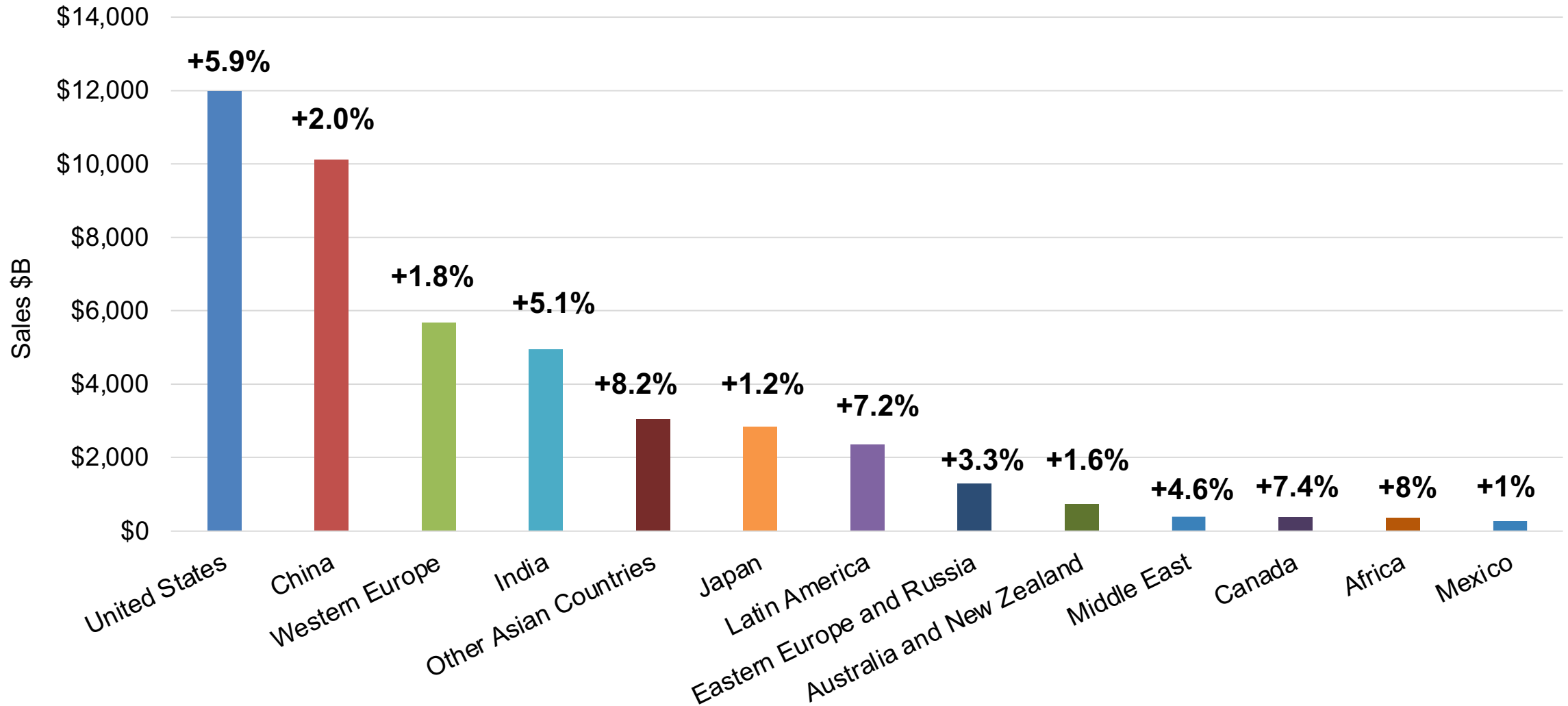






# Herbs and Botanical Sales – 2022e

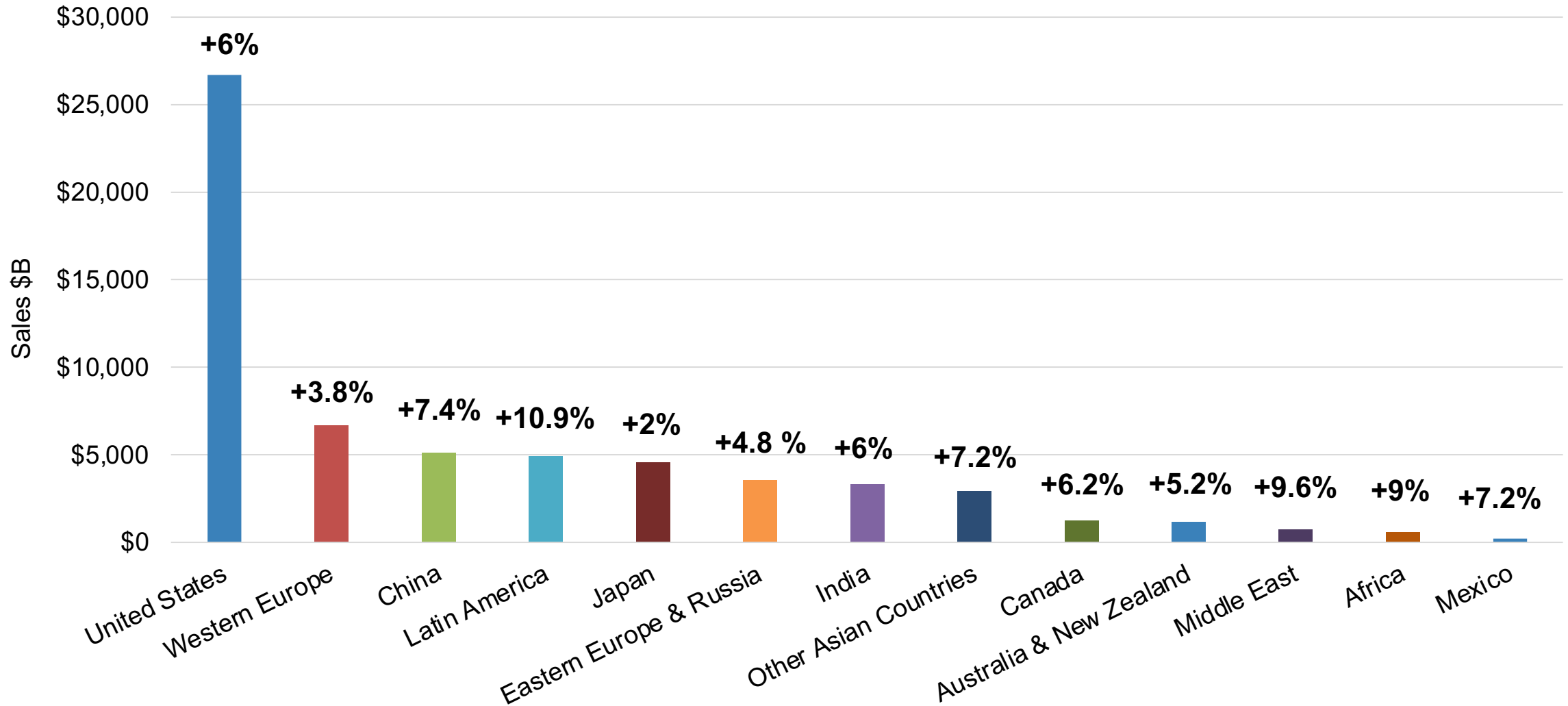
Herbs and Botanicals Sales and Growth 2022e by Country





# Sports Nutrition + Specialty Sales – 2022e

Sport Nutrition + Specialty – 2022e by Country

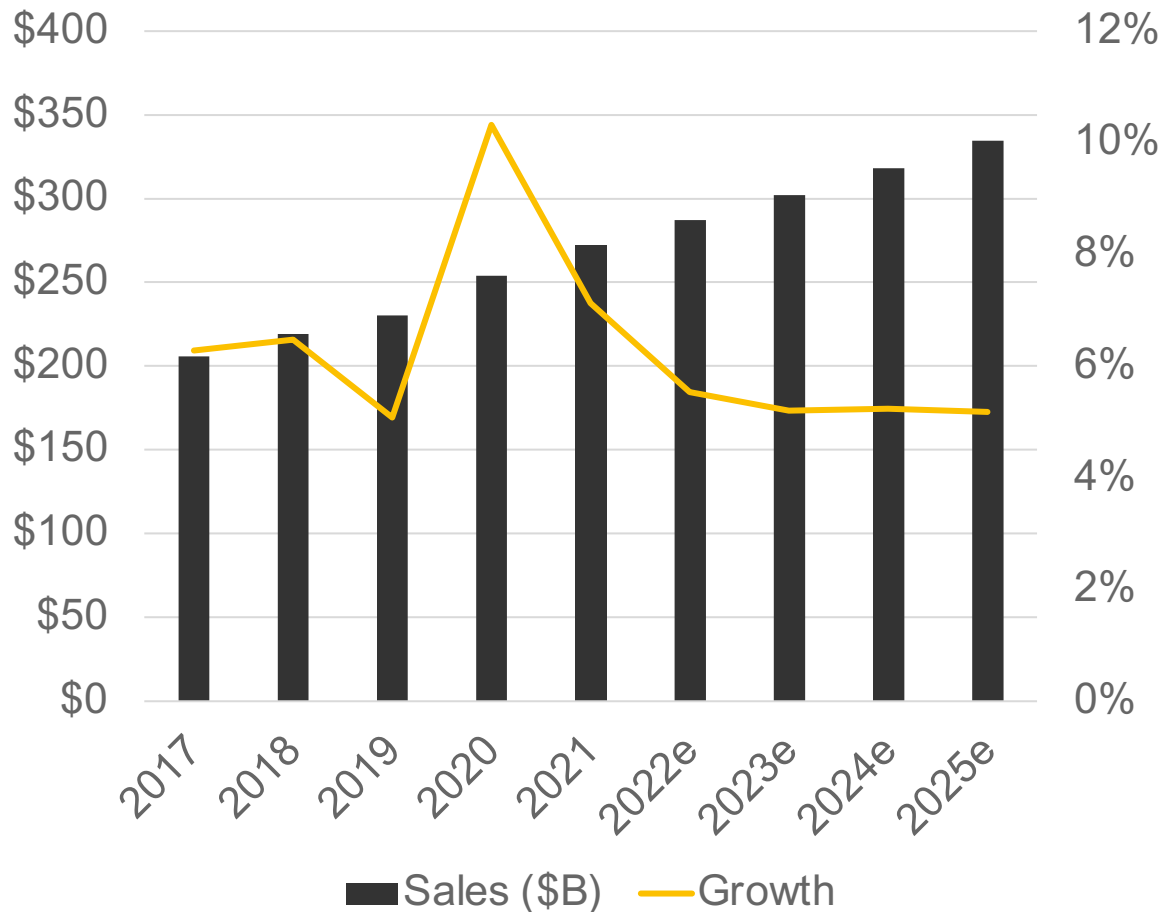


# **III. US Supplement Industry Overview**

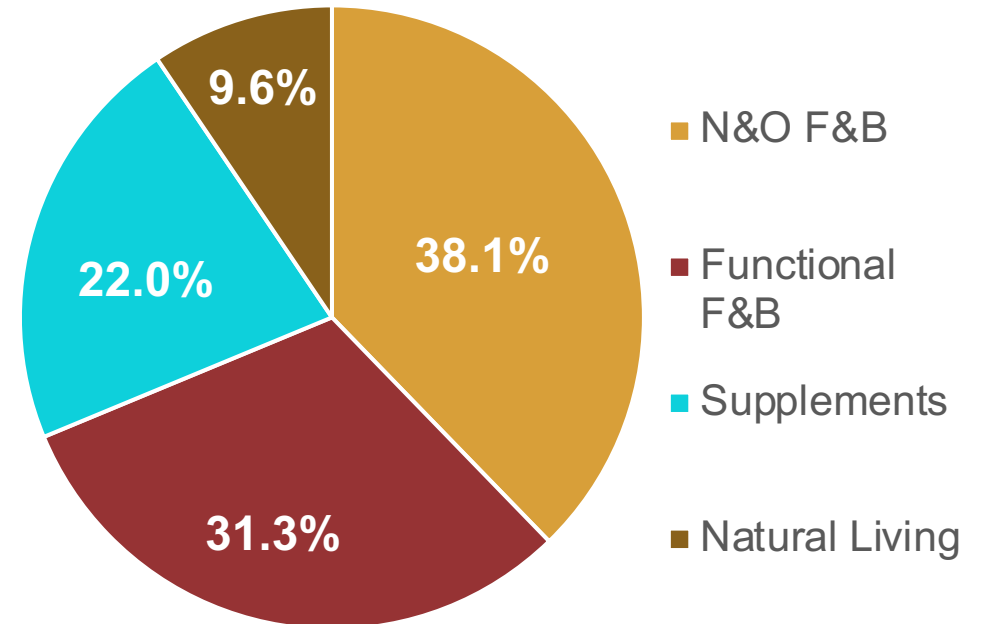


# U.S. Nutrition Industry

U.S. Natural & Organic (N&O) Products Industry grew 7.1% to **\$272B** in 2021



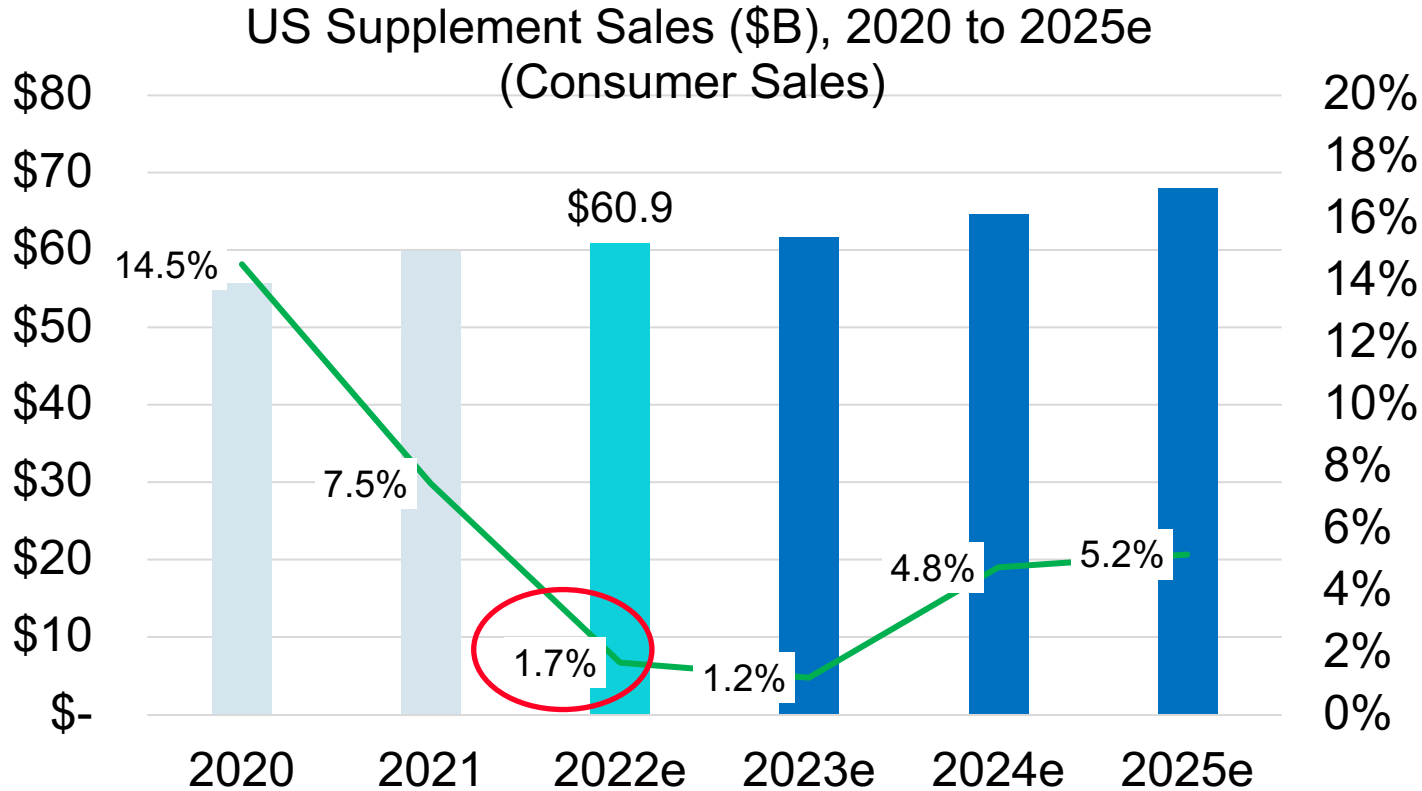
\$272B N&O Product Sales by Product Category, 2021



Source: Nutrition Business Journal Supplement Business Report 2022 (\$ billion, consumer sales)

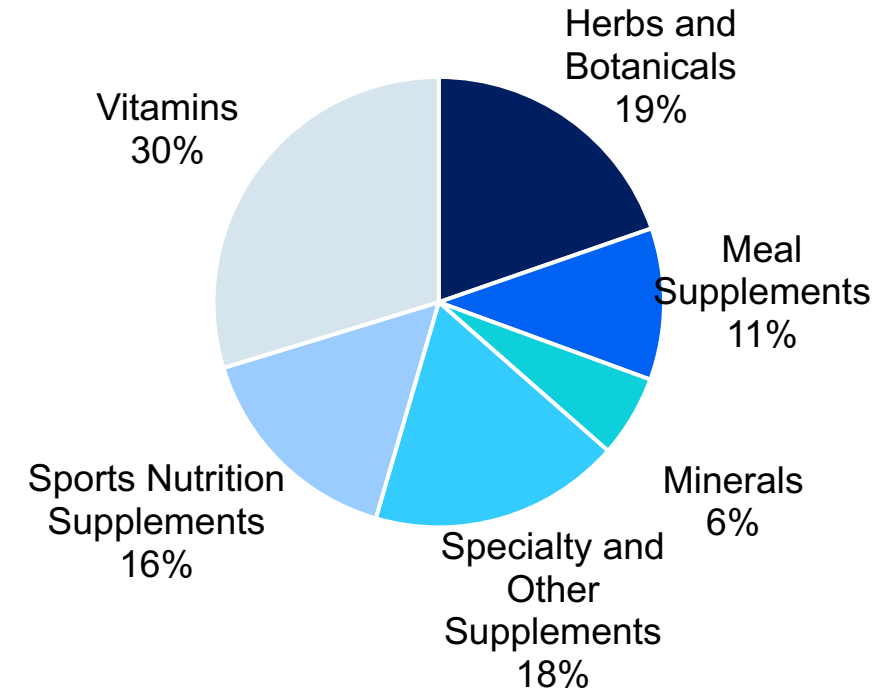


# NEW January 2023 NBJ Estimates



Source: Nutrition Business Journal 2023 January Supplement Business Report (\$bil., consumer sales)

US Supplement Sales By Category, 2022e  
\$60.0B

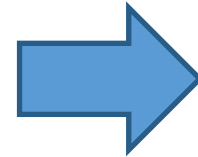
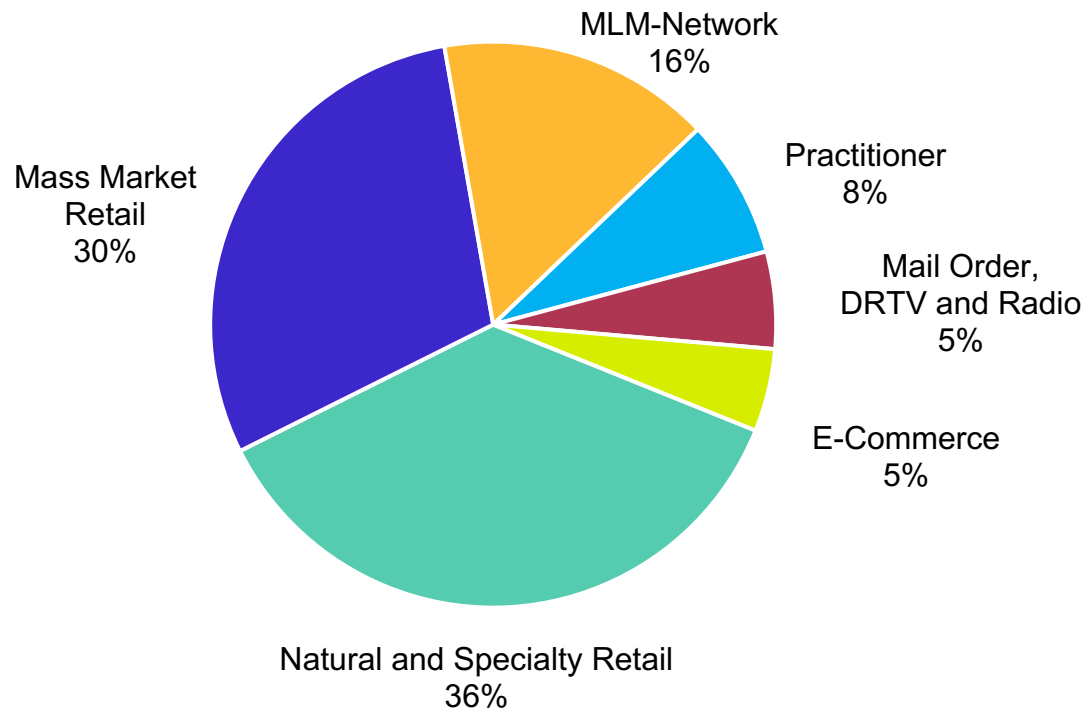


- Q3 and Q4 slowdown across the US supplement industry caused NBJ to adjust 2022 growth projection from 4.2% to 1.7%. This change is mostly due to inflation and other economic pressures affecting consumer spending behavior.

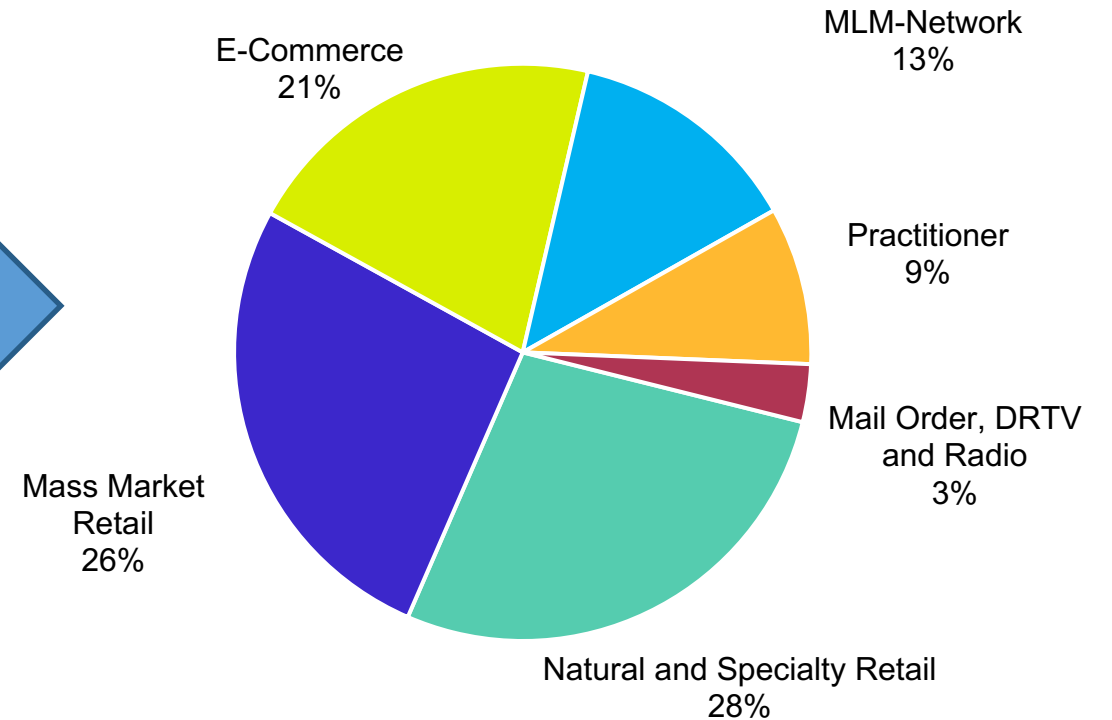
# US Supplement Sales by Channel: SHIFT SINCE 2010

The internet has continued to take share from other segments of the market, a trend that is accelerating especially as a result of COVID-19. E-commerce growth in 2020 was **87.3%**, and the 5-yr CAGR from 2020 to 2025e is 15%.

**\$28.2B in 2010**



**\$60.9B in 2022e**

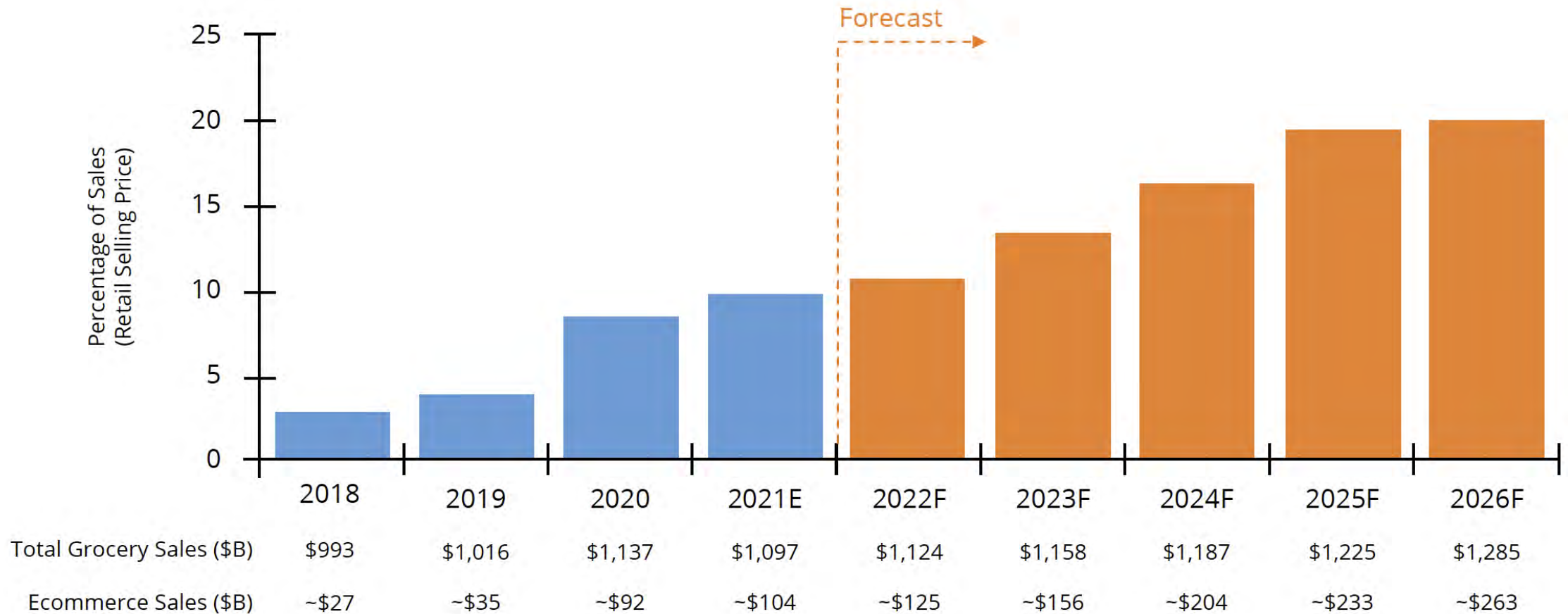


Source: *Nutrition Business Journal 2023 January Supplement Business Report* (\$bil., consumer sales)

# U.S. Supplement Channel Lines Blurring



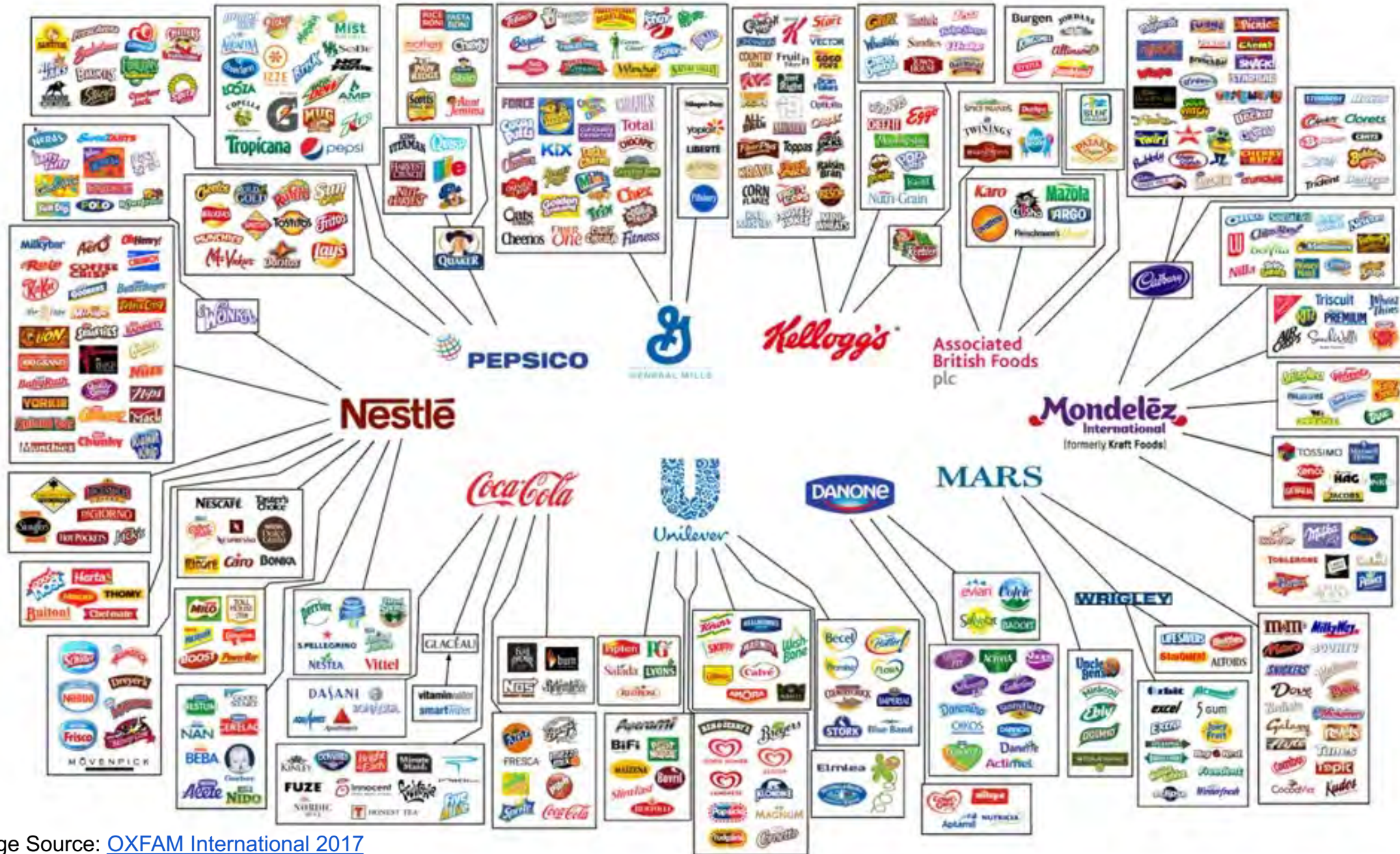
# Consumers reward retailers who best match their needs with products they seek in an omni-commerce retail environment



Source: Expo West 2022 State of Natural and Organic, Mercatus; Supermarket News; L.E.K. research and analysis



# Emerging Competitive Landscape



# Transaction Activity in 2022

**CHR HANSEN**  
↓ \$12.3B  
novozymes®

**Nestlé**  
HealthScience  
↓ \$NA  
**BETTER HEALTH CO.**

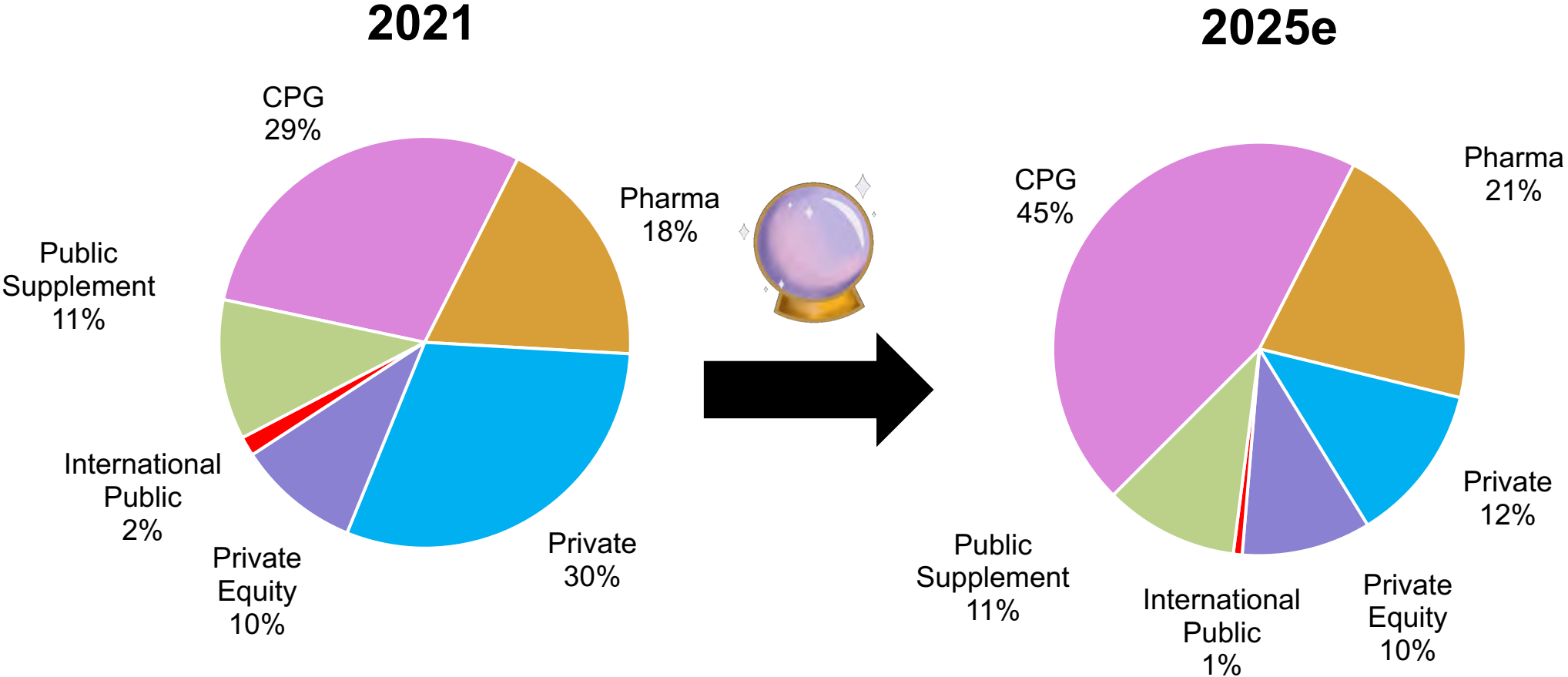
**JAMIESON**  
wellness inc.™  
↓ \$210M  
youththeory

**balchem**  
↓ \$NA  
**Bergstrom**  
Nutrition

**KERRY**  
↓ \$42M  
**Natreon**  
Trusted Science, Naturally™

**SIRIO**  
↓ \$181M  
**BEST FORMULATIONS**

# U.S. Supplement Share Ownership: The Future\*

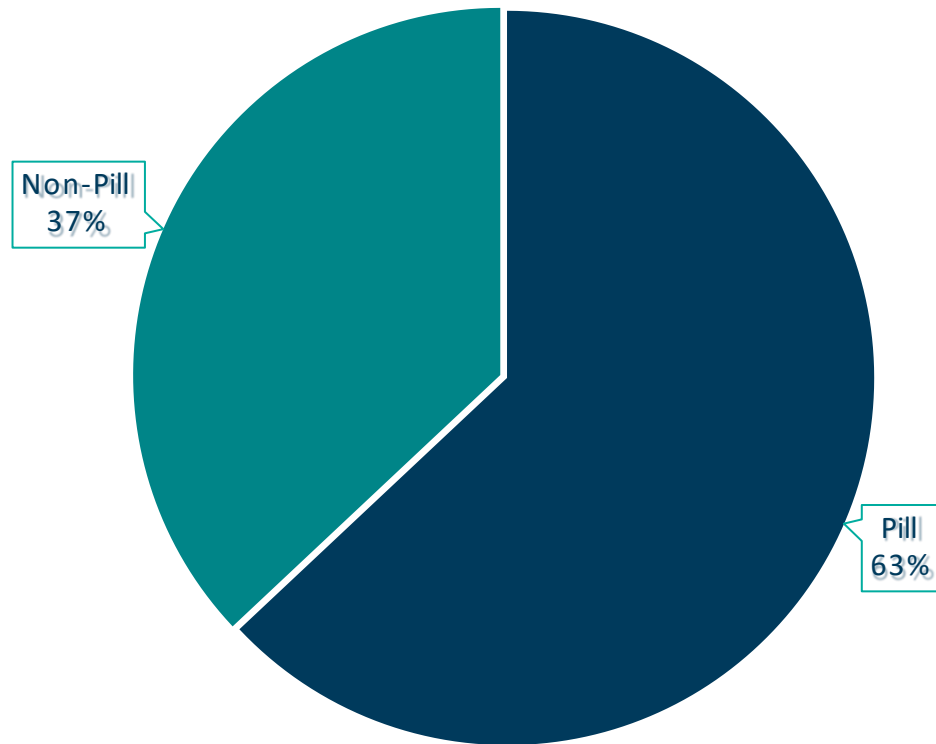


➤ CPG giants (e.g. Neslte, Unilever), and Pharma (e.g. GSK/Pfizer, Bayer) will continue accelerating their investment in the nutrition industry.

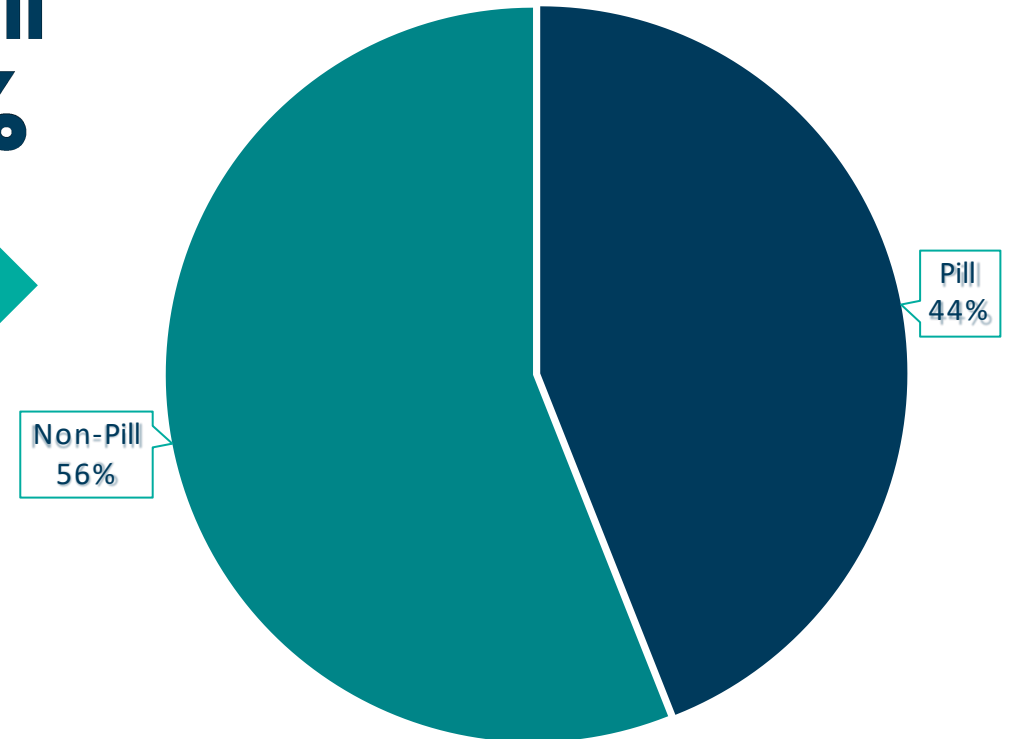
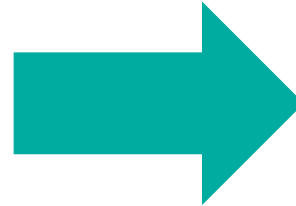
\*Disclaimer: Estimates based on company-by-company predictions and current investment activity in our space.

# Shifting trends in delivery format

2013

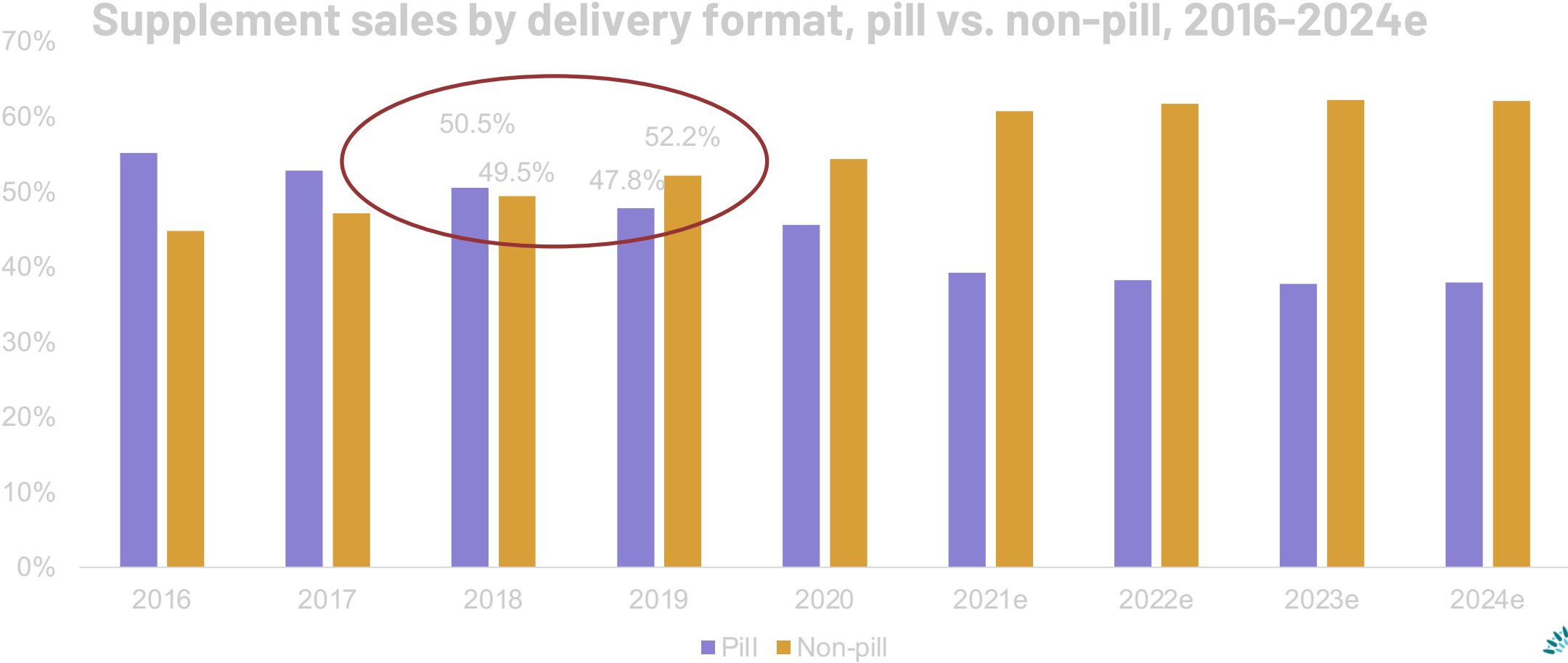


**Non-Pill  
+19%**



Source: Nutrition Business Journal (NBJ) – US Consumer sales 2021

# Non-pill supplement sales eclipse pill format sales in 2019



Source: *Nutrition Business Journal* (\$mil, consumer sales)

Pill includes Capsules, Tablets, Softgels, Vegetarian Capsules  
Non-pill includes Chewable, Effervescent, Gummy, Liquid, Lozenge, Lollipop, Quick Dissolve, Powder and Shots



# **The shortcomings of popular non-pill supplement formats**

- **Lower active ingredient levels/Limited active loading capacity**
- **Weak shelf life**
- **Lack of convenience**

# FZZR™: A family of new supplement delivery technology

FZZR™ granules



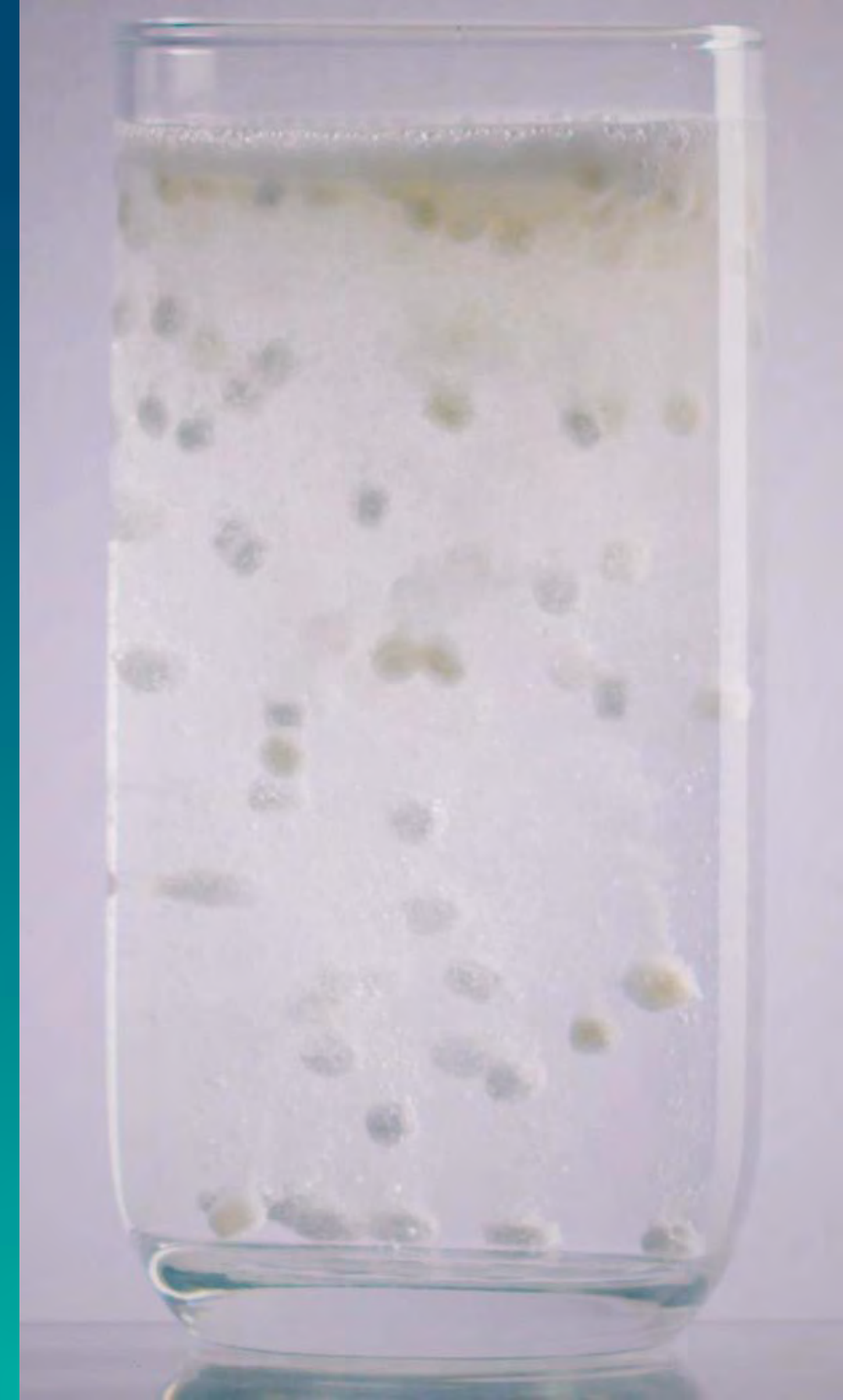
FZZR™ melts





**Higher active loading,  
one a day.**

**Multi-Function or  
Mix'n'Match.**







# NBJ (Aarts) Holiday Letter Takeaways



## *New Year Greetings and Thoughts Going into 2023*

### Happy New Year!

In last year's letter, I got personal about my experience with Covid-19. I also talked about humility and what it means to be humble as leaders. (Feel free to tell me how I'm doing on this 😊). Looking back now, it's safe to say that 2022 turned into a year when so many of us were humbled with the many challenges facing our industry.

I have mostly recovered, turning my attention to addressing long-haul symptoms such as neuroinflammation. I sought out some new diagnostic tests (e.g., Innovative Bioanalysis) and protocols that I imagine will address the omnipresent consequences of the pandemic. According to the CDC, one in five people infected with the virus experience long-haul symptoms (about 25 million people in the United States). As Winston Churchill once said, "never let a crisis go to waste."

Although NBJ is readjusting its growth numbers for '22 and '23 slightly downwards, I still see many opportunities for growth in our sector in the short and long term. Readjustments are mostly driven by continued supply chain issues and the economic impact of high inflation.

I believe that the first two quarters of 2023 will be relatively flat for the entire category with growth rates re-bounding in the second two quarters, especially if the economy starts to recover. Many economists have predicted that timeframe for possibly coming out of a recession. Our industry has many distribution channels and niche opportunities that will experience more attractive growth.

The theme of this year's Summit will focus on the concept of "uncharted waters." The story holds that sailors of earlier millennia feared that if they followed the winds too far from shore, they would find the edge of the world and sail right off it! I do not see the edge of the world on the horizon, but I do know we have entered uncharted territory. Today the nutrition industry is facing a collection of market pressures that include inflation and a looming recession, high interest rates, labor shortage, war in Ukraine, and the still-thundering echoes of an all-too-persistent pandemic.

Many of the driving forces remain strong, such as existing and new consumers who see tangible results from nutrition products and services. I also know that this is an industry that has proven to be incredibly resilient and innovative. Many distribution channels and niche opportunities will see attractive growth. Among them are:

Wishing you and your loved one's peace, health, and happiness in this new year. May you stay healthy and safe.

A handwritten signature in black ink, appearing to read "Tom Aarts".

Tom Aarts, Co-Chair, NBJ Summit

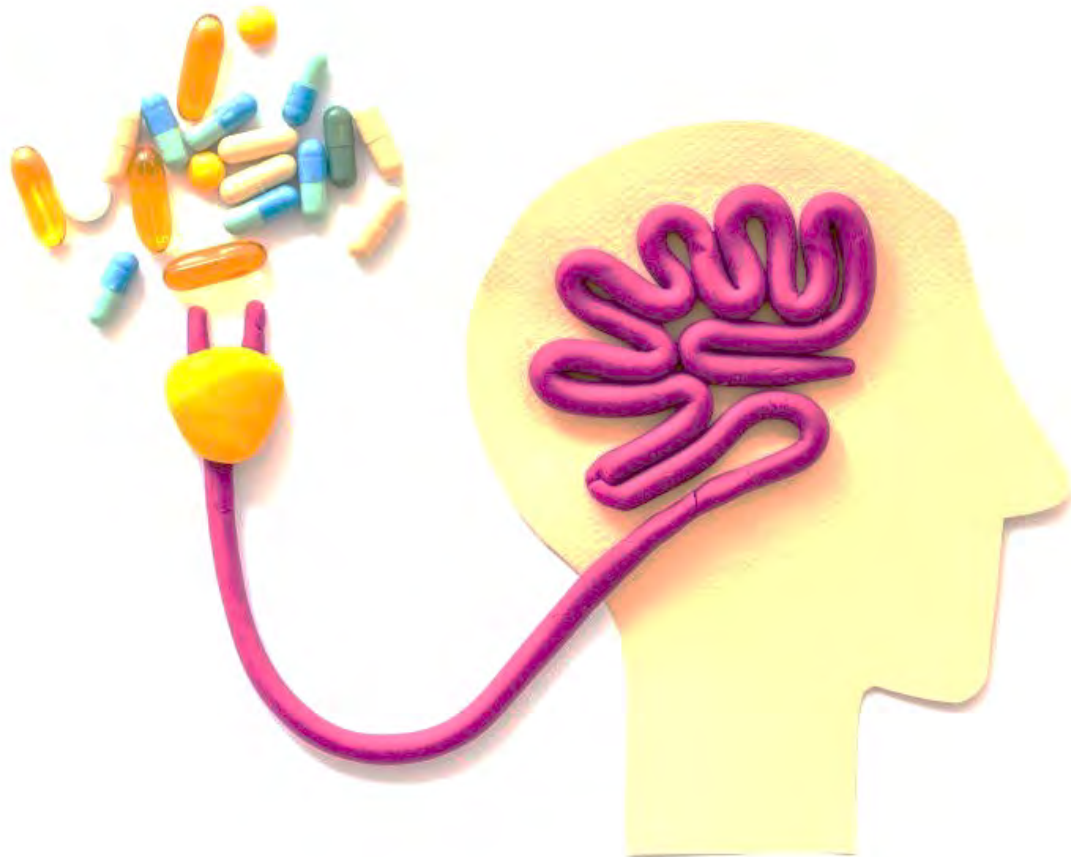
**P.S. We will limit the number of CEOs at the in-person part of our Summit, so please email me personally at [tom@nutritionadvisors.com](mailto:tom@nutritionadvisors.com) and I will be happy to add you to the list of prospective attendees.**

- **Building a Better Brain** - COVID brain fog (aka neuroinflammation) is bringing new consumers into the almost \$1.5b brain health market. This is providing an opportunity for new brands such as Neurohacker and Natural Stacks, while also allowing Neuriva and Prevagen to thrive.
- **CBD Resurgence** – For the past few years, CBD was the boom that went bust, but many experts and lobbyists say that this could be the year the category finally gets some guidance from the government, which would provide the guardrails and a pathway to sell CBD as a dietary supplement.
- **Moving on to Mushrooms** - Mushrooms have blossomed into a significant category and NBJ sizes it north of 500 million going into 2023 with many companies achieving double-digit growth rates.
- **Beauty from Within** – One of the great, uncharted waters. Nutrafol, sold through dermatologists and Med Spas, is a case study worth looking at.
- **Personalized Nutrition** - There are many companies that are adding personalization to their current brands as adjuncts, and our firm estimated over \$6B in capital in that industry.
- **New Consumer Health Access Points** – One disruptive, well-capitalized company we heard about in 2022 is Lifeforce. This is an online retail model that provides easy access to basic and advanced diagnostics.....

# NBA's Top Trends for 2023 & Beyond

1. Cognitive/Brain Health is Becoming a Significant Category with Major Players and Better Science.
2. Despite the Slowdown in Immunity Supplements, Immunity 2.0/3.0 Will Continue To Be An Important Category As Consumers Personalize Their Immunity Protocols
3. Moving onto Mushrooms, Taking over Pandemic-Sparked Mental Health, Cognitive Health, Sleep and Immunity Spaces
4. Sleep Is Still A Large Opportunity Waiting For A Unicorn Solution, & It's Driven by Tech
5. Beauty From Within Is Still Driving Growth With Collagen And Beyond
6. People Increasingly Care About Their Pet's Nutrition, Leading To A Rapidly Grown Pet-supplement Industry
7. Hemp Resurgence Beyond CBD, CBD/Hemp Extracts Will Finally Achieve Some Regulatory Clarity, Making it a Legitimate Category With Real Players and Retail
8. There Will Be A Premier Personalized Nutrition Company When The Equation Between Behavior, Algorithms, and Scientifically Validated Diagnostics is Solved.
9. New Consumer Health Access Points (Aka LifeForce, Trea+) - One-Stop Solutions Based on Diagnostics and Direct-to-Patient Platforms that brings more Functional Integrative Medicine to Mainstream

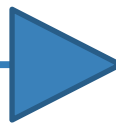
# Brain Health & Cognition



# Cognitive Health Has Long Been A Significant Category



Age-Related Cognitive Decline



Gamers, Millennials, and Gen Z

# Gen Z Reporting of Mental Health in 2022

**42%**

have a diagnosed mental health condition

**1 in 4**

were diagnosed with a mental health condition during the pandemic

**68%**

feel the pandemic has negatively affected their mental health

The most common diagnosis:

1. Anxiety
2. Depression
3. ADHD

**57%**

are currently taking medication for their mental health condition



Gen Z pays \$44 on average every month for medication

Source: Harmony Healthcare IT 2022 Survey: <https://www.harmonyhit.com/>.

# Vitamins and Minerals for Mood & Focus

- Vitamin D
- Magnesium
- Folate
- Vitamin B6
- Vitamin B12



# Other/Specialty Ingredients for Mood & Focus

- Amino Acids: Taurine, Glycine, 5-HTP
- GABA
- DHA/Fatty Acids/Ahi Flower

Alpha Brain

IMPROVES THOUGHT PROCESSING SPEED

BOOSTS MEMORY AND SHARPENS FOCUS

UPLIFTS EMOTIONAL WELL-BEING AND MOOD

BACKED BY UNILEVER

OVER 5000 REVIEWS

SUBSCRIPTIONS AVAILABLE

QUALIA MIND

PROMOTE BRAIN WELL-BEING:

LIFT BRAIN FOG

FUEL FOCUS AND CONCENTRATION

UPGRADE ENERGY

BOOST BRAIN NUTRITION

PROMOTE MENTAL CLARITY

QUALIA MIND

CAFFEINE FREE

DIETARY SUPPLEMENT  
154 CAPSULES

NEUROHACKER  
COLLECTIVE

We designed Qualia Mind to deliver results with no jittery bursts or sudden crashes.  
Just calm, energized focus all day.



# Adaptogenic Ingredients

- Ashwagandha
- Rhodiola
- Ginseng
- Holy Basil
- Astragalus
- Turmeric
- Chaga
- Functional Mushrooms



# Ashwagandha by the Numbers

# 86%

of VMS users have heard of ashwagandha – NBJ 2022 Herbs and Botanicals report page 37



# \$272M

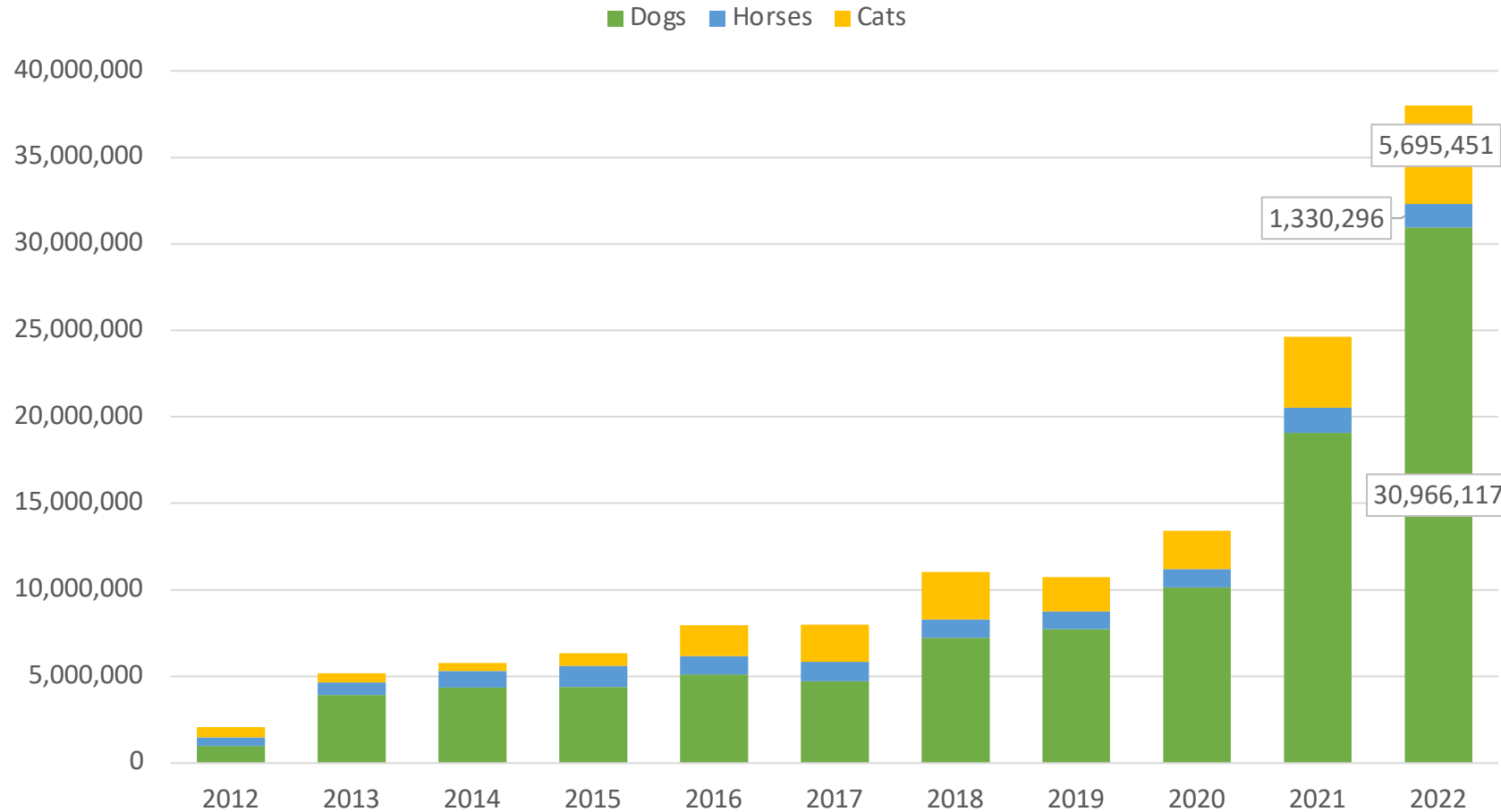
worth of human ashwagandha supplements sold in 2022e – NBJ 2022 Herbs & Botanicals

# 30

 published

DBRPC clinical trials showing positive effects in humans - pubmed

# Ashwagandha Reported “Doses” in Pet Products



Source: NASC NAERS system; Administrations sold is believed to be a close approximation to administrations consumed.

# Scientific Studies on KSM-66 Ashwaganda

## Animal Studies

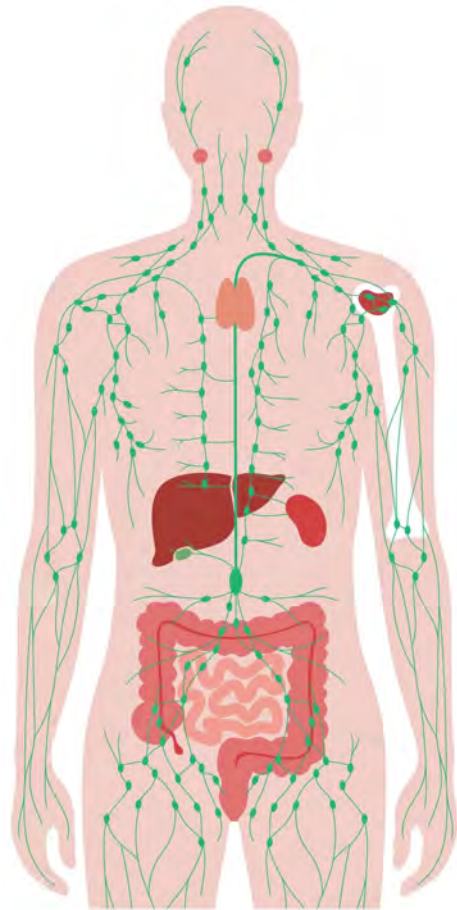
Stress & Immunity (Equines)	Adaptogenic and Immunomodulatory Activity of Ashwagandha Root Extract
Stress & Anxiety (Canines)	Efficacy and safety of standardized Ashwagandha root extract on reducing stress and anxiety in domestic dogs
Stress & Immunity (Felines)	Adaptogenic and immune-modulatory activity of KSM-66 Ashwagandha root extract on Feline stress
Coat & Fur (Felines)	Efficacy and safety of KSM-66 Ashwagandha root extract in improving coat and fur in cats
Joint Health in Canines	Efficacy and safety of KSM-66 Ashwagandha root extract in improving joint health and general wellbeing in dogs
Coat & Fur (Canines)	Efficacy and safety of KSM-66 Ashwagandha root extract in improving coat and fur in dogs

## Human Studies

50

Source: Ixoreal KSM-66

# Immunity 2.0



# Big Bold Health Disrupting Immunity

Rethinking food to rejuvenate immunity

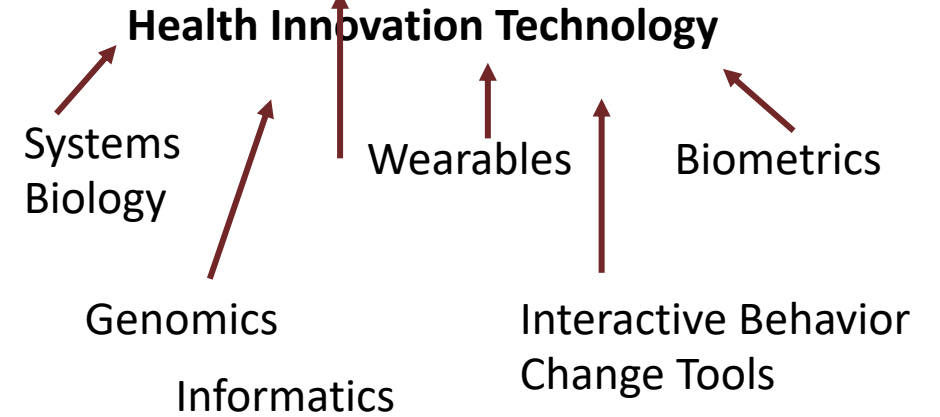
with Dr. Mark Hyman



Planetary Immune Resilience



Healthy People, Plants and Planet



Think of food as information



Here's an example of how food is information ...

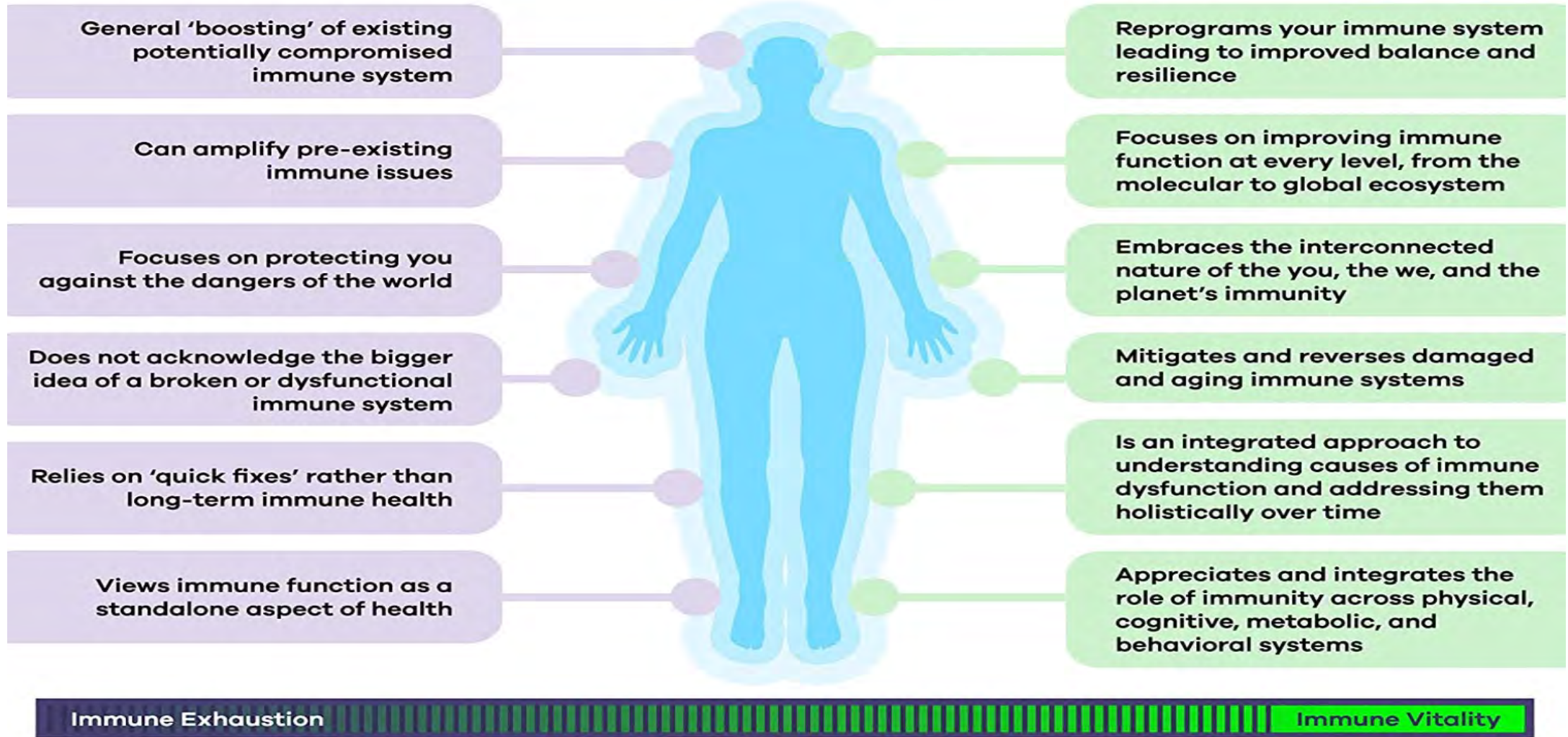
Modern world, ancient immune system



Solutions For Immuno-Rejuvenation




# Immune Support vs Immuno-Rejuvenation™



# Immuno-Identity Questionnaire

Figure 1. Immuno-Identity™ Questionnaire

 **Immuno-Identity™ Questionnaire**

Name \_\_\_\_\_ Date \_\_\_\_\_ **#1**

1. I suffer from symptoms related to autoimmune diseases (these are conditions where the immune system attacks the body).  
Not At all  A Little Bit  Somewhat  Quite A Bit  Very Much

2. I am concerned that I could have autoimmune issues.  
Not At all  A Little Bit  Somewhat  Quite A Bit  Very Much

3. I have issues with itchy, watery eyes.  
Not At all  A Little Bit  Somewhat  Quite A Bit  Very Much

4. I have issues with itchy or otherwise irritated skin.  
Not At all  A Little Bit  Somewhat  Quite A Bit  Very Much

5. I have issues with sneezing, congestion or a runny nose.  
Not At all  A Little Bit  Somewhat  Quite A Bit  Very Much

6. I have issues with low mood.  
Not At all  A Little Bit  Somewhat  Quite A Bit  Very Much

7. I am concerned that I feel or look older than other people my age.  
Not At all  A Little Bit  Somewhat  Quite A Bit  Very Much

8. I feel that I am under chronic stress.  
Never  Rarely  Sometimes  Often  Always

9. I have GI issues like pain, bloating, cramps, diarrhea or constipation.  
Never  Rarely  Sometimes  Often  Always

10. Do you or your healthcare provider have concerns about your blood pressure?  
Not At all  A Little Bit  Somewhat  Quite A Bit  Very Much

11. Do you or your healthcare provider have concerns about your blood sugar?  
Not At all  A Little Bit  Somewhat  Quite A Bit  Very Much

12. Do you or your healthcare provider have concerns that you are overweight?  
Not At all  A Little Bit  Somewhat  Quite A Bit  Very Much

13. Do you or your healthcare provider have concerns about your thinking or memory?  
Not At all  A Little Bit  Somewhat  Quite A Bit  Very Much

14. Are you or your healthcare provider concerned that you get frequent or prolonged infections?  
Not At all  A Little Bit  Somewhat  Quite A Bit  Very Much



# Five Immuno-Identities

- **Confused**
  - Autoimmune Focused
- **Sensitive**
  - Allergic Profile
  - Gut Immune Focused
- **Angry**
  - Inflammaging
  - Immunosenescence
- **Withdrawn**
  - Infection prone
  - Low Vitality
- **Balanced**

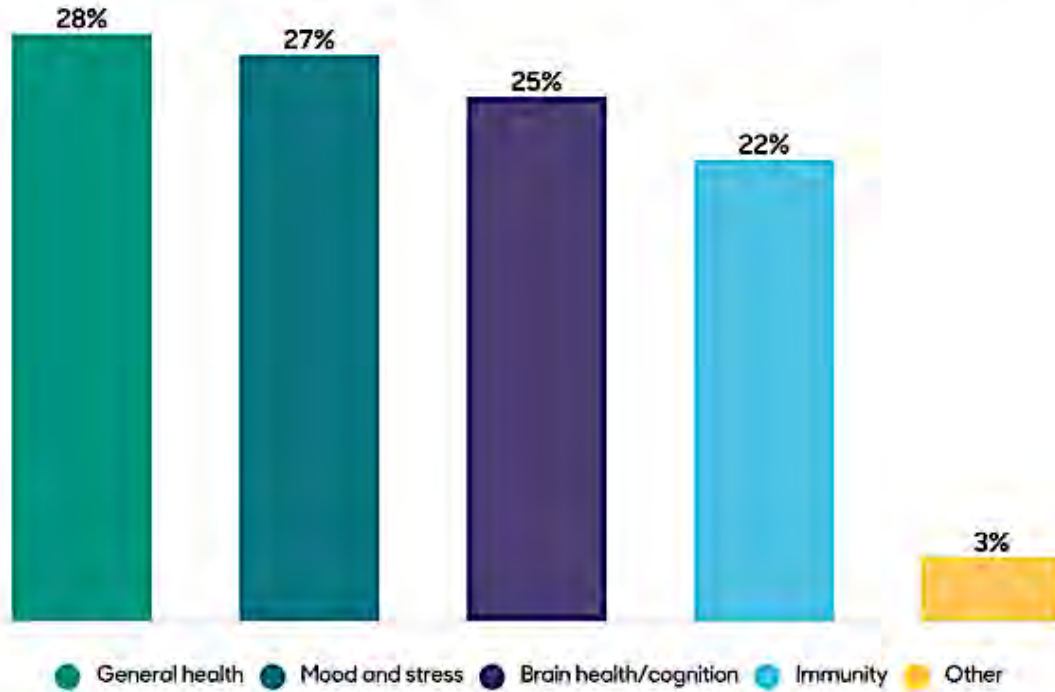
# Moving On to Mushrooms



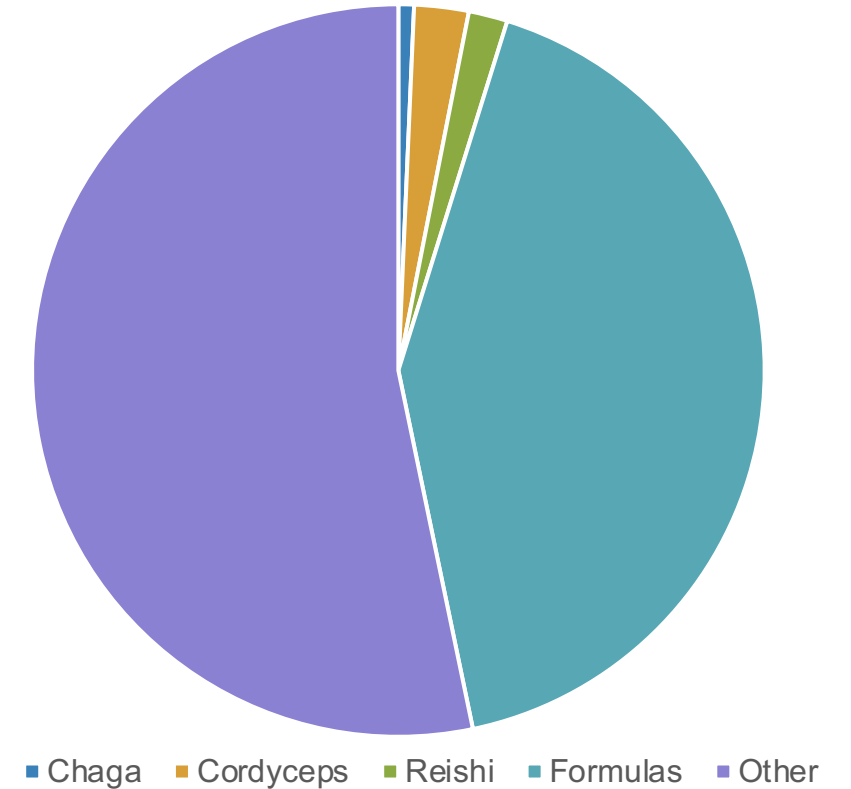


# NBJ Consumer and Sales Data on Mushrooms

Survey Question: For Which concerns do or have you taken mushrooms supplements?



Mushroom Sales by Type of Mushroom 2023e

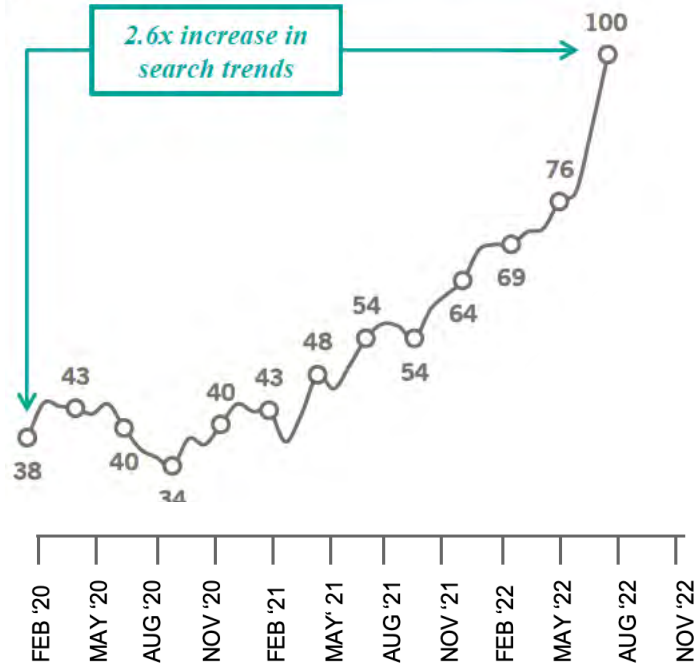


# Mushrooms Positioned to Capitalize on Increasing Awareness...

Consumer awareness for functional mushrooms has increased 2.6x in the last three years due to positive media

## MUSHROOM SUPPLEMENTS GOOGLE SEARCH TRENDS

(Indexed to 100)



## The Guardian

What's eating America?

**Mushroom magic: why the latest health fad might be on to something**

Fungi are increasingly touted as a cure-all by health and wellness gurus. We took a look at the claims of immune support, stamina and longevity.

## Forbes

**A First-Timer's Guide To Healing With Functional Mushrooms**



## Rolling Stone

HEALTHY FUNGUS

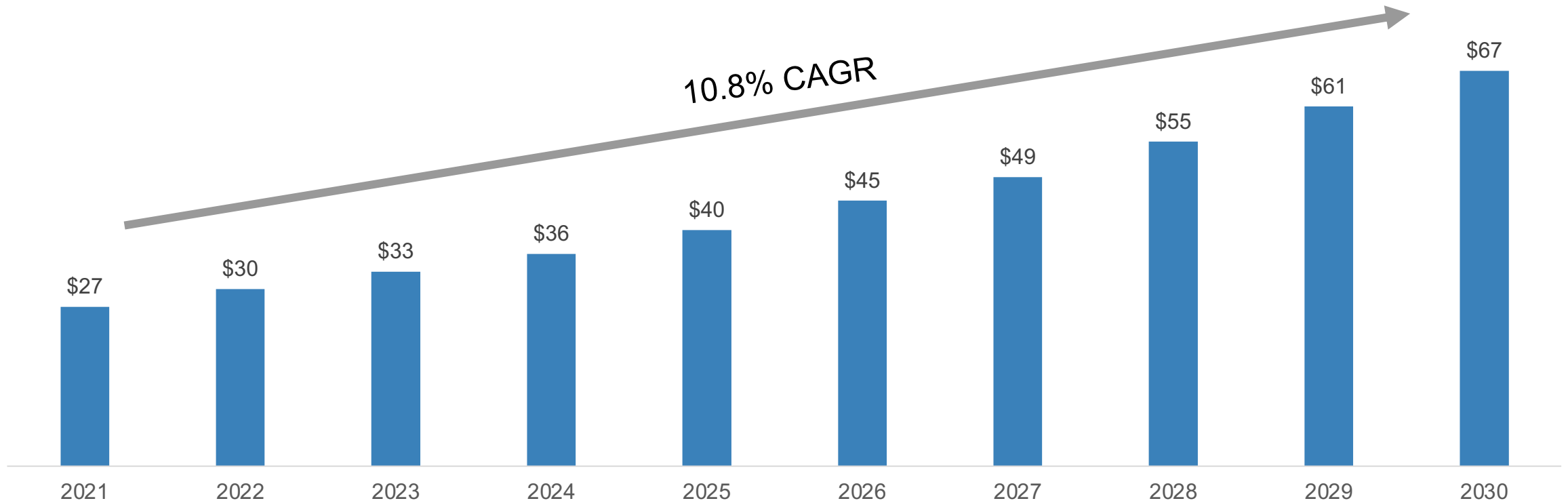
**'The Last of Us' Fungus Won't Make You a Zombie. Here's How the Mushrooms Might Actually Make You Healthier**

Cordyceps turns people into zombies in 'The Last of Us,' but, outside the show, the fungus might offer physical and mental energy — try it for yourself with these cordyceps-infused products.

BY OSCAR WAREZOU

# ... And Growing Demand

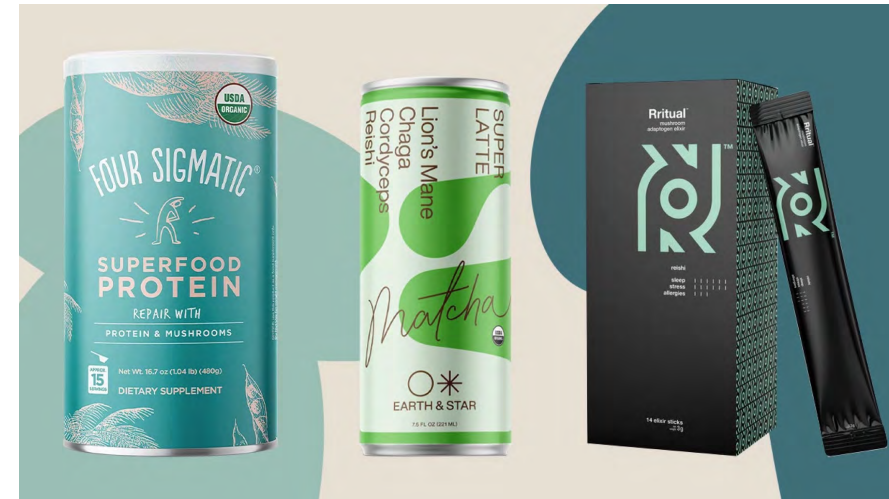
PROJECTED FUNCTIONAL MUSHROOM GLOBAL MARKET SIZE AND GROWTH (\$B)



Source: Grandview Research

# Mushrooms Go Beyond Supplements

- Moksha Mushrooms
- MUD\WTR™
- Four Sigmatic
- Earth & Star
- Ritual Superfoods
- Balanced Tiger
- RYZE



# Sempera Organics Estimates Their Mushrooms Play in Over \$75B Worth of Nutrition Categories



# Sleep



Andrew D. Huberman, Ph.D. 

@hubermanlab



Best nootropic: sleep

Best stress relief: sleep

Best trauma release: sleep

Best immune booster: sleep

Best hormone augmentation: sleep

Best emotional stabilizer: sleep

Sleep Tools: Ep. 2 Huberman Lab Podcast, HLP  
interview w/Matt Walker





# Sleep Tech Helps Consumers Understand Sleep



**Whoop 4.0** vibrates and wakes you up once you've reached your desired % recovery

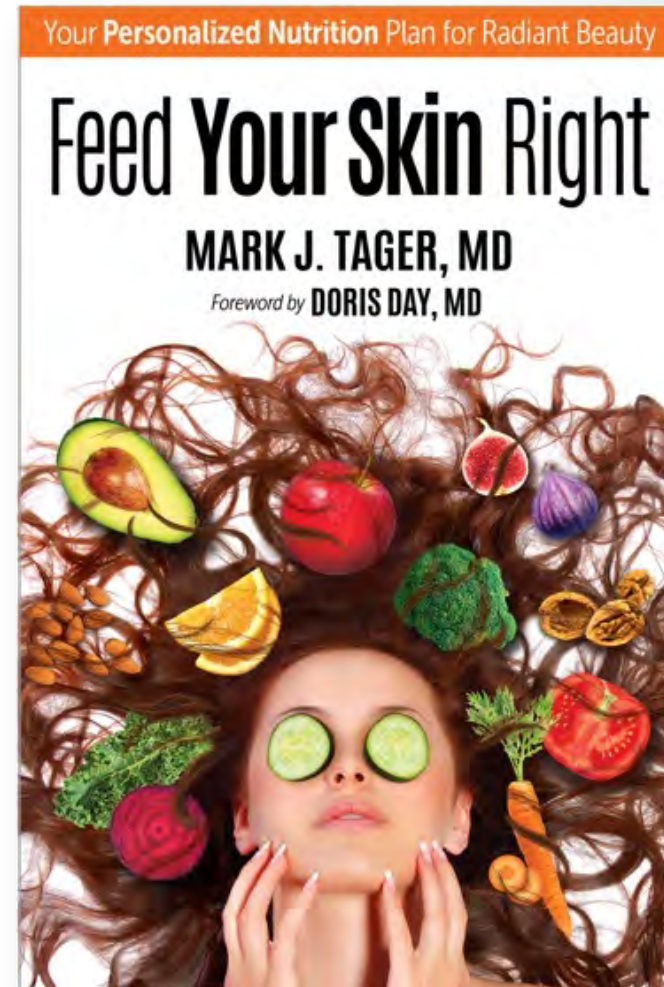


New **Oura Ring** has updated their sleep algorithm to be the most accurate wellness device and app on the market



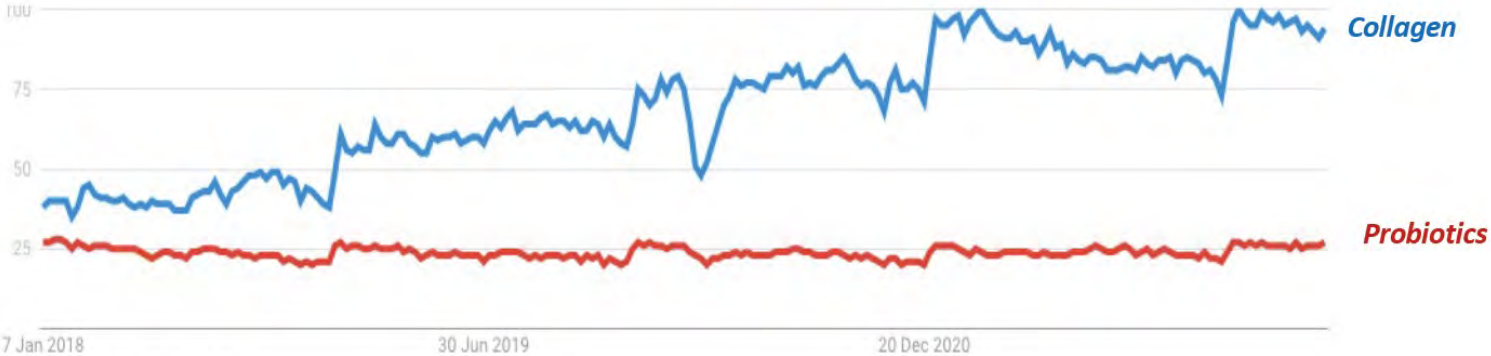
**AYO** white light and blue-blocking glasses re-synchronize the circadian rhythm

# Beauty From Within



# Social media attention to collagen is high and increasing

Google searches for **collagen** outstrip probiotics, 2018 to May 22



Source: Google Trends

The image shows a social media post from the account 'hunterandgatheruk' (London, United Kingdom). The post features a black advertisement with red and white text. The main headline reads 'DO YOU WANT TO IMPROVE THESE THINGS?'. Below this, a list of benefits is provided: 'Gut Health | Thicker Hair | Stronger Nails | More Youthful Appearance | Reduced Lines & Wrinkles | Improved Recovery Post Exercise'. The advertisement also includes images of a fish and a cow, and the 'HUNTER & GATHER' logo. The post has 130 likes and was posted on 25 September 2021.

# Nutrafol Case Study

Hair health concerns affect more than 114M U.S. consumers throughout all stages of life—prior to Nutrafol, there were limited effective solutions to address these needs



# Nutrafol Case Study

Digitally-Led, Multi-Channel Strategy

NUTRAFOL

With a core focus on digital, Nutrafol uses three synergistic channels to accelerate customer acquisition and reinforce credibility

Nutrafol.com



## The full Nutrafol experience

Most comprehensive product offering, including personalized plans and naturopathic consultations

Amazon



## Awareness and audience diversification

Offering focused on core supplements as starting point for consumer journey

Professional



## Thought leadership and credibility

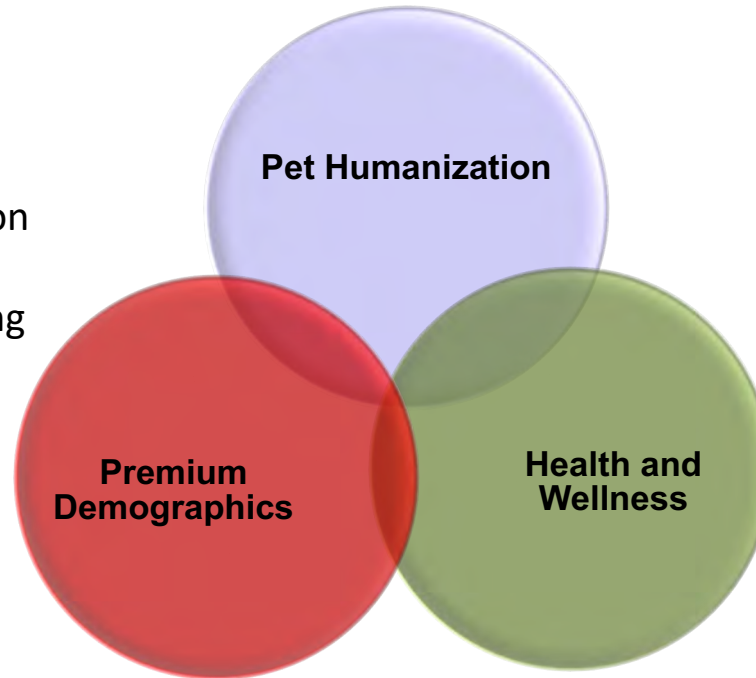
Exclusive product offering and pricing for physicians with a selection of targeted solutions

# Pet Supplements



# Trends Driving the Pet Industry

- Growing Human/Animal bond
- Pets as full-fledged members of the family
- Adults would cut back on their spending prior to cutting back on spending on their pets



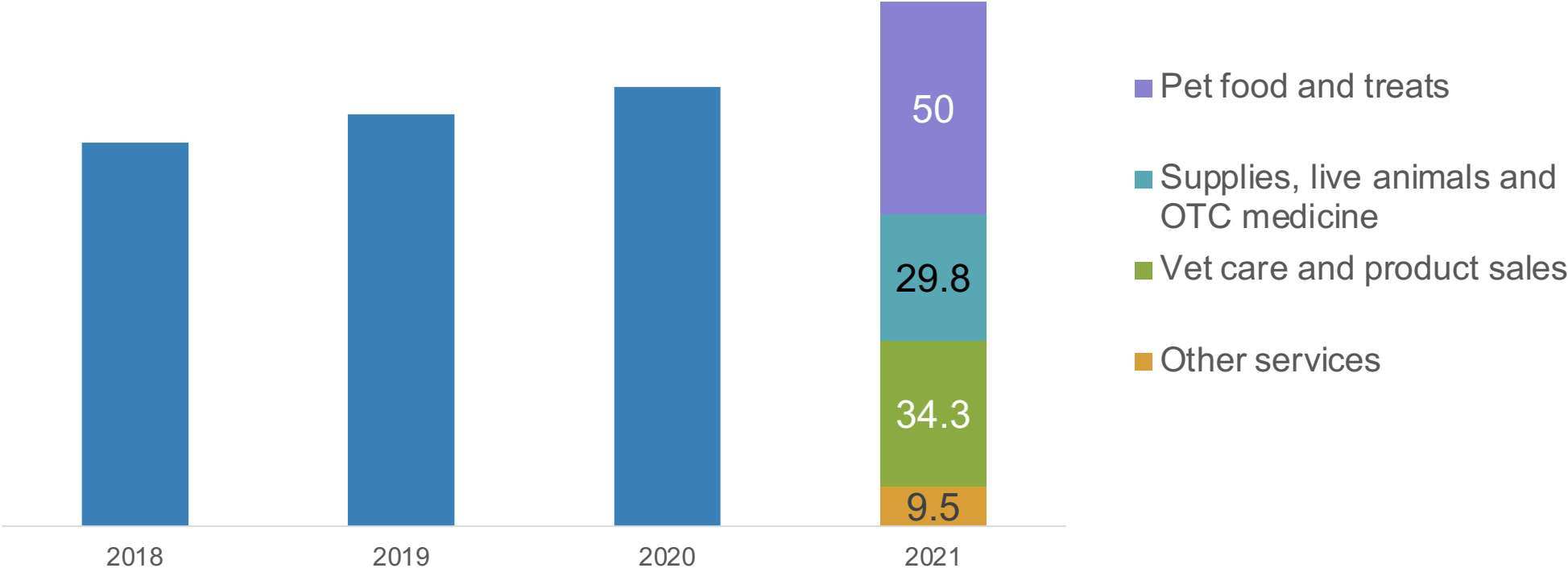
- Better position to weather economic downturns
- **Generally better educated and willing to study health benefits of products**
- Higher income families driving 55% of industry sales (up from 30% in 1997)

- **Clear focus on preventative health and enhanced well-being and longevity**
- **Natural/Organic/Holistic products**
- **Functional products targeting specific health needs**
- **Pet supplements and nutraceutical treats**
- Pet medications
- Pet services



# Total U.S. Pet industry Expenditure

U.S. pet expenditure in \$ Billions

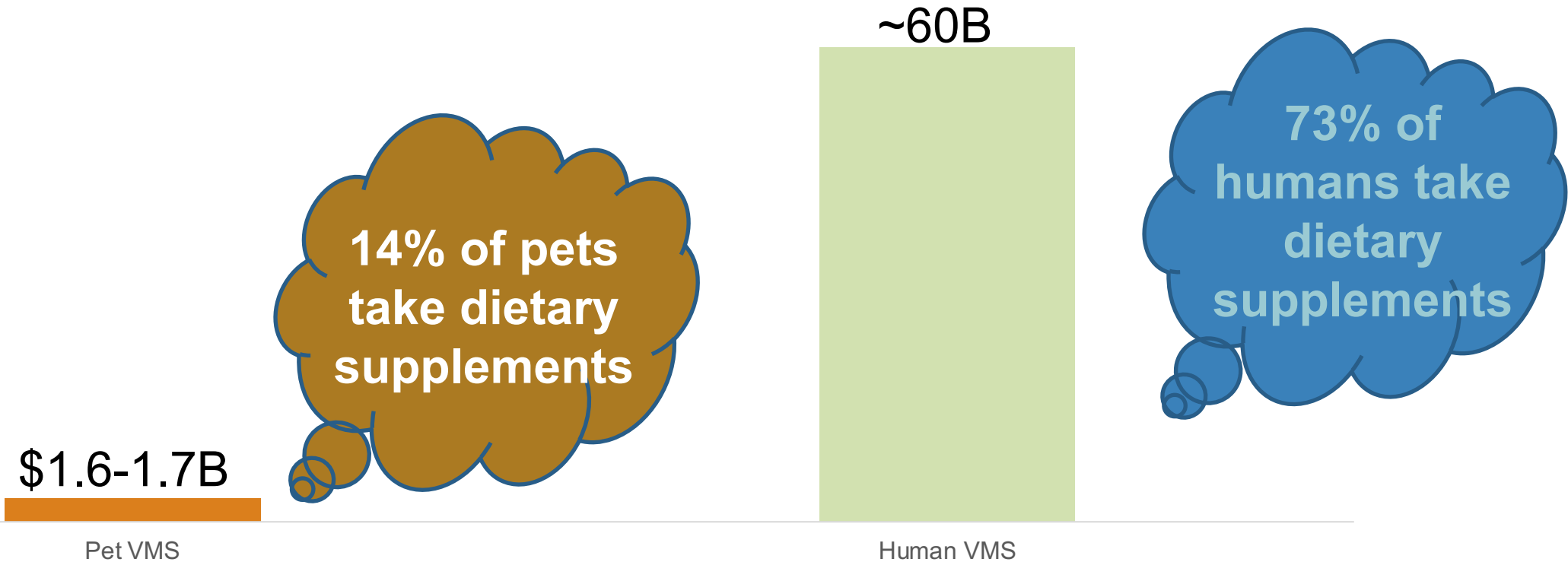


Source: American Pet Products Association 2022



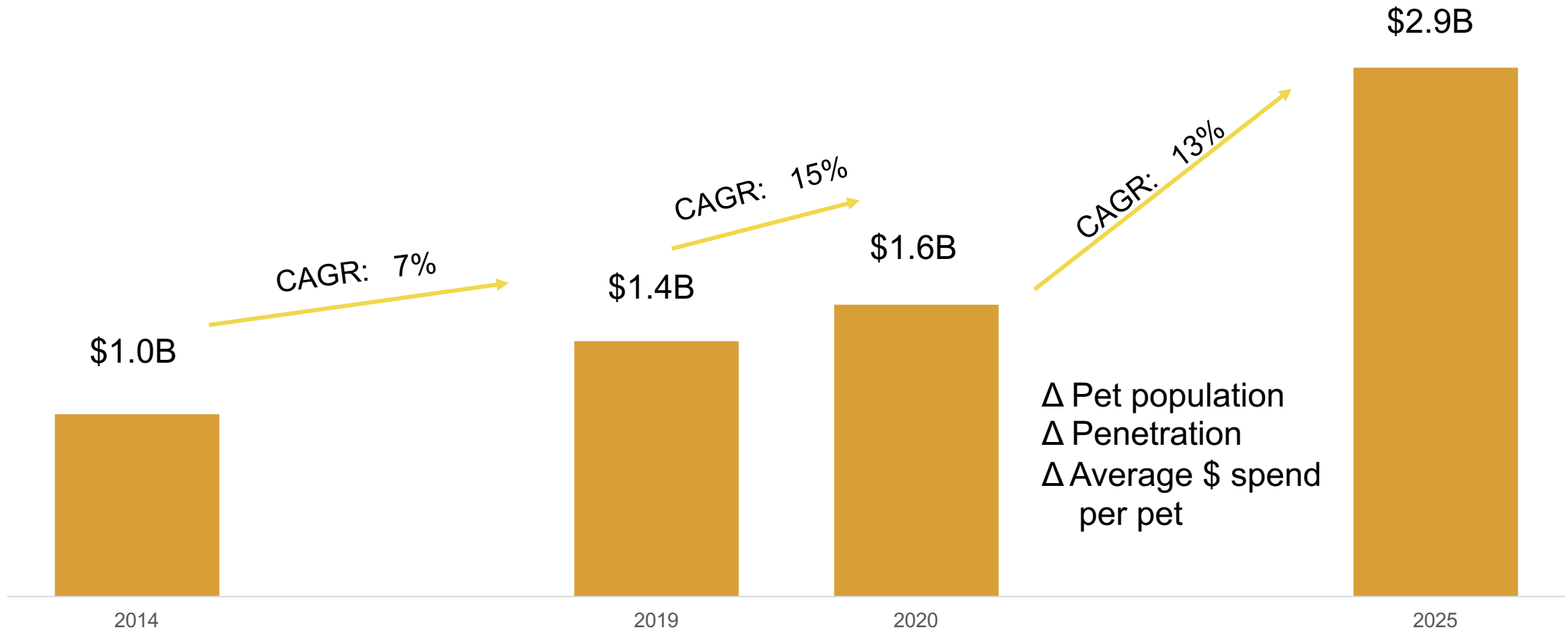
# Pet Supplement Market Opportunity

U.S. Pet and Human VMS Market Sizes, 2021



Source: L.E.K. & Nutrition Business Journal

# Pet Supplement Market



Source: L.E.K. Market Study (May 2021)

# Potential Hemp Resurgence

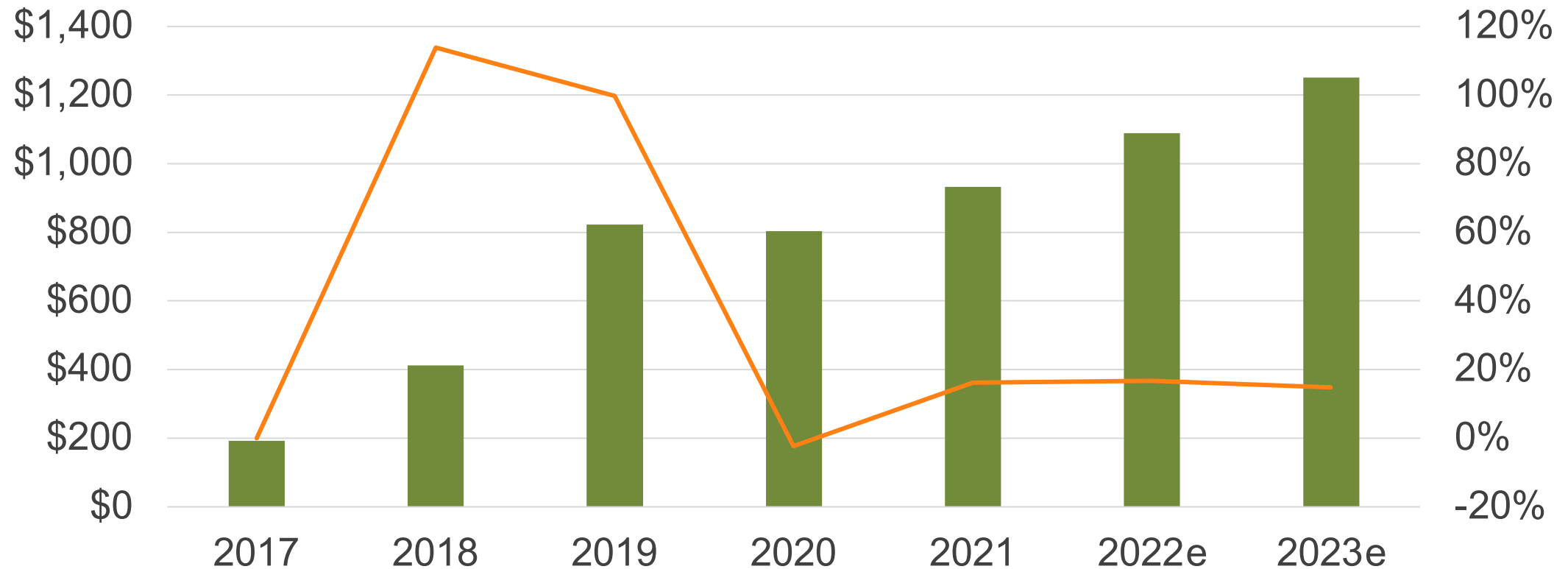




# U.S. Hemp/CBX Product Market

HEMP-BASED PRODUCT SALES (\$M) AND GROWTH 2020-2025e

Product categories include in sales Supplements, Topicals, Food/Beverage, and Pet Products. Channels include Mass Market, Natural & Specialty, and Direct to Consumer



Source: Nutrition Business Journal 2021 Hemp Report (\$mil, consumer sales)

# New Hemp Insights for 2023

- **Good news: The hemp/CBX market is not going away. Someone is going to figure out how to “win” (deliver the benefits that CBD once promised while also being legal).**
- **Things will get interesting once we finally have some clarity from the FDA, which I think is going to come in the 2023 Farm Bill. In order to set a path for CBD-containing dietary supplements, they would have to somehow denounce the prescription drug preclusion.**
- **British American Tobacco’s investment in Charlotte’s Web and Open Book Extracts (80M combined) could mean that they are expecting government to rectify the situation soon.**
- **Hemp phytocannabinoids beyond CBD have their own lane. Minor cannabinoids are currently a tiny piece of a small pie, but promising anecdotal evidence and consumer interest indicate unrealized market potential.**
- **Mass Market brands will remain the most conservative towards hemp unless clearly approved by FDA for use in supplements, while there may be greater opportunity in pharmacy/practitioner, dispensary, or online channels.**

# CBD Market Insights from Experts

“Over the next couple of years, anxiety and sleep are the benefits that will index the best, according to data coming out of the pandemic. Pain and inflammation is sort of how CBD got into the marketplace, and is an extremely hot topic for the FDA.”

**-Leading Supplement Brand in Practitioner Channel**

“The endogenous endocannabinoid system varies from person to person, causing everybody to reach differently to cannabinoids. There are thousands of different pathways, so no clinical trials on a specific cannabinoid has been done with success to prove condition-specific benefits.”

**-Leading Supplement Brand in Practitioner Channel**

“For a lot of people, CBD helps with arthritis pain and also anxiety. When you move into only taking minor cannabinoids, it will most likely be an issue of efficacy. Even if studies show that it mechanistically works for certain conditions, consumers will only keep buying it if they can feel it working. CBD+CBN combos are best-sellers because it causes noticeable drowsiness and sedation.”

**-Leading US Hemp/Cannabinoid Extracts Supplier**

# Personalized Nutrition



nj 2013

#### Supplements Can Win in a World of Personalized Medicine

What will it take for companies to succeed over the next five to ten years?  
by Thomas Aarts

Each year, I write about the trends I believe will have the greatest impact on the future of the nutrition and supplement industry. This year, as I look at the issue of healthcare in general, there is a trend that I believe has the power to change the game as we know it completely: Personalized Lifestyle Medicine.

This emerging field builds on the trends of personalized medicine and lifestyle medicine, and is defined by the **Personalized Lifestyle Medicine Institute (PLMI)** as "an approach to medicine in which an individual's health metrics from point-of-care diagnostics are used to develop lifestyle medicine-oriented therapeutic strategies for improving individual health outcomes in managing chronic disease."

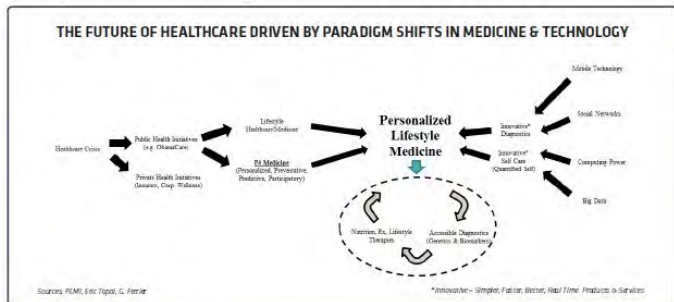
PLMI's founder, Dr. Jeffrey Bland, describes the "secret sauce" of personalized medicine as a combination of genomics, biomarkers and lifestyle-based therapeutics [NBJ October 2012 *On the Hunt for Personalized Medicine*]. The NBJ article breaks this down, saying that "genomics decodes out hardware, phenomics assess the software

through a dizzying array of more affordable biomarkers and deeper diagnostics, and lifestyle medicine provides a smarter therapeutic approach to prevention before the disease even sets in."

Today you can see evidence of the personalized lifestyle trend everywhere, with technology making access to personal health metrics both more convenient and affordable. One of the best examples of this is the human genome test, which cost over \$300,000 in 2010. Today for under \$12,000 you can have access to your complete human genome, and for around \$99 (from **23andMe**) you can get a select snippet of key genes through 23 pairs of chromosomes or other biomarkers through a saliva test ordered on the internet. In addition, smart phone apps and devices like the **Jawbone UP** wristbands are making it possible to track personal metrics on everything from diet and exercise to your biorhythms during sleep. Before you know it, you'll be able to lick your smart phone and have it tell you your personal genome and other key biomarkers.

Purveyors of personal genomics insist that genomic medicine will—indeed, *must*—become an integral part of modern health care. "I think it is very likely that, within [a few] years, pretty much every college-educated person in the United States is going to have a profile similar to the one provided by **deCODEme** or **23andMe** or **Navigenics**," said Kári Stefánsson, CEO of **deCODE Genetics**.

Dietrich Stephan of **Navigenics** believes personal genomics will become part and parcel of twenty-first-century medicine—a complete personal-genome sequence, a mini Human Genome Project for every person, quite possibly performed at birth. "Ultimately, every baby that's born will and should have their genome sequenced," Stephan said. Doctors will routinely "sequence the genome, put it in a big computer, push a button, and get a rank-ordered list of things you are at risk for. It will supplant newborn screening and all molecular diagnostics."



INTEGRATIVE MEDICINE SUPPLEMENTS FUNCTIONAL

1. We're headed from the age of the average to the age of the individual.
2. The companies that can provide simple and user friendly diagnostics to measure an individual's biomarkers, and then deliver a nutraceutical product that can positively impact these metrics, will have the advantage in the age of personalized lifestyle medicine.
3. The \$100 million supplement company of tomorrow may not even be a supplement company, but rather a diagnostics company that creates or effectively partners with a product line.
4. The diagnostics arm of personalized medicine also provides an important opportunity for our industry to prove to doctors and consumers, as well as our critics that our products really do work.

Source: Thomas Aarts Editorial; Nutrition Business Journal - 2013



## NBJ Editorial 2019 Adventures in Personalized Nutrition



1. We have made great strides in simpler diagnostics and delivery, but Personalized Nutrition is not yet at it's full potential
2. One of the main challenges that I had was interpreting the results of the more extensive microbiome tests – the “What” the “So What” and the “Now What”
3. Personalized Nutrition can be brought to the mass market consumer when they are ready for it. Right now, we have to meet the consumer at a very basic level and make things as easy as possible for them.
4. I have taken more than 20+ personalized nutrition tests in the last 3 years, and have changed some of the behavior linked to my health outcomes.

# Global Context on the “Size of the Prize” for Personalized Nutrition

## RESEARCH AND MARKETS



\$8.2B in 2021



16%  
CAGR

16.7B in 2026

- Dietary Supplements & Nutraceuticals
- Functional Foods & Beverages
- Sports Nutrigenomics
- Digitized DNA

## CRITERIA

“The companies are **collecting** health information or nutritional status through tests or devices. They interpret the collected data and **offer recommendations** for ingredients according to consumer’s diet requirement”

# A Continuum of Personalized Supplements

Minimal Personalization  
**“Simplify Your Life”**

Maximize Personalization  
**“Optimize Your Body”**



care/of NURISH  
*by Nature Made*  
persona

Questionnaire >  
Pill Packs

VOUS  
VITAMIN

Questionnaire >  
Blended Tablet

Baze  
Blood > Pill Packs

vessel  
Urine > Blended Capsules

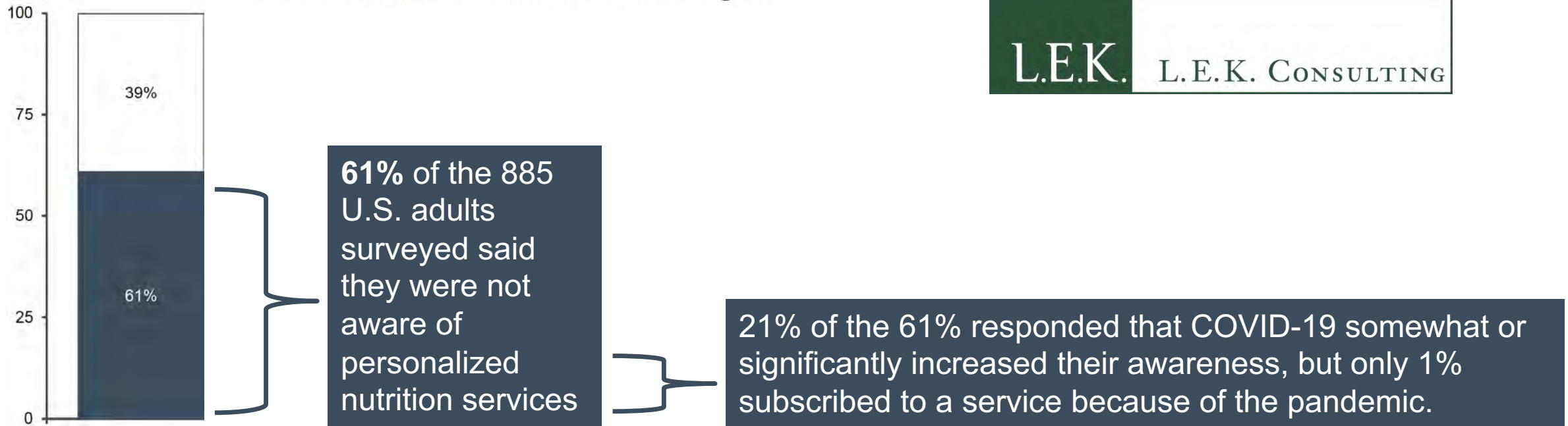
Floré  
*by sun genomics*  
Microbiome >  
Custom Blended Probiotics

ROOTINE  
Blood & Genetics >  
Precision Supplements and Biofeedback

# COVID-19's Impact on Personalized Nutrition Awareness

## L.E.K. Health & Wellness survey

Personalized Nutrition Findings June 2021



### Survey Questions:

Were you aware of personalized nutrition services prior to the COVID-19 outbreak (Mar 2020)?

To what extent did you learn about or become more aware of personalized nutrition services due to COVID-19?

# Long-Haul COVID is Personalized and Real

~~BAFORE~~ 😊

- Long-haul COVID is lurking persistently in the body of hundreds of millions of previously infected people (1 in 5 adults!)  
SOURCE: CBD NEWS
- It will affect the healthcare industry and is also an opportunity for our industry
- This is a test for markers of long-haul COVID called **Innovative BioAnalysis** (thank you, Dr. Eric Gordon and Dr. Doug Estrada)

<b>Patient:</b> AARTS, THOMAS		<b>Date:</b> 7/12/22
<b>Long Hauler Panel</b>		
IL-10*	1.1 pg/mL	NORMAL
CCL5 (rantes)*	11503 pg/mL	NORMAL
sCD40L	47669 pg/mL	HIGH
<b>Long Hauler Index =</b>	<b>0.34</b>	<b>NORMAL</b>

>.71 👍

# Possible Opportunities For Long-Haul COVID

> [Nutrients](#). 2021 Mar 31;13(4):1154. doi: 10.3390/nu13041154.

## Feasibility of Vitamin C in the Treatment of Post Viral Fatigue with Focus on Long COVID, Based on a Systematic Review of IV Vitamin C on Fatigue

Claudia Vollbracht <sup>1 2</sup>, Karin Kraft <sup>2</sup>

## The Role of Serrapeptase For The Management of COVID-19

Written by [Laura Murphy BSc \(Hons\), MSc, Dip NT](#) on 2nd November 2021

The enzyme serrapeptase (also known as serratiopeptidase) was first isolated from the microorganism *Serratia E15*, commonly found in the intestines of the silkworm. Scientists found that the enzymes secreted by the bacteria dissolve avital, or 'non-living' tissue, without negatively affecting the silkworm's healthy living cells. This special proteolytic enzyme is used by the silkworm to dissolve its protective cocoon (avital tissue), an essential step before it can emerge and take flight. The serrapeptase enzyme seems to be unique in its ability to selectively dissolve only the 'non-living' tissues, such as the silk cocoon, so the moth can safely

NIH U.S. National Library of Medicine

[ClinicalTrials.gov](#)

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[Home](#) > [Search Results](#) > Study Record Detail

[Save this study](#)

### Clinical Trial of Niagen to Examine Recovery in People With Persistent Cognitive and Physical Symptoms After COVID-19 Illness (Long-COVID)

## Nattokinase – Update for ME/CFS and Long COVID

This post was kick-started by a post to a study on a Spanish ME/CFS site shown below

- [Natto extract, a Japanese fermented soybean food, directly inhibits viral infections including SARS-CoV-2 in vitro](#), Saito A, Okabayashi T, Yokota T, Yasuoka J, Sato Y, Nishifuji K, Wake H, Nibu Y, Mizutani T. *Biochem Biophys Res Commun*. 2021 Jul 13. doi: 10.1016/j.bbrc.2021.07.034. Epub 2021 Jul 13.

## Low Dose Naltrexone and Ketamine for COVID Treatment - A Clinical Trial

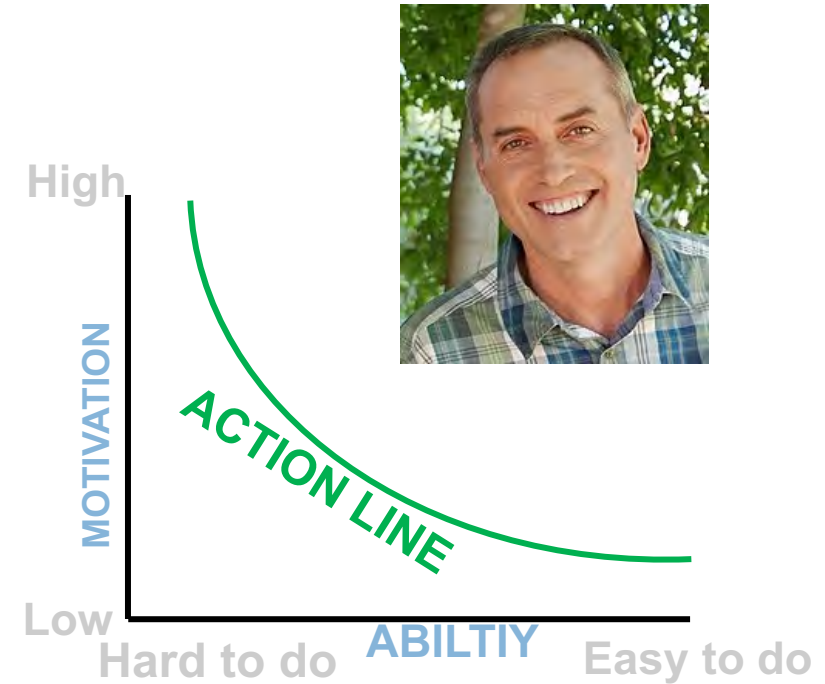
Ideal new treatments for novel Coronavirus-19 (COVID-19) would help halt the progression of disease in patients prior to the need for a ventilator, and also provide a rescue treatment for patients with severe disease. Treatments are needed that are affordable and available in quantities sufficient to treat large numbers of infected people



# We Are Still Solving For The Ultimate Solution

The winners will figure out how to connect with consumers in an authentic way to change their behaviors through motivation and “ease of ability” (see BJ Fogg theory)

Solutions need to be “easy to do”, cost-effective, and measurable in order for consumers to see the value!



Source: BJ Fogg, Ph.D., Leading Behavior Scientist at Stanford University

# New Consumer Health Access Points

**restore**  
HYPER WELLNESS

// FORWARD

TREA+

thrivelab

**LIFEFORCE**

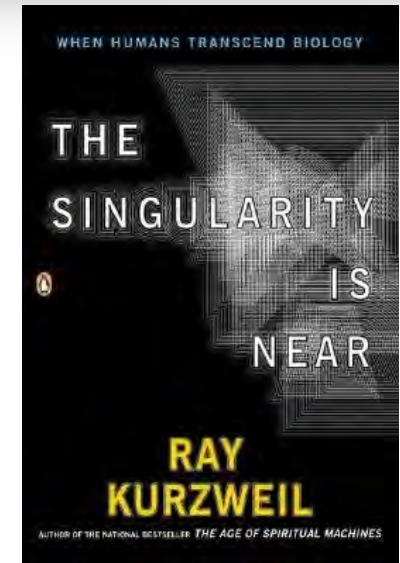
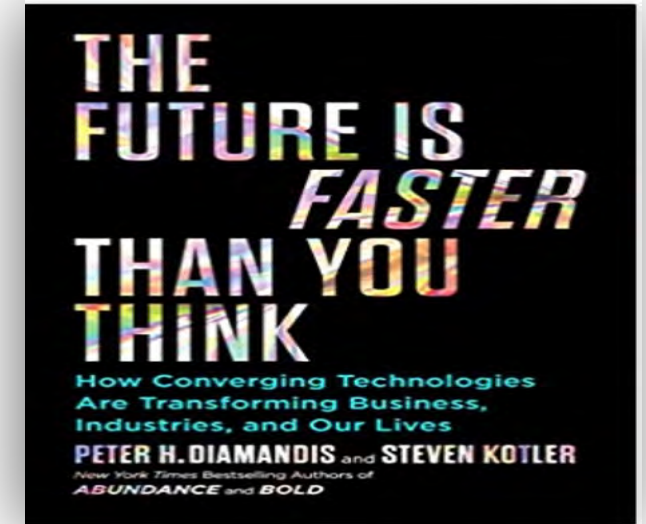


# The Future is Faster Than You Think

- Uber & Airbnb & Netflix
- Zoom and 100-person video conferences
- Epigenetic re-programming (e.g. CRISPR)
- Electric cars
- **Longevity and Healthspan**

“It's likely [that we're] just another ten to twelve years away from the point that the general public will hit longevity escape velocity.”

- Ray Kurzweil, 2021



Source: Peter Diamandis, PHD Ventures Inc.

# LIFEFORCE: Health Optimization

[www.mylifeforce.com](http://www.mylifeforce.com)

1. Quarterly @home blood draw
2. Advanced nutraceuticals
3. Hormones and peptides
4. Functional Medicine Doctors
5. Performance Coaches

Peak Series of Formulations by:  
***Dr. Hector Lopez***



**HORMONE OPTIMIZATION**  
**Anastrozole**

Anastrozole is an aromatase inhibitor, meaning it blocks the conversion of testosterone into estradiol...



**HORMONE OPTIMIZATION**  
**Testosterone Injection**

Testosterone Cypionate is a bio-identical exogenous (i.e. external) form of testosterone usually...

# A New (Disruptive) Path Towards Clinical Trials and Claim Substantiation – Radicle Science



Radicle's crowdsourced, virtual, D2C clinical trial approach generates health outcome data across diverse conditions and populations



## **OBJECTIVE**

Enable strong claims and smart business decisions



## **EASY**

Simply pick a product and a condition



## **AFFORDABLE**

5x cheaper than traditional trials



## **RAPID**

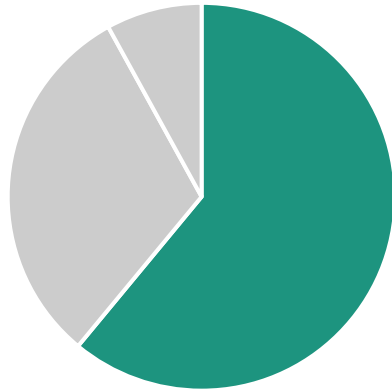
Results in under 180 days from study launch

<https://radiclescience.com/>

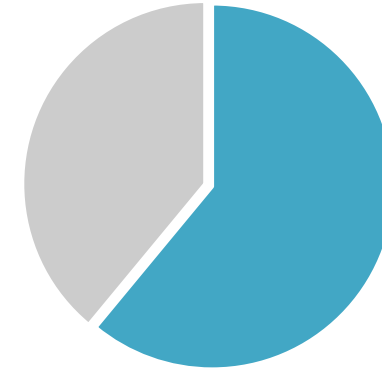
# **V. Conclusions and Discussion**



# Considering The Impact Of Inflation On The Resiliency Of The Supplement Industry

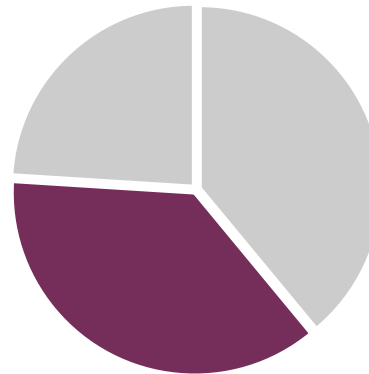


**61%** of consumers report feeling pressure or stress due to inflation and the rising cost of goods



**61%** of consumers report changing their grocery shopping behavior due to inflation

**37%** of consumers report they are worse off financially than one year ago

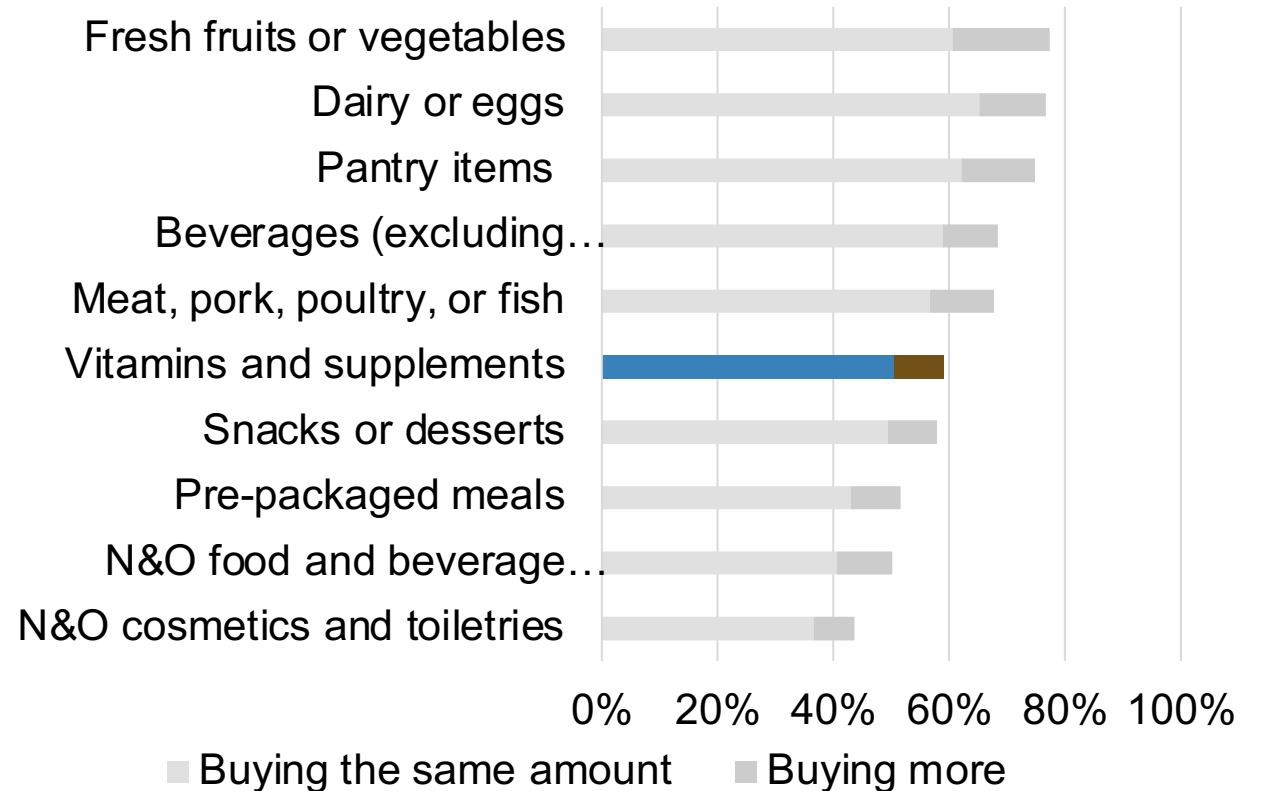
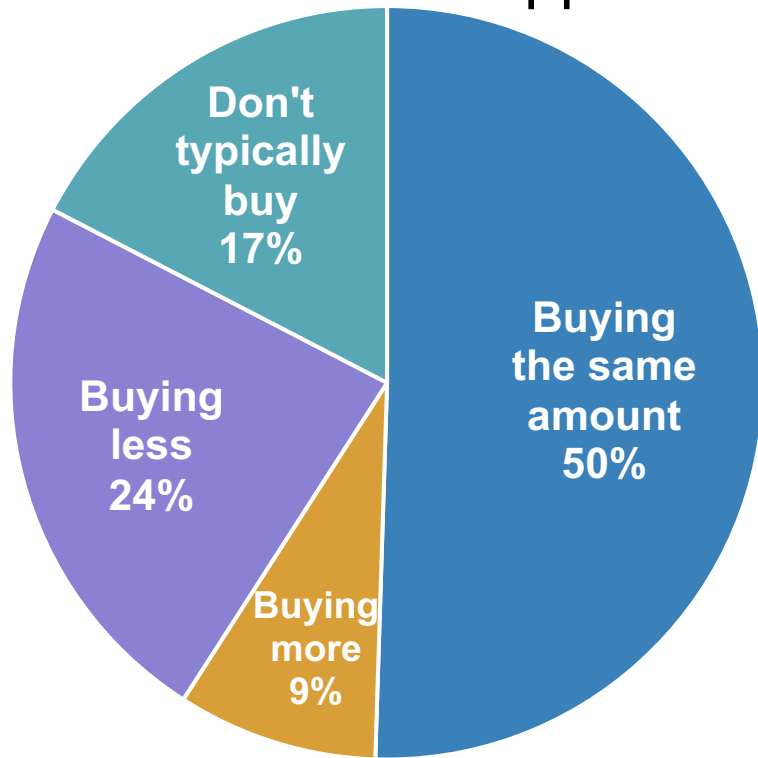


Source: Nutrition Business Journal Consumer Survey, powered by the Suzy survey platform.  
N= 1035 collected week of July 18, 2022.



# And Yet, This Doesn't Necessarily Appear To Be Bad News For The Supplement Market

Changes in shopping behavior of vitamins and supplements



Source: Nutrition Business Journal Consumer Survey, powered by the Suzy survey platform. N= 1035 collected week of July 18, 2022.

# The Supplement Market in Today's Challenging Economy

There are both **driving** and **opposing** forces impacting the dietary supplement industry.

## *Driving*



- Dedicated consumers who are consistent with purchases.
- COVID-19 cases continue with new variants, so immune health will stay relevant to consumers.
- Macro demographic trends (e.g. Gen Z and Baby Boomers increased interest in health as they age)

## *Opposing*



- In a recession, some consumers will trade down, buy less bottles and buy cheaper supplements.
- Global supply chain issues showing no signs of letting up.
- Increase of cost of raw material is expected (Increase in energy, transportation and operational cost).
- When it comes to digital media, advertisers are seeing very low ROI. Customer acquisition costs are at an all-time high because of the US election/Medicare are buying up media.

# My Professional Moonshot

*To utilize my influence and connection superpowers in the nutrition industry to radically revolutionize the healthcare system and significantly mitigate cognitive diseases - specifically Alzheimer's and Dementia.*



# The “Why” Behind My Moonshot





# Thank You + Questions

[tom@nutritionadvisors.com](mailto:tom@nutritionadvisors.com)

858-688-3152 – WhatsApp

 Nutrition Business Advisors

# Appendix



# Supplement Category Definitions

**Vitamins:** Single and multivitamin supplements made of natural or synthesized vitamins. Products in the vitamin category include: vitamin C, vitamin E, B vitamins, vitamin A/beta carotene, niacin, folic acid, multivitamin formulas and other single vitamins.

**Minerals:** Single and multi-mineral supplements made of natural or synthesized minerals. Products in the mineral category include calcium, magnesium, chromium, zinc, selenium, potassium, iron, silica, manganese, boron, choline, iodine, phosphorous, copper, dolomite, multi-minerals formulas and other single minerals.

**Herbs & Botanicals:** Single herb or multi-herb supplements made primarily from plants or plant components. Products in this category include: echinacea, garlic, ginseng, ginkgo biloba, super fruits and many more.

**Specialty Supplements:** Supplements that do not fit into the other supplement subcategories, including glucosamine, melatonin, DHEA, fish oils/shark cartilage, bee products, CoQ10, 5HTP, amino acids, homeopathic remedies, SAME, chondroitin, probiotics, prebiotics, colostrum, other oils, other enzymes, other hormones, etc.

**Meal Supplements:** Shelf-stable nutritional formulas created primarily to substitute, but sometimes supplement, a meal. Some are enteral feeding formulas and some are weight loss formulas, e.g. SlimFast, Ensure, Nestlé Sweet Success, Boost

**Sports Nutrition:** Sports Nutrition products include all pills, powders/formulas to enhance physical activity whether it be endurance, strength, speed, or other athletic states. Sports nutrition products include: creatine, amino acids, protein formulas, fat burners, ribose, HMB and many others.



# Sales Channel Definitions

**Natural & Specialty Retail:** This channel represents natural and health food stores, supplement stores, and specialty retail outlets, such as Whole Foods and GNC.

**Mass Market:** The mass-market channel represents conventional grocery, drug, mass merchandise, club, and convenience stores. Examples include Wal-Mart, Target, 7-Eleven, and Costco.

**Mail Order:** Mail Order sales are defined as consumer purchases of nutrition products from direct-to-consumer sellers that utilize catalogs, direct mail or infomercials to reach their customers and facilitate sales.

**Multilevel/Network:** Also known as direct selling, the multilevel-marketing channel consists of products or services marketed person to person by independent salespeople. These salespeople are commonly referred to as distributors, representatives, and consultants. Products are sold primarily through in-home product demonstrations, parties, and one-on-one selling.

**Practitioner (also includes: athletic and fitness trainers):** Practitioner sales consist of products to consumers by practitioners. These include chiropractors, traditional Chinese medicine specialists, acupuncturists, homeopaths, massage therapists, naturopaths, osteopaths, aromatherapy specialists, faith healers, biofeedback specialists, meditation/relaxation therapists, hypnotherapists, hydrotherapists, Ayurvedic specialists, and mainstream/conventional medical practitioners (MDs, GPs, etc.).

**Internet/E-Commerce:** Internet sales, otherwise known as e-commerce sales, are defined as consumer purchases of nutrition products from direct-to-consumer sellers that utilize Internet websites to reach their customers and facilitate sales.

# Euromonitor Category Definitions

## **Vitamins and Dietary Supplements**

It is the aggregation of Dietary Supplements, Vitamins, Paediatric Vitamins and Dietary Supplements, and Tonics.

## **Dietary Supplements**

It is the aggregation of all dietary supplements: Minerals, fish oils/omega fatty acids, garlic, ginseng, ginkgo biloba, evening primrose oil, Echinacea, St John's Wort, protein supplements, probiotic supplements, eye health supplements, co-enzyme Q10, glucosamine, combination herbal/traditional supplements, non-herbal/traditional supplements, and all other dietary supplements specific to country coverage.

## **Paediatric Vitamins and Dietary Supplements**

All vitamin and dietary supplement products formulated, designed, marketed and labelled specifically for children.

## **Tonics**

Include versions of combination dietary supplements that are sold in the format of liquid concentrates, mini-drinks, shots or oral gels. Include concentrated energy shot boosters and tonics such as 5-Hour Energy and Lipovitan. Exclude remedies made with active pharmaceutical ingredients as well as super fruit juice concentrates and weight-loss beverages, tracked under the Health and Wellness (HW) system.

## **Euromonitor Category Definitions Cont'd**

### **Sports Nutrition**

These nutritional products improve physical endurance, increasing muscle growth/development/mass, or speeding recovery after exercise. Sports nutrition is targeted at serious athletes and gym-goers, and their principal purpose is to build muscle and to boost energy. Sports Nutrition tracks two types of products: Protein and Non-Protein. Sports protein include bars, powder and ready-to-drink (RTD) offerings. Sports Non-Protein include products that do not have protein as its core ingredient. They can be used to repair muscle or as energy/endurance booster. Note: Mainstream sports nutrition products such as sports drinks (e.g. Gatorade) or energy drinks (e.g. Red Bull) are not included here. Energy and sports drinks are tracked in the Soft Drinks system.

### **Herbal/Traditional Products**

Botanicals or traditional remedies are products that have a long tradition of use, decades of established reputation, and are considered alternative remedies to standard medicine. Traditional medicine remedies such as Ayurveda, Traditional Chinese Medicine (TCM), Unani, Kampo, etc. are included. Homeopathic remedies are excluded. Only packaged products are tracked.