Quantum BioPharma, Ltd. (Nasdaq: QNTM)

Rating: Buy

Price Target: $45.00
Share Price: $17.25

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Company Data	
Avg. 3M Daily Volume (M)	0.26
52-Week Range	2.70-38.25
Shares Outstanding (M)	3.82
Market Cap (M)	66.47
Enterprise Value (M)	67.21
Total Cash (M), mrq	1.53
Total Debt (M)	2.27
Total Debt to Cap	37.57%

Estimates				
FYE: Dec		2024A	2025E	2026E
EPS	Q1	(3.12)A	(3.47)A	(1.64)E
	Q2	(4.85)A	(3.06)A	(1.63)E
	Q3	(4.17)A	(2.69)E	(1.48)E
	Q4	(2.70)A	(2.50)E	(1.32)E
	FY	(12.49)A	(11.65)E	(3.30)E
P/E		NM	NM	NM
Rev	Q1	0.000	0.000	2.1
	Q2	0.000	0.000	2.3
	Q3	0.000	0.900	2.6
	Q4	0.000	1.500	3.1
	FY	0.000	2.400	10.100
EV/Sales			28.0x	6.7x

One-Year Performance Chart

As of August 28, 2025. Source: E*Trade.

Quantum BioPharma's Lucid-MS Multiple Sclerosis Asset Progressing Toward Proof-of-Concept Studies in Humans

Unique mechanism of action aims to achieve neuroprotection without immunosuppression; Phase 1 trial demonstrated safety and tolerability in healthy volunteers; development costs expected to be offset by revenue from alcohol recovery asset

Summary

We initiate coverage of Quantum BioPharma Ltd. (NASDAQ: QNTM) ("Quantum" or "the Company") with a BUY rating and a DCF-based $45 price target. Quantum BioPharma is a global biotechnology company committed to developing breakthrough medicines for neurodegenerative, neuropsychiatric, and metabolic diseases. The company is advancing several first-in-class therapeutic candidates, with a focus on multiple sclerosis ("MS") and alcohol misuse. Quantum's lead asset, Lucid-MS, is Phase 2 ready with promising Phase 1 clinical. Quantum owns a 20.1% equity stake in Unbuzzd Wellness Inc.'s unbuzzd™, a clinically validated formulation that: 1). accelerates alcohol elimination, 2) reduces hangover symptoms, and 3) benefits from ongoing equity and royalty streams.

Our rating is based on our view that Quantum BioPharma is positioned for substantial near- and medium-term growth, driven by a robust clinical pipeline targeting large unmet needs in neurodegeneration and metabolic health. Notably, its lead program Lucid-MS is advancing toward Phase 2 trials

following positive Phase 1 safety results, while the proprietary alcohol health therapeutic unbuzzd™ is in the early stages of its commercial launch.

Key risks include clinical trials, regulatory, IP challenges, competition, and managing supply chain from production and formulation to commercialization. In addition to its therapeutic and consumer health pipeline, Quantum has declared its intent to issue Contingent Value Rights (CVRs) tied to expected settlement proceeds from active litigation with a potential value exceeding US$700 million. If successful, these CVRs could deliver non-dilutive, accretive value directly to shareholders, offering optionality beyond the company's core operations with the possibility of transformative financial impact.

We believe that Quantum's multiple assets are approaching major inflection points, as its therapies advance towards commercialization in 2026. The company's strategy and operational discipline support its ability to expand this pipeline through alliances and in licensing of differentiated assets. Our $45 price target is based on a discounted cash flow analysis forecasting market launch and initial revenue from Lucid-MS in 2029.

Investment Highlights

- **Focused Innovation in MS Therapeutics**: Lucid-MS is a next-generation oral treatment candidate for multiple sclerosis (MS), a condition in which the immune system attacks myelin, the protective sheath around nerve fibers, disrupting brain-body communication and causing progressive disability. Lucid-MS is designed to protect myelin, targeting disease progression without suppressing the immune system. Following successful Phase 1 trials, a Phase 2 study is expected to commence in Q1 2026.
    - Lucid-MS acts by inhibiting peptidyl arginine deiminases (PADs), enzymes implicated in myelin degradation, setting it apart from conventional immunosuppressive MS therapies.
    - Lucid-MS has disease-modifying potential, addressing both symptoms and underlying pathology.
    - The recent submission to the UK's Innovative Licensing and Access Pathway (ILAP) could accelerate regulatory review and patient access in a major market.

- **Commercial Participation Without Operating Burden**: Quantum holds a 20.1% equity interest in Unbuzzd Wellness Inc., the distributor of unbuzzd™, a fast-acting alcohol recovery beverage now available through e-commerce, liquor, and convenience channels. Quantum receives a 7% royalty on product sales up to US $250M, and 3% thereafter.
    - unbuzzd™ is supported by double-blind, placebo-controlled clinical studies demonstrating significant reductions in blood alcohol concentration and hangover symptoms within 30 minutes of use.

- **Dual-Segment Exposure**: Investors gain exposure to both clinical-stage biopharma and consumer wellness growth, with Lucid-MS targeting a multi-billion-dollar MS market and unbuzzd™ entering a large, underserved alcohol metabolism health segment.

- **Prestigious Academic Collaboration**: In partnership with Massachusetts General Hospital and faculty from Harvard Medical School, Quantum is leveraging positron emission tomography (PET) imaging, a medical imaging technique that uses radioactive tracers to visualize, measure, and quantify treatment impact, offering a differentiated, data-driven approach.

- **Near-Term Catalysts**: Key developments expected over the next 6–12 months include
    - Phase 2 trial initiation for Lucid-MS,
    - Expanded commercial distribution of unbuzzd™, and
    - Submission of an Investigational New Drug (IND) application to the FDA for Lucid-MS in Q4 2025, enabling U.S.-based clinical trials.

Recent Developments

- **unbuzzd™ Spin-Out Finalized**: Quantum completed the spin-out of its recreational alcohol misuse treatment product, unbuzzd™, into Unbuzzd Wellness Inc., retaining equity, royalties, and pharma rights.

- **Strategic Bitcoin Holdings**: As of June 2025, Quantum holds approximately $5 million in Bitcoin and other cryptocurrencies. This strategic diversification provides the company with liquidity, potential upside from digital asset appreciation, and a potential hedge against inflation and traditional market volatility.

- **Litigation-Linked CVR Declaration**: Quantum BioPharma has announced plans to issue Contingent Value Rights (CVRs) to shareholders, entitling them to a share of any net proceeds from ongoing litigation seeking over $700 million in damages. The lawsuit, filed in the U.S. District Court for the Southern District of New York against major financial institutions including CIBC World Markets and RBC Dominion Securities, alleges market manipulation and trading practices that harmed Quantum and its investors. If successful, the CVRs would provide holders with 10% to 50% of any net recovery resulting from this securities litigation.

