

SUPPLY CHAIN INNOVATION AND THE SHIFT AWAY FROM TABLET-BASED DOSAGE FORMS 2026

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Traditional "pills/capsules" are losing their appeal to consumers.

Non-pharmaceutical tablets now account for 61.8% of global supplement market sales.

Data source: Nutrition Business Journal

Key takeaway:

This is not a simple dosage form iteration, but a revolution across the entire supply chain, from supply chain and manufacturing to consumer experience.

Gummies, powders, oral liquids, and micro-drops are eroding the traditional tablet market at a near double-digit compound annual growth rate.

The integration of wearable devices (smartwatches, continuous glucose meters) with AI technology is ushering in a new era for supplements, moving from "fixed dosage" to "real-time personalization".

02. Market Overview: The Dosage Form Landscape is Being Rewritten

Your home of better nutraceuticals

Global supplement market size

*The global dietary supplement market is projected to reach **US\$151.82 billion in 2026 and US\$187.22 billion in 2031** (CAGR 4.28%).

*The global vitamin and supplement market is projected to reach **\$127.6 billion in 2026 and \$193.1 billion in 2033** (CAGR 6.1%).

* The global nutritional supplement market is projected to reach approximately **US\$636.2 billion in 2025 and US\$1,468.3 billion in 2036** (CAGR 7.9%).

Dosage form market share (2025 data): Non-pharmaceutical tablets have already taken a dominant position in the market.

Dosage form	market share
Gummies	23.4%
Powders	15.7%
Capsules	14.5%
Other non-pharmaceutical tablet forms	8.2%
Traditional tablets/capsules	≈38.2%

Gummies

have experienced the highest growth rate over the past five years, evolving from a niche product to a mainstream market. The global gummy supplement market is valued at \$11.75 billion in 2025 and is projected to reach \$35.56 billion in 2034 (CAGR 13.16%). Powder supplements are ranked as the fastest-growing segment by NBJ, with consumers favoring customizable dosages, the ability to mix with other beverages, and potentially better absorption properties. The liquid supplement market is projected to reach \$26.4 billion in 2025 and will grow to \$50.1 billion in 2030 (CAGR 13.9%).

The Great Shift In Consumer Preferences

- * **83%** of consumers indicated that absorption is an important factor when choosing supplements.
- * **48%** of Gen Z adults have purchased vitamin supplements in the past 6 months.
- * **Up to 80%** of Gen Z take 1 to 6 supplements daily.* Non-tablet forms now account for 65% of total supplement sales.

"Taste is King"

Taste is the number one factor influencing purchasing decisions. Consumers expect glyated supplements to be not only effective but also delicious. A supplement with an unpleasant flavor is enough to make consumers abandon that dosage form forever.

Generational differences: Who suffers from the most severe "pill fatigue"?

According to SupplySide Global 2025 market data, pill fatigue is most pronounced among women and younger consumers:

Gen Z: Prefers gummies, chewable tablets, and shots.

Millennials and Gen X: Prefer liquids and powders.

Older consumers: Still loyal to traditional pill formats, but are slowly changing.

Why is "de-pillification" happening?

Pleasant Experience: Gummies transform "taking medicine" into "eating a snack."

Convenience: Powder and stick formulations fit the "anytime, anywhere" lifestyle.

Better Absorption: Some liquid and gummy formulations show superior bioavailability.

Reduced Swallowing Difficulties: More user-friendly for those who have difficulty swallowing pills.
Ritual: Supplements transform from "clinical necessities" into "daily pleasurable rituals."

Trend 1: Gummies – Growth Champion

- The gummy supplement market is projected to reach **\$11.75 billion in 2025** and **\$35.56 billion in 2034** (CAGR 13.16%).
- In the multivitamin category, gummies lead with an **18% market share**.
- This segment is still projected to be worth **over \$700 million in 2025**.
- In the US market, gummies lead with an **18.9% dollar share**, but year-on-year growth declined **by 8%** (indicating a maturing market and increased competition).



Why did it succeed?

Gummies eliminate swallowing difficulties and turn “taking your medicine” into “looking forward to it.” In the European market, gummy growth is still accelerating, especially in specific categories such as creatine gummies and protein gummies.

Trend 2: Powder and Stick Packets – Synonyms for Portability and Flexibility

- **Powder supplements** are identified by NBJ as the fastest-growing segment.
- They offer **customizable dosages, can be mixed with other beverages, and potentially** have better absorption properties.
- The **stick supplement market** is projected to reach \$5.8 billion in 2024 and \$13.2 billion in 2033 (CAGR 9.7%).
- The **global stick packaging market** is projected to reach \$4.1 billion in 2026 and \$7.4 billion in 2036 (CAGR 6.1%).



Shots and sticks have transcended product categories; shots provide GLP-1 users with small, concentrated doses of nutrient-rich liquid, while sticks offer portability and convenience.

Trend 3: Liquids – A Revival in Progress



The liquid supplement market is projected to reach \$26.4 billion in 2025 and \$50.1 billion in 2030 (CAGR 13.9%).

Since 2023, the growth rate of liquid dosage forms has been accelerating year by year.

It attracts consumers seeking faster absorption, easier consumption, and higher concentrations of nutrients.

Liquid dosage forms come in various forms: drops, shots, oral liquids, RTD bottles, etc.

Trend 4: Emerging dosage forms – the next wave of innovation



Effervescent tablets: The global market is projected to reach US\$10.25 billion in 2025 and US\$17.88 billion in 2033 (CAGR 7.2%).

Dissolvable Strips:
Portable, waterless, and do not require swallowing.

Jelly Sticks:
Precise dosage, improved ingredient stability, and optimized delivery of active ingredients.

FZZR™ technology:
drinkable, chewable, and with a satisfying effervescence – one pack offers multiple benefits.

05. Innovation and Transformation: From "Fixed Dosage" to "Real-Time Personalization"

Supply Chain Innovation: From "Mass Manufacturing" to "Agile Response"

1. A Surge in Demand for Production Flexibility:

Traditional tablet/capsule production is highly standardized. Diverse dosage forms such as gummies, liquids, and powders require production lines with rapid changeover capabilities and the ability to produce multiple products simultaneously. Supplement manufacturing is shifting from a "one-size-fits-all" approach to a future shaped by personalization and agility.

2. Increased Complexity of Raw Materials and Formulations:

Different dosage forms have varying requirements for raw material compatibility. Microencapsulation technology makes many active ingredients more flexible in dosage forms, but not all ingredients are suitable for all new delivery methods. Magnesium molecules are too large to be used in oral strips, but it remains a popular ingredient in gummies. This necessitates a more precise raw material sourcing and formulation adaptation capability in the supply chain.

3. Taste and stability pose new manufacturing challenges.

New dosage forms place higher demands on flavor masking and stability. Flavor is key to consumer repeat purchases. Companies like Nutriventia have launched dedicated flavor masking platforms to transform bitterness and astringency into more pleasant neutral flavors.

4. Packaging and Fulfillment Model Transformation:

From traditional bottling to diversified packaging such as sticks, shots, and strips, the supply chain is required to have more flexible packaging capabilities and more efficient logistics response. Brands are pursuing a premium experience from the moment they "unbox" the product.

05. Innovation and Transformation: From "Fixed Dosage" to "Real-Time Personalization"

Bioavailability: The Scientific Basis for Dosage Form Innovation

Dosage form innovation is not only about upgrading the "experience," but also about optimizing the "effect."

Bioavailability study of gummies vs. tablets: A randomized clinical trial showed that the area under the absorption curve (AUC) of the gummies group was higher than that of the tablets group (mean gummies 1474 ng), and the time to peak concentration (Tmax) of the gummies group was shorter, suggesting that there are differences in absorption kinetics between gummies and tablets.

Vitamin D3 Gummies vs. Tablets: A randomized crossover clinical trial in healthy adults compared the bioavailability of a single oral dose of vitamin D3 gummies versus tablets.

Differences in folic acid absorption: In the same study, there were significant differences in the time course of folic acid absorption between gummies and tablets.

Advanced delivery technology is becoming a core differentiator.

- * Innovative technologies such as liposomes, microencapsulation, nanoemulsions, and solid lipid nanoparticles (SLNs/NLCs) are improving the stability, absorption, and clinical performance of nutrients.
- * The global liposome dietary supplement market is projected to reach \$223 million in 2024 and \$451 million in 2031 (CAGR 10.4%).
- * Liposome encapsulation has been shown to improve the stability and bioavailability of lipophilic compounds such as curcumin and carotenoids.
- * Targeted nanoliposome systems significantly improve the stability, absorption, and tissue specificity of nutrients.

EU: Strict control over health claims

The EU's regulatory framework for supplement dosage forms and claims consists of a number of regulations:

Regulation (EC) No 1924/2006: Nutrition and Health Claims Regulation, which specifies which health claims can be made on food (including dietary supplements).

Directive 2002/46/EC: Food Supplements Directive established the legal framework for the marketing of supplements in the European Union.

Regulation (EU) No 1169/2011: Provisions on the provision of food information to consumers.

Novel Food Regulation (EU) 2015/2283: Novel foods must be authorized before they can be marketed.

Key Compliance Points:

Health claims must be assessed and authorized by the EFSA. Only health claims that have undergone scientific evaluation by the EFSA and are listed on the EU Authorized List can be legally used in marketing and labeling.

Disease prevention/treatment claims are prohibited. Foods and dietary supplements cannot be marketed as having disease prevention or treatment effects.

Special restrictions on plant-based health claims: As of 2025, EU-authorized health claims only cover vitamins, minerals, and a limited range of non-phytonutrients. More than 1,500 plant-based health claim applications are suspended.

Novel food products require authorization: Novel ingredients used in supplements (such as new ingredients related to novel delivery systems) require EU premarket authorization for novel food products.

US FDA: Regulatory Framework for Dietary Supplements

***GLP-1 companion supplements are regulated as dietary supplements and are subject to the DSHEA framework.**

- **They may not claim to "treat," "prevent," or "replace" any medicine.**
- **Structure/function claims must be scientifically supported and accompanied by a disclaimer.**
- **New dietary ingredients (NDIs) require notification.**

Key takeaways for brands:

Key takeaways for brands:**Claim strategy is a critical risk point:** In the EU, any health-related claim requires rigorous legal review.

Dosage form innovation ≠ claim innovation: New delivery systems can change the product experience, but cannot alter the legal boundaries of claims.

Plan compliance paths in advance: New ingredients or claims related to new delivery systems require advance planning of the approval process.

3 core trends

001 The trend of "de-tabletization" is irreversible: non-tablet forms already account for 61.8% of the market and continue to grow.

002 Personalization is becoming the new standard: AI-powered, wearable-device-driven real-time personalized supplements are moving from concept to commercialization.

003 The supply chain must adapt to new dosage forms: shifting from large-scale standardized production to flexible, agile, and multi-category manufacturing capabilities.

Core recommendations for the brand

Dosage Form Selection as Brand Strategy: Dosage form is no longer just a packaging decision, but a strategic differentiation tool. It determines consumers' first impression of the product and their daily usage experience.

Investing in Multi-Dosage Form Capabilities: Brands with a single dosage form are losing market share. Brands with a combination of dosage forms, such as gummies, liquids, and powders, will gain greater market coverage.

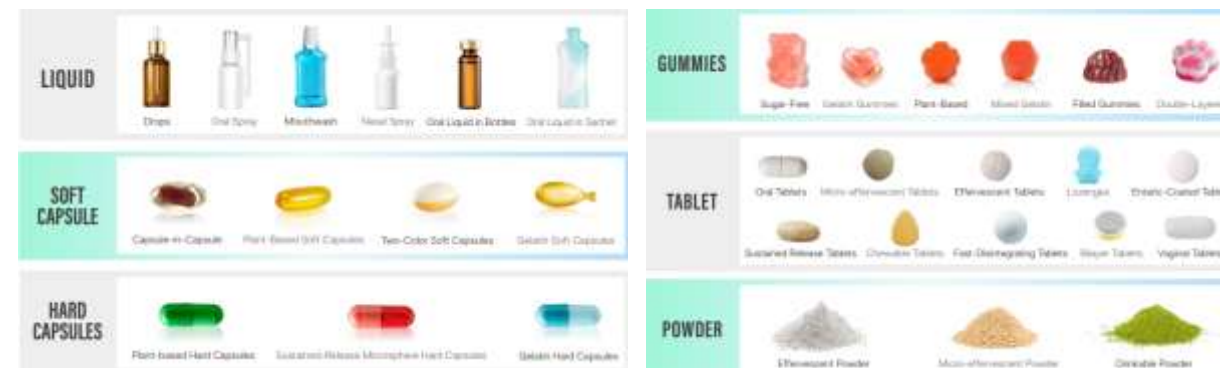
Flavor as Repurchase Rate: In the era of "glycated" supplements, flavor is key to keeping consumers coming back. Innovative dosage forms without good flavor are failed innovations.

Focusing on Bioavailability Data: Consumers are becoming increasingly knowledgeable; they not only want to know "what it contains," but also "how much is absorbed." Bioavailability data is becoming a new factor in purchasing decisions.

The "de-pillification" of supplements is not a short-lived trend, but a structural and irreversible consumer revolution.

Three certainties:

1. **Non-pharmaceutical tablets will continue to expand their market share:** Gummy candies, liquids, and powders will grow at high single- to double-digit CAGRs, continuously eroding the market share of traditional tablets and capsules.
2. **AI + wearable devices will redefine "personalization":** From "fixed-dose daily administration" to "dynamic adjustment based on real-time biological data," this shift will reshape the entire supplement industry's supply chain and manufacturing logic.
3. **Supply chain flexibility will become a core competitive advantage:** Manufacturers capable of quickly switching dosage forms, small-batch customization, and co-producing multiple product categories will gain a significant competitive edge.



Recommendations for industry participants:

Brands: Elevate dosage form innovation to a strategic level, invest in multi-dosage form portfolios, and focus on flavor experience and bioavailability data.

Manufacturers: Establish flexible production line configurations, develop multi-dosage form manufacturing capabilities, and prepare for AI-driven personalized manufacturing.

Compliance teams: Closely monitor EU and US regulatory developments regarding new delivery systems and related claims, and plan compliance paths in advance.

This report makes no recommendations regarding any products or strategies. It only presents the market landscape and compliance considerations based on currently available publicly available information for industry stakeholders to refer to when making decisions.

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