- **Regulatory Fast-Track Submission for Lucid-MS**: Quantum has submitted its lead multiple sclerosis candidate, Lucid-21-302 (Lucid-MS), to the United Kingdom's Innovative Licensing and Access Pathway (ILAP) Passport program. This initiative is designed to accelerate the development and approval of innovative medicines, potentially shortening the timeline for Lucid-MS to reach patients in the UK. The ILAP submission marks a critical regulatory milestone, aligning with Quantum's global strategy to expedite clinical development and patient access.

- **Advancement Toward Phase 2 Trials**: The company recently completed 90-day oral toxicity and toxicokinetic studies for Lucid-21-302, supporting its planned Investigational New Drug (IND) application with the FDA. Quantum is targeting IND submission in Q4 2025 and has engaged a global contract research organization to prepare for Phase 2 clinical trials.

- **Stock Performance in 2025**: Quantum BioPharma's share price has appreciated nearly 4x year-to-date, reflecting investor confidence in its dual-segment strategy and clinical and commercial progress.

- **2020 Hedge Fund Warrants Nearing Expiry**: Given current market pricing, these warrants are unlikely to be exercised, and their expiry could streamline the company's capital structure.

Company Description

Founded in 1998 and headquartered in Toronto, Quantum BioPharma Ltd., together with its subsidiaries, operates as a clinical-stage biopharmaceutical company through two segments, Biopharmaceutical Innovation and Strategic Investments. The company is focused on the discovery, development, and commercialization of a portfolio of assets for the treatment of neurodegenerative, metabolic, and alcohol misuse disorders with drug candidates in different stages of development.

The company's lead compound, Lucid-MS, is a new chemical entity shown to prevent and reverse myelin degradation, the underlying mechanism of multiple sclerosis, in preclinical models. Quantum BioPharma has completed a Phase 1 multiple ascending dose study of Lucid-MS in healthy volunteers, demonstrating safety and tolerability, and is planning to move the compound into Phase 2 development during Q4 2025.

In addition, Quantum holds a 20.1% equity interest in Unbuzzd Wellness Inc., the exclusive distributor of unbuzzd™, an over-the-counter, clinically validated alcohol recovery beverage invented by Quantum. In clinical studies, unbuzzd™ accelerated alcohol metabolism, reducing blood alcohol concentration by over 40% within 30 minutes, restoring cognitive function, and significantly alleviating hangover symptoms, without adverse effects.

The company was formerly known as FSD Pharma, Inc. and changed its name to Quantum BioPharma Ltd. in August 2024.

Capital Structure

Date	3/31/2025	6/30/2025
Class A	12	12
Class B	2,711,319	3,468,925
Options	87,648	62,956
Restricted Stock Units	32,690	-
Performance Stock Units	-	-
Warrants	426,806	418,306
Total	3,258,475	3,950,199

Background

Multiple Sclerosis

Multiple sclerosis (MS) is a multifactorial demyelinating disease characterized by neurodegenerative events and autoimmune response against myelin, a lipid-rich molecule that forms a protective sheath around nerve axons, including those in the brain and spinal cord, and functions as an electrical insulator to speed up nerve impulse transmission. MS occurs when the immune system mistakenly attacks the myelin sheath, resulting in inflammation that damages myelin and nerve cells, disrupting nerve signaling, and leading to disease symptoms.

Research suggests that citrullination may play a crucial role in the pathogenesis of MS. Citrullination, or deamination, a post-translational modification of protein-bound amino acid arginine into citrulline, is catalyzed by Ca^{2+}-dependent peptidylarginine deiminase enzyme (PAD), also referred to as protein arginine deiminase enzyme. It plays an essential role in physiological processes that include the regulation of gene expression, apoptosis, and the plasticity of the central nervous system. Aberrant citrullination can generate new epitopes (the part of an antigen molecule to which an antibody attaches itself) that are involved in the initiation or progression of autoimmune disorders like MS by sending the immune system into overdrive.

Myelin basic protein (MBP) is the major myelin protein that maintains the stability of the myelin sheath. In addition to creating new epitopes that trigger an immune response, MBP citrullination also causes structural changes in myelin by disrupting interactions with the lipids in the myelin sheath, destabilizing and weakening the sheath, making it more vulnerable to degradation, and promoting inflammation by stimulating immune T-cells and glial cells like astrocytes and microglia.

Common MS symptoms include neurological symptoms such as visual disturbances, numbness and tingling in various parts of the body, muscle weakness and fatigue, balance and coordination problems, cognitive impairment, bladder and bowel dysfunction, speech problems, and emotional changes like depression. Symptom severity and duration can vary from person to person.

Most approved therapies for MS work by reducing the activity of the immune system to dampen inflammation. However, these therapies also lower the patient's ability to fight off infections, which is a major drawback due to the risk of side effects. None of the over 20 disease-modifying therapies that are currently approved for MS effectively repair existing myelin damage and restore lost function.

The "inside-out" hypothesis of MS states that MS is primarily a neurodegenerative disease with secondary inflammatory demyelination. Inhibition of PAD enzymes is one therapeutic strategy to treat the disease.

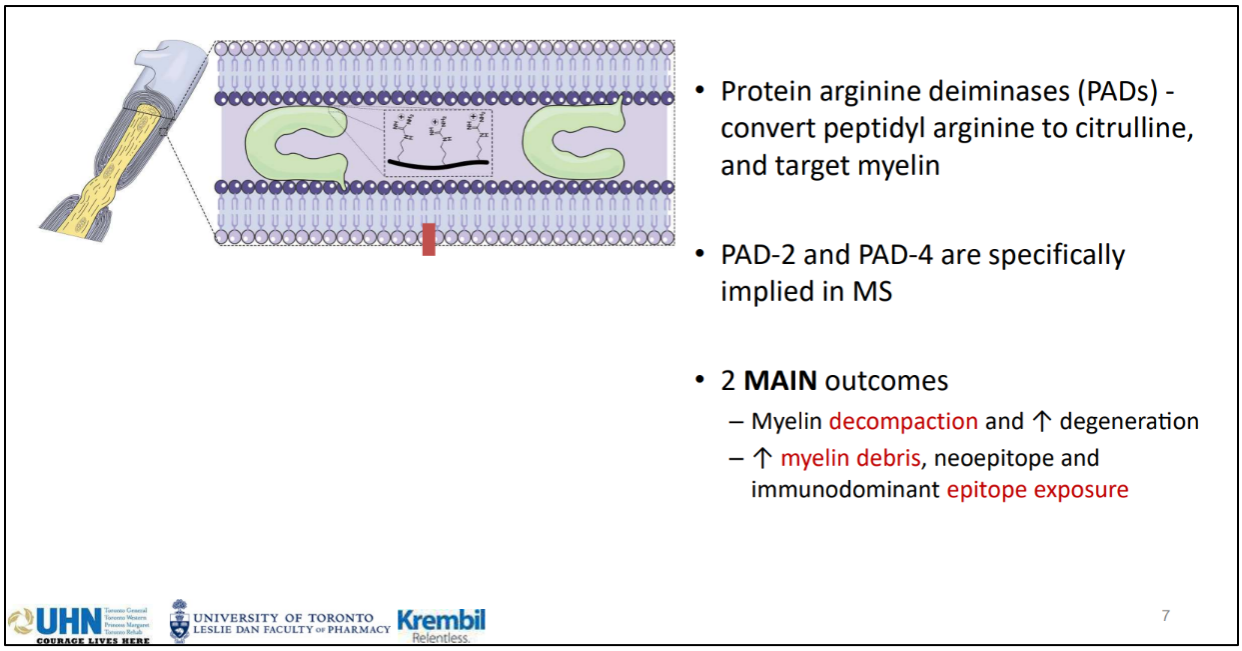
Product Pipeline

Lucid-MS

Quantum BioPharma's lead product candidate, Lucid-MS, is a patented, first-in-class, oral compound for the treatment of multiple sclerosis (MS).

Also known as Lucid-21-302, Lucid-MS inhibits hypercitrullination of myelin-associated proteins. While citrullination is a biological process required for the normal function of certain proteins, hypercitrullination is an overactive and pathological form of citrullination that occurs in diseases like MS and rheumatoid arthritis, leading to widespread and abnormal citrullination of a broad range of proteins, particularly those induced by immune-mediated cell death pathways. This process occurs within proteins associated with the myelin sheath.

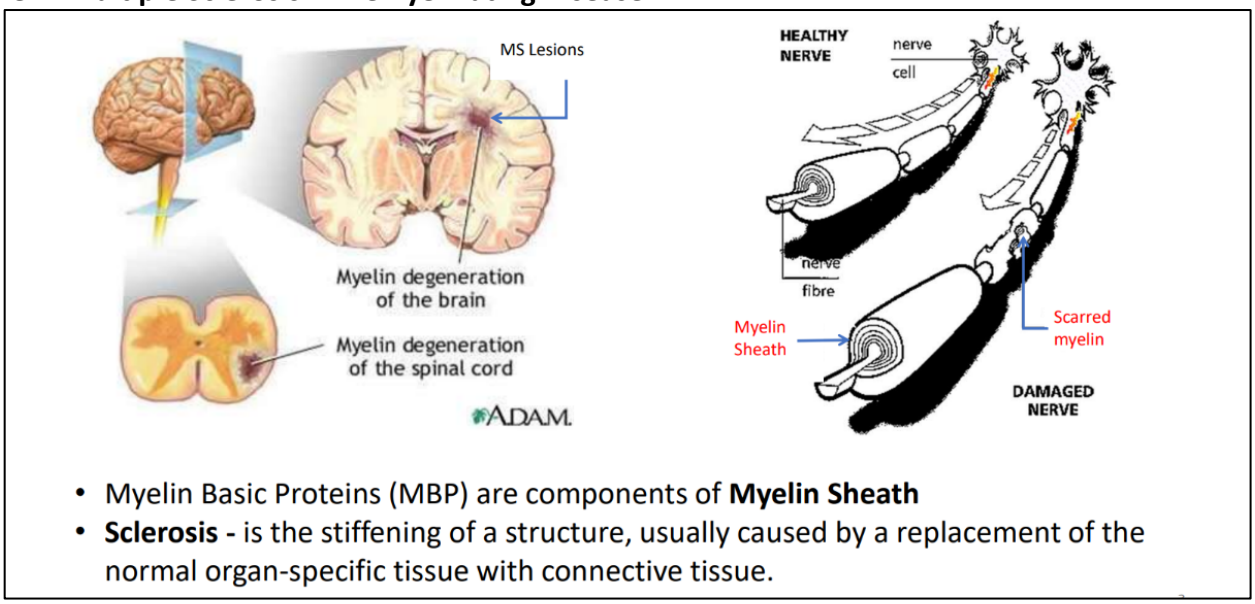
Figure 1: Citrullination and Peptidylarginine Deiminase (PAD) Enzyme – A Class of Myelin-Altering Enzymes



Source: University of Toronto- Faculty of Pharmacy

Hypercitrullination is harmful, since MBPs that are associated with the myelin sheath need to be positively charged to stabilize the multiple layers of the sheath. When arginine is converted into citrulline, the MBP loses its positive charge, hence losing its structure and being unable to hold the myelin layers together. In response, myelin decompaction occurs, and the myelin sheath gets damaged, compromising its ability to protect nerves from external damage. When axons are exposed, nerve signals fail, leading to symptoms such as weakness, numbness, and vision problems associated with multiple sclerosis.

Figure 2: Multiple Sclerosis: A Demyelinating Disease



Source: National MS Society

Lucid-MS inhibits hypercitrullination by targeting and blocking the active site of PAD enzymes (PAD2/PAD4), preventing them from converting arginine to citrulline in myelin proteins. By preventing hypercitrullination, Lucid-MS maintains arginine's positive charge, allowing for MBP to tightly bind to lipid layers, keeping myelin compact and intact. Preventing hypercitrullination also reduces neoantigen formation. Neoantigens are altered protein fragments that attack the body's own myelin, leading to inflammation and nerve damage. One such neoantigen is citrulline. Lucid-MS inhibiting the active site of PAD2 and PAD4 results in reduction of citrulline production, thus preventing the immune system from attacking the body's own myelin.

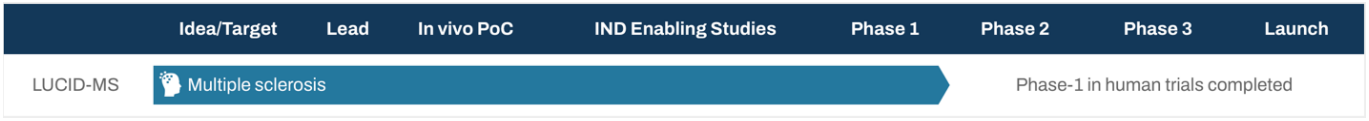
Lucid-MS is unique, since it is non-immunomodulatory, protecting myelin without affecting immune function. It prevents myelin degradation and promotes remyelination, neuroprotection, and functional recovery, potentially offering a safer long-term safety profile.

Preclinical studies in mouse models of MS have shown promising results, with Lucid-MS treatment leading to restored mobility after paralysis. According to Quantum, after 1.5 months of treatment, mice mostly recovered with mild symptoms, and functional recovery was observed a few days later.

Following successful single and multiple ascending dose (MAD) Phase 1 trials, a Phase 2 study is expected to commence in 2026. The Phase 1 studies found Lucid-MS to be safe and well-tolerated at doses ranging from 50 to 300mg, with no serious side effects reported. Most adverse events were minor and considered to be unlikely to be related to the therapy.

The recent submission to the UK's Innovative Licensing and Access Pathway (ILAP) could accelerate regulatory review and patient access to a major market. In partnership with Massachusetts General Hospital, Quantum is conducting a PET imaging study to quantify myelin density changes in real-time.

Figure 3: Lucid-MS Clinical Development



Source: quantumbiopharma.com

unbuzzd™

Quantum BioPharma is addressing the recreational alcohol misuse treatment sector by developing scientifically validated solutions for the physiological and cognitive impacts of alcohol consumption. Alcohol misuse and its aftereffects, including elevated blood alcohol concentration (BAC), mental impairment, and hangover symptoms, present ongoing challenges for both individual wellbeing and public safety.

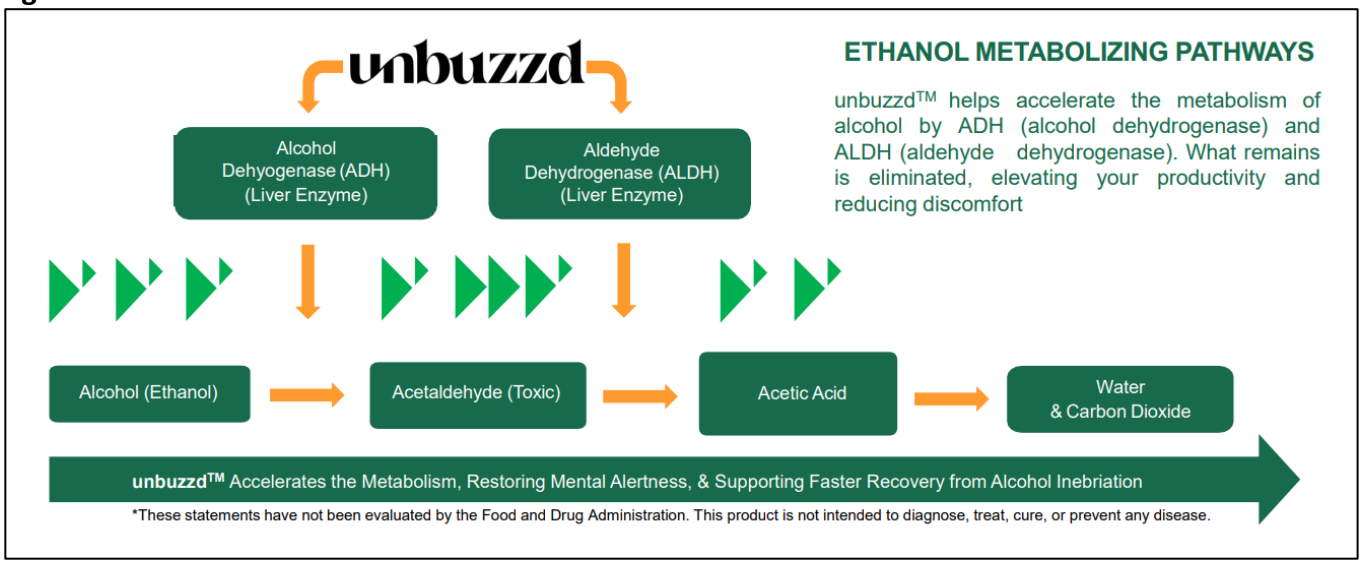
Excessive alcohol consumption leads to a significant reduction in both personal and workplace productivity, resulting in significant economic consequences. In the United States alone, excessive drinking is estimated to cost $160 billion annually, with much of this expense stemming from lost productivity. The negative effects of excessive alcohol use include an increase in workplace accidents, higher rates of absenteeism, and greater healthcare expenditures, collectively contributing to a substantial burden on organizations and society in general.

The key to addressing alcohol misuse lies in understanding the process of intoxication. When alcohol (ethanol) is consumed, it is primarily metabolized in the liver through the action of alcohol dehydrogenase (ADH), converting ethanol into acetaldehyde, a short-lived but toxic and carcinogenic intermediate. Acetaldehyde is responsible for the characteristic psychological effects and inebriation associated with drinking; over time, its accumulation can contribute to liver damage and a host of negative health outcomes.

A key measure of alcohol's physiological presence is Blood Alcohol Concentration (BAC), which is closely approximated by Breath Alcohol Concentration (BrAC). In the United States, 49 states set the illegal limit for BrAC at 0.08 grams of alcohol per 210 liters of breath (g/210L), with Utah enforcing a stricter threshold of 0.05.

Contrary to popular belief, no home remedy, like cold showers, coffee, energy drinks, sleep, or exercise, can meaningfully accelerate the reduction of BAC. Scientifically, only time enables the liver to metabolize and clear alcohol from the bloodstream. On average, the liver can eliminate alcohol at a rate of approximately 0.015 g/100mL/hour (approximately one standard drink per hour in men), though individual rates vary by gender, age, metabolism, and health status.

Figure 4: unbuzzd™ Accelerates the Metabolism of Alcohol



Source: Company presentation-unbuzzd.com

unbuzzd™ is a rapid alcohol detoxification beverage developed by Quantum Biopharma that helps accelerate the metabolism of alcohol. Launched in 2024, the company retains ownership of the proprietary formula. To maximize market reach and operational efficiency, Quantum BioPharma has granted perpetual license for the consumer market to Unbuzzd Wellness Inc (formerly Celly Nutrition Corporation), which commercializes the product as an over the counter (OTC) beverage powder designed for rapid, clinically validated recovery from the effects of alcohol consumption. Quantum BioPharma will receive a royalty payment of 7% of sales of unbuzzd™ until payments total US$250 million. Above the $250 million threshold, the royalty drops to 3% in perpetuity.

The FSD-F2R6-A-CP supplement (unbuzzd™ component) is a patent-pending dietary supplement developed by Quantum BioPharma to address the effects of alcohol intoxication. In a double-blind, randomized, placebo-controlled crossover study, unbuzzd™ demonstrated significant efficacy in accelerating blood alcohol metabolism: participants who took unbuzzd™ saw their BAC levels decrease more than 40% faster within 30 minutes compared to placebo. This supplement also shows rapid,

measurable improvements to alertness, cognitive performance, and physiological parameters like heart rate and blood pressure.

Notably, unbuzzd™ not only lessens perceived mental fatigue and impairment while drinking, but also reduces hangover-related symptoms, with study participants reporting a 67% reduction in headache severity at four hours post consumption and sustained benefits over eight hours. These results make unbuzzd™ the first product in its category to be validated by robust human clinical data for both rapid BAC reduction and comprehensive symptomatic relief, setting a new standard in alcohol recovery and wellness supplements. unbuzzd™ is currently available as a single-use powder stick that dissolves quickly in water, with plans to expand to ready-to-drink cans, catering to active adults seeking fast and reliable post-consumption recovery.

Figure 5: The Four Retail Formats of unbuzzd™

Source: unbuzzd.com

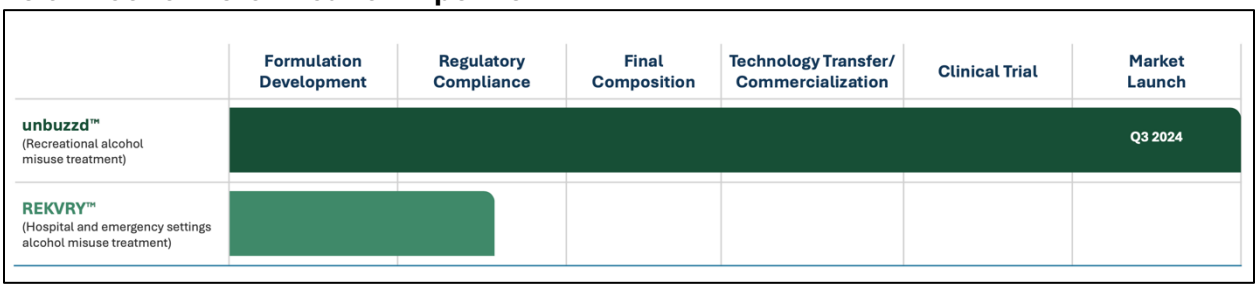
Beyond the direct-to-consumer market, Quantum sees potential for hospital and occupational health applications. Quantum BioPharma's REKVRY™ program is positioned as a solution for acute alcohol intoxication management in emergency and hospital settings, directly addressing unmet medical and operational needs. Developed as an evidence-based, rapidly acting supplement, REKVRY™ would equip ER doctors, the primary decision-makers, with a clinically validated tool to accelerate patient triage and support faster discharge of alcohol-intoxicated individuals. Nurses, who often bear the brunt of managing impaired patients, are key champions for the adoption of the product, as REKVRY™ enables more efficient care and potentially shortens patient bedtimes, optimizing workflow and resource allocation.

Given the prevailing practice of discharging patients based on clinical assessment rather than lab-confirmed blood alcohol concentration, REKVRY™ offers a novel, actionable way to expedite recovery and minimize the length of ER stays, which currently average 2–8 hours for intoxicated patients. Hospital procurement and medical leadership are likely to prioritize solutions with robust

clinical trial data that demonstrate reductions in length of stay, resource utilization, and overall cost, a benchmark that REKVRY™ aims to meet by targeting endpoints valued by both clinicians and hospital administrators.

Strategically, the program's path to market involves target hospital segmentation, focusing first on large ERs and academic centers with high volumes of alcohol-related cases (such as those in college towns), and the cultivation of key opinion leader (KOL) advocates to drive utilization. Pricing will be set at a level hospital buyers are willing to consider when cost offsets, such as faster discharges and fewer complications, can be demonstrated.

Figure 6: Alcohol Detoxification Pipeline



Source: Quantum BioPharma Investor Presentation, April 2025.

Market Opportunity

Multiple Sclerosis

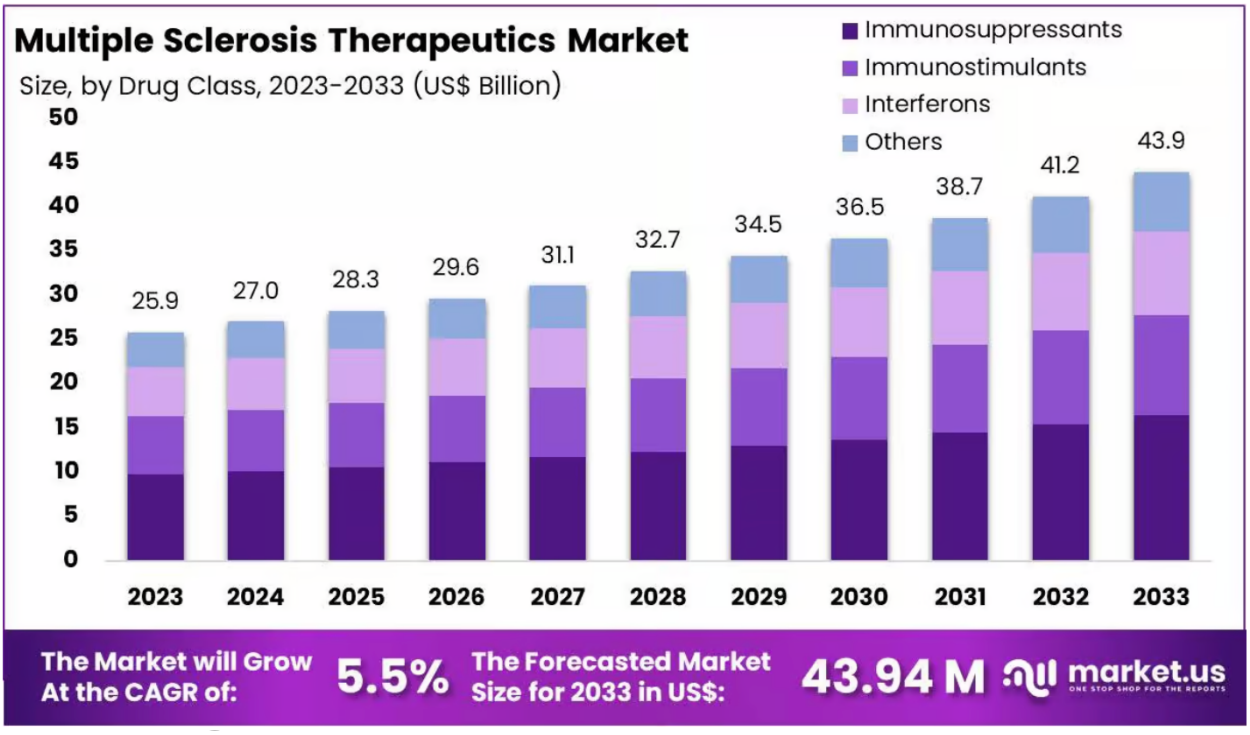
According to Fortune Business Insights, the global market for MS drugs was valued at $21.3 billion in 2023 and is projected to grow to $38.9 billion by 2032, exhibiting a compound annual growth rate (CAGR) of 7.9% during the forecast period. Growth is driven by the increasing prevalence of MS and demand for safer, more targeted treatments that curtail immunosuppressive risks. This reflects the industry's pivot toward precision medicine and non-immunosuppressive approaches. Pipeline candidates like Lucid-MS, with novel mechanisms targeting hypercitrullination, are positioned to capitalize on this trend, especially as demand shifts toward therapies that protect the nervous system rather than suppress the immune system.

In the current MS market, treatment for disease is expensive, with approximately half of the treatment costs being attributed to disease modelling therapies (DMTs). Direct medical costs topped $63 million as of 2019, with 54% of costs attributed to DMT prescription medication. Indirect costs totaled over $20B, accounting for absenteeism and other factors.

According to market.us, the global MS therapeutics market is expected to expand to $43.9 billion by 2033, from $25.9 billion in 2023, growing at a CAGR of 5.5% during the forecast period. It consists of four segments: immunosuppressants, immunostimulators, interferons, and other therapies. The largest market share is captured by immunosuppressants, which help patients with relapsing-remitting multiple

sclerosis (RRMS) by weakening the immune system, in turn preventing the body's auto-immune onslaught and decreasing the propensity for relapses.

Figure 7: Global Multiple Sclerosis Therapeutics Market, by Drug Class, 2023-2033



Source: market.us Multiple Sclerosis Therapeutics Market Analysis, Trends and Forecast 2024-2033

Segmented by route of administration, the multiple sclerosis market can be divided into 3 categories: oral, injectable, and other. The oral segment is expected to experience steady growth and capture a growing share of the market in coming years, fueled by increasing demand for oral medications, which are highly regarded for their convenience and non-invasive nature. Oral drugs offer patients the advantage of ease in self-administration, eliminating the need for frequent visits to healthcare facilities or the discomfort and risk of infection associated with injections, resulting in better patient compliance.

Multiple Sclerosis Market Growth Drivers and Constraints

Drivers

1. Pipeline Innovation and Novel Mechanisms of Action (MOAs):

The MS treatment landscape is being reshaped by emerging drug classes, particularly those targeting progressive disease subtypes. Notable advances include Bruton's tyrosine kinase (BTK) inhibitors, such as tolebrutinib and fenebrutinib, alongside neuroprotective and remyelination agents like clemastine and Lucid-MS. These represent a pivot from immune modulation to neuroprotection and repair, addressing the long-standing efficacy gap in progressive MS.

2. Shift Toward Oral Disease-Modifying Therapies (DMTs):
Oral agents—including siponimod, ozanimod, and diroximel fumarate—are increasingly favored over injectable and infusion-based therapies due to their ease of use and improved patient compliance. This trend is reinforcing adherence while expanding treatment accessibility.

3. Digital Health and Remote Monitoring Integration:
Digital solutions such as wearable devices, mobile applications, and telemedicine tools are becoming integral to MS care. These technologies support real-time symptom tracking, personalized therapy management, and the generation of real-world evidence that can inform clinical decision-making and accelerate drug development.

4. Global Market Expansion:
While North America remains the dominant market for MS, with ~48% market share, growth is accelerating across the Asia-Pacific and Latin American regions. Rising MS awareness, improved diagnostic capabilities, and growing healthcare investment—particularly in urban centers—are driving penetration in these emerging geographies.

Constraints

1. Patent Expirations and Price Erosion:
Flagship drugs such as Tecfidera, Ocrevus, and Tysabri are approaching or undergoing patent expiry (2025–2028), opening the door to biosimilar and generic entrants. This dynamic is expected to compress margins and intensify pricing pressure across the DMT class.

2. High Cost Burden and Access Challenges:
The average annual cost of DMTs often exceeds $90,000, creating significant reimbursement barriers. Payers are responding with stricter formulary controls, prior authorization policies, and preference for lower cost biosimilars, which may limit uptake of newer agents.

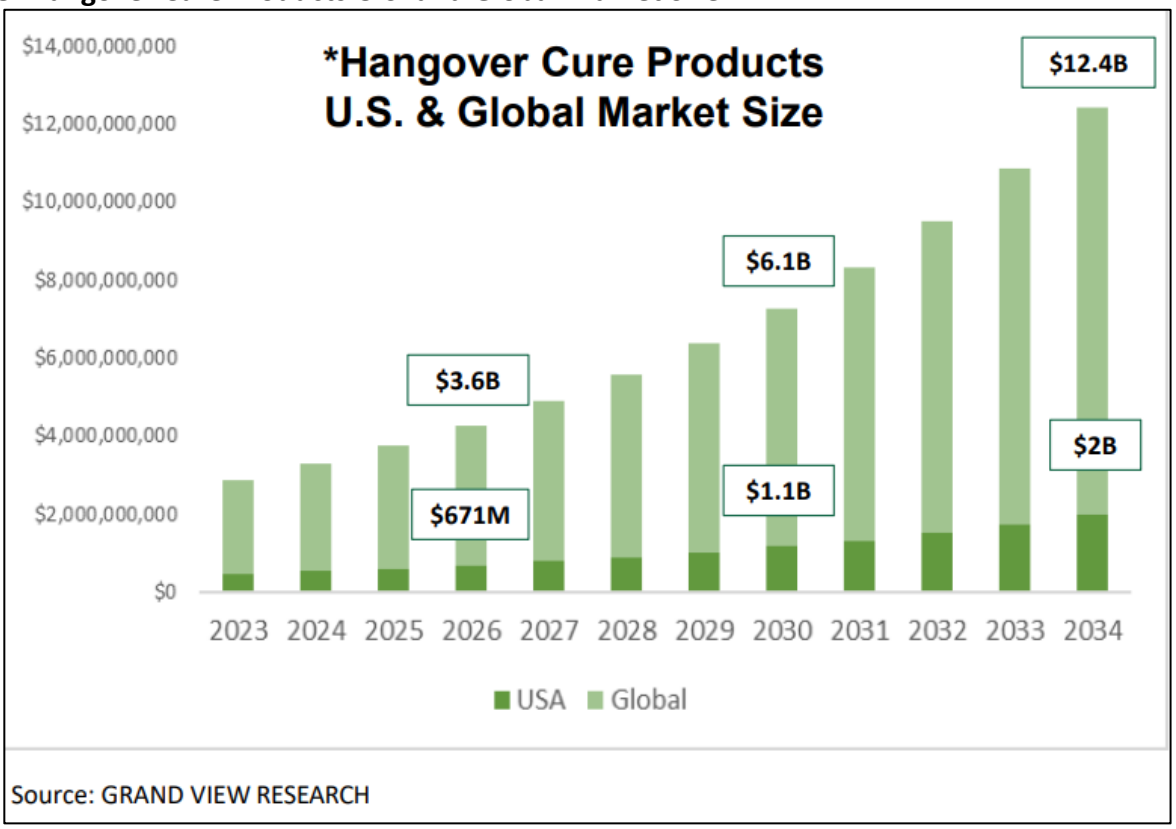
3. Limited Efficacy in Progressive MS:
Despite advances in relapsing-remitting MS, existing therapies provide minimal clinical benefit in progressive forms. This underscores a high unmet need for neuroprotective and reparative treatments that go beyond inflammation control.

4. Clinical and Regulatory Complexity:
The development pathway for MS drugs is characterized by long trial timelines, stringent safety monitoring, and demand for longitudinal outcomes data. These hurdles elevate R&D costs and extend commercialization risk, particularly for novel mechanisms of action targeting neuro-regeneration.

Alcohol Misuse Treatment
The global hangover cure products market is experiencing rapid expansion, with a value of approximately $2.58 billion in 2022 and a projected CAGR of 15.8% through 2034, reaching an estimated $12.4 billion in 2034. This growth reflects robust consumer demand for effective, science-driven solutions that address

the functional and wellness impacts of alcohol consumption. Products like unbuzzd™ are positioned to capitalize on this surge, offering validated rapid-recovery benefits that align with shifting health trends and evolving consumer expectations.

Figure 8: Hangover Cure Products U.S. and Global Market Size



Alcohol Misuse Treatment Market Growth Drivers and Constraints

Drivers

1. Increased social and professional consumption of alcoholic beverages, especially among urban, younger demographics, is expanding the addressable market for recovery products.

2. Consumers are increasingly focused on personal well-being, seeking products that minimize the negative aftereffects of alcohol, maintain productivity, and support overall health. This emphasis is driving demand for hangover cures with proven efficacy, clean formulations, and rapid results.

3. Advances in formulation, including herbal ingredients, electrolytes, and customized blends are setting new performance benchmarks and attracting consumers looking for transparent, science-backed solutions.

4. Substantial impact of alcohol intoxication on hospital resources, including prolonged ER bed occupancy (typically 2–8 hours per patient), increased triage workload, and resource allocation challenges.

5. Growing recognition among ER doctors and nurses of the value of products that support timely, clinically justified patient discharge based on rapid clinical recovery rather than time or blood alcohol concentration.

6. Unmet operational need for efficient, clinically validated solutions that can safely accelerate recovery and reduce ER length of stay for intoxicated patients.

Constraints

1. Regulations on product claims and permissible ingredients differ across countries, making it challenging for manufacturers to standardize formulations and scale distribution.

2. Sourcing high-quality, natural ingredients is becoming more challenging due to environmental factors and over-harvesting, potentially raising production costs and impacting availability for premium products.

3. A legacy of unproven hangover remedies makes some consumer segments cautious about adoption. Building trust through transparency and validated outcomes remains a key hurdle.

4. Even if nurses trust claims, formal buy-in from ER doctors and hospital procurement teams is mandatory before purchases are made.

5. Insurance companies are unlikely to cover such interventions, meaning costs fall directly to hospital budgets. Procurement stakeholders may negotiate aggressively for lower pricing, especially if they perceive the product as similar to less costly consumer supplements or dietary solutions.

Competitive Landscape

Quantum operates at the intersection of neuroscience innovation and precision wellness. Through its product portfolio of proprietary compounds, anchored by Lucid-MS and unbuzzd™, the company targets unmet needs in neurodegeneration and alcohol use recovery, bridging clinical R&D with scalable consumer-ready applications.

Quantum BioPharma's dual-segment model, which combines a first-in-class MS therapeutic with a commercial-stage consumer product, sets it apart from typical clinical-stage peers. With near-term revenue from unbuzzd™ and a novel remyelination asset advancing toward Phase 2, the company is uniquely positioned for both growth and validation. Backed by a partnership with Massachusetts General

Hospital, Quantum has the clinical momentum and strategic foundation to support a valuation comparable to larger biotech names.

Over the past six months, Quantum has delivered a 279% price return, significantly outperforming peers. This sharp rise is driven by mounting investor interest in the company's lead therapeutic, Lucid-MS, which is advancing into Phase 2 trials for MS with a novel remyelination approach. At the same time, Quantum's consumer wellness product, unbuzzd™, has gained market traction, offering a differentiated alcohol-reversal solution that positions the company for near-term revenue.

Further supporting investor enthusiasm, the company is pursuing a pending lawsuit with potential settlement proceeds of up to US $700M, tied to recently announced Contingent Value Rights. This combination of clinical advancement, commercial momentum, and embedded upside has set Quantum apart in a sector where most early-stage biotechs remain either pre-revenue or development-stalled due to financial constraints. The result is a breakout performance that reflects both strong market sentiment and accelerating growth potential.

On the MS side, Quantum competes with companies like Voyager Therapeutics, Aurinia Pharmaceutical and Clene.

Lucid-MS Competitors

Company	Core Focus	Highlights / Stage	Market Cap (as of August 28, 2025)
Aurinia Pharmaceuticals Inc.	Autoimmune disease therapies (e.g. lupus nephritis)	Commercial-stage (LUPKYNIS approved Jan. 2021; profitable (TTM net income $60.6 M)	$1.59B
Voyager Therapeutics, Inc.	Gene and antibody therapies for neurological diseases (Alzheimer's, Parkinson's, Huntington's)	Clinical-stage; pivoting to tau-targeted Alzheimer's; partnerships with Neurocrine/Novartis	$188.59M
Quantum BioPharma Ltd.	Neurodegenerative disease (MS), alcohol addiction; consumer-product and clinical pipeline dual-segment	Clinical-stage, Phase 2-ready MS asset; commercial-stage consumer product; Massachusetts General Hospital partnership	$66.47M
Clene Inc.	Neurodegenerative and neuroinflammatory diseases; nanotherapeutics for ALS, MS, and Parkinson's	Clinical-stage; lead asset CNM-Au8® in Phase 2/3 for ALS and MS; pursuing accelerated approval; NASDAQ-listed	$54.05M

Lucid-MS Competitor Analysis

Aurinia Pharmaceuticals: Aurinia's flagship product, LUPKYNIS (voclosporin), is an oral calcineurin inhibitor (CNI) that became the first FDA-approved oral therapy for the treatment of adult patients with active lupus nephritis. Lupus nephritis is an inflammation of the kidneys caused by Systemic Lupus Erythematosus (SLE), a chronic autoimmune disease where the body's immune system loses tolerance to

self-antigens and mistakenly attacks its own healthy tissues and organs. Lupus nephritis is an irreversible and progressive condition that, if left untreated destroys kidney tissue and impairs kidney function.

LUPKYNIS impeding lupus via inhibiting calcineurin mirrors Lucid-MS inhibiting hypercitrullination. Lucid-MS blocks PAD enzymes from converting arginine to citrulline in proteins that protect the myelin sheath, akin to LUPKYNIS blocking calcineurin from activating T-cells to protect healthy tissues and organs from being attacked.

Voyager Therapeutics: Voyager's flagship product is the TRACER capsid discovery platform that enables delivery of gene therapies for central nervous system (CNS) systems across the blood-brain barrier (BBB). The blood-brain barrier has tight junctions, active efflux pumps, and low rates of endocytosis, making it hard for gene therapies to cross. TRACER uses adeno-associated viruses (AAVs), which are small viruses that infect humans and some other primate species, to cross the BBB and infect CNS cells. The top-performing capsids identified by TRACER bind to specific receptors on brain endothelial cells and transport ligands across the BBB via endocytosis.

Voyager's approach in Alzheimer's disease and ALS aims to protect neurons by delivering gene therapies that silence or counteract the production of neurotoxic proteins. Disease progression is halted by blocking the upstream molecular triggers of tissue damage, preventing tau/SOD1 accumulation and neurodegeneration.

Clene Inc.: Clene's flagship product is CNM-Au8, an oral suspension of gold nanocrystals that uses a patented electro-crystal chemistry process to create clean-surfaced nanocrystals of gold, silver, platinum and zinc. It aims to slow multiple sclerosis (MS) by countering the bioenergetic deficits and oxidative stress that contributes to neurodegeneration and demyelination.

CNM-Au8 is different from Lucid-MS, as it acts more as a cofactor than a remedial treatment. In MS, it helps establish conditions favorable for myelin sheath repair rather than directly regenerating the myelin sheath. It is similar to Lucid-MS in that it doesn't suppress the body's immune system.

unbuzzd™ Competitors

Company	Type	Core Focus	Highlights / Stage	Valuations/ Market Cap
Safety Shot Inc.	Public	Functional Detox & Recovery Shots	"Morning Recovery" and related products; focuses on hydration & "hack your hangover." Early DTC traction; heavy influencer marketing. No robust human data.	$69.75M (August 22, 2025)
ZBiotics Company	Private	Genetically Engineered Probiotics	"Probiotic Drink" degrades acetaldehyde. Science-branding; strong DTC and retail presence. Clinically tested, but limited scope.	$67.00M (2024)
Cheers Health Inc	Private	Alcohol Recovery Supplements	Known for "Cheers Restore" (DHM flavenoids, vitamins); focus on hangover and liver health. Sold DTC and on Amazon. Early mover; no published clinical trials.	$51.38M (2021)
Unbuzzd Wellness Inc.	Private	Alcohol Metabolism & Wellness	Clinically proven, patent-pending formula to accelerate alcohol metabolism & alertness; e-commerce, retail pilots, rapid expansion.	-

unbuzzd™ Competitor Analysis

Cheers Health Inc.: Cheers Health, a pioneer in the alcohol recovery supplement segment, is widely recognized for its "Cheers Restore" capsules. These supplements leverage dihydromyricetin (DHM) and a blend of vitamins designed to support liver health and mitigate hangover symptoms. Cheers's mechanism, through antioxidant and liver-supporting compounds, aims to reduce oxidative stress and inflammation in the aftermath of alcohol consumption, analogous to broader strategies used for cellular protection after exposure to toxins. The company primarily sells through direct-to-consumer (DTC) platforms like Amazon and its own website, focusing on accessibility and routine wellness rather than acute intervention or clinical validation.

ZBiotics Company: ZBiotics offers a scientifically branded probiotic beverage meant to target the toxic byproducts of alcohol metabolism, particularly acetaldehyde. The key innovation involves a genetically engineered probiotic strain that expresses the ALDH enzyme, mimicking a critical pathway in liver function, much like the natural enzymatic defense the body uses to clear acetaldehyde after alcohol is ingested. ZBiotics's approach parallels the way certain enzyme therapies supplement deficient biochemical pathways in metabolic disorders: the product augments the body's existing capacity for detoxification to lower exposure to harmful intermediates. ZBiotics's probiotic beverage is marketed on claims of efficacy and scientific novelty, emphasizing peer-reviewed pilot data, but without the scale of clinical validation seen in pharmaceutical interventions.

Safety Shot Inc.: Safety Shot, known for its "Morning Recovery" drink from More Labs, employs functional beverage formulas featuring dihydromyricetin (DHM), herbal adaptogens, and electrolytes.

Morning Recovery is promoted as an aid to “hack your hangover” by supporting hydration and recovery, rather than addressing intoxication in real time. The formulation aims to replenish nutrients and accelerate recovery post-drinking, similar to how oral rehydration solutions address dehydration by direct replacement. Safety Shot’s strategy stresses influencer- and social marketing, maintaining a presence on DTC platforms and executing periodic retail pilots. The product reframes alcohol recovery as a lifestyle choice focused on hydration and well-being.

Intellectual Property

Lucid-MS is a patented new chemical entity. It has been licensed from the University Health Network, giving Quantum worldwide exclusive rights to the Lucid-MS compound and related patents. The Lucid-MS patent US 10,716,791 B2 is titled “Inhibitors of peptidyl arginine deiminase (PAD) enzymes and uses thereof” was filed on August 15, 2016, and granted on July 21, 2020, with an anticipated expiration date of August 15, 2036. The patent relates to a-substituted amino acid compounds, compositions comprising these compounds and their use, in particular for the treatment of diseases, disorders, or conditions characterized by or associated with the hypercitrullination of proteins by peptidyl arginine deiminase (PAD) enzymes.

A corresponding application was filed with the European Patent Office under the application number 22187901.8 on August 15, 2016.

Commercial Strategy

unbuzzd™

unbuzzd™’s commercial strategy is anchored in a disciplined, phased approach designed for capital efficiency, rapid market validation, and scalable national expansion. The initial go-to-market phase prioritized direct-to-consumer (DTC) e-commerce platforms, including Amazon, unbuzzd.com, and Shopify, enabling real-time feedback, direct customer engagement, and early brand advocacy with minimal upfront investment. This digital-first model has been complemented by a direct store delivery (DSD) launch in Puerto Rico, leveraging an established regional distributor to reach major retail partners such as Walgreens and Walmart in a contained, diverse market. This regional pilot provided a low-risk method for optimizing operational logistics, building retail relationships, and demonstrating retail execution before a wider U.S. rollout.

Building on early traction, Quantum’s plan for 2025–2026 is to accelerate both online and offline visibility through listings on major e-commerce sites like Walmart.com and iHerb and expand influencer-led digital marketing efforts. Simultaneously, unbuzzd™ is entering specialty and lifestyle retail environments, such as The Vitamin Shoppe, Hudson News (travel retail), and over 80,000 convenience stores through the Asian American Trade Associations Council (AATAC) network, capturing impulse and lifestyle-driven purchases across multiple high-traffic consumer touchpoints. The brand further diversifies its channel mix by targeting college bookstores, golf clubs, liquor and club stores, and

leveraging global distribution partnerships in Central and South America through Fusion Consulting Group.

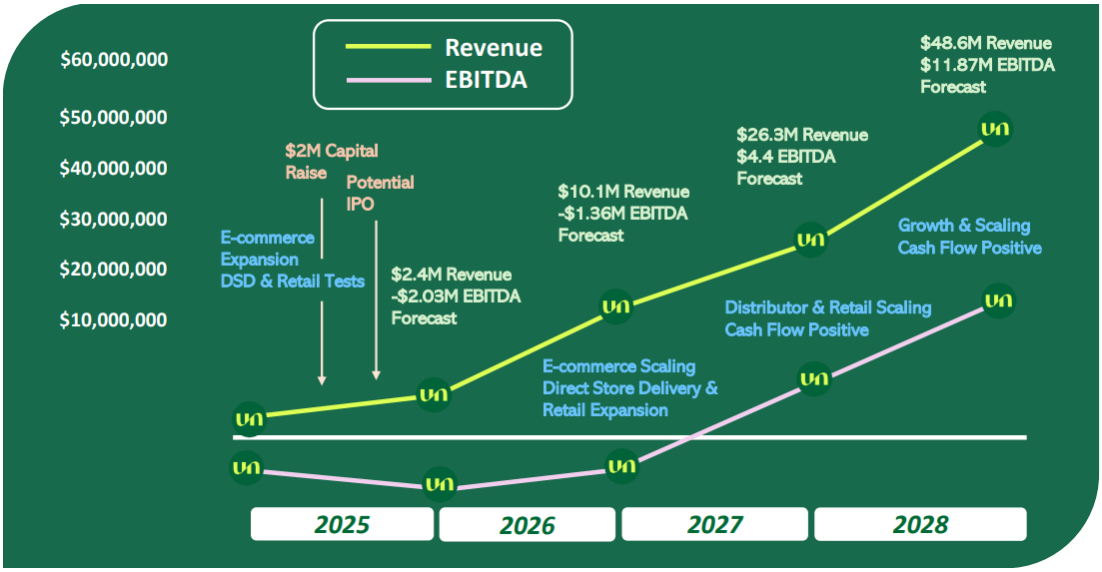
From 2026 onward, unbuzzd™ is positioned for mainstream U.S. retail expansion, with plans to enter all major pharmacy, grocery, and club chains (including CVS, Walgreens, Rite Aid, Kroger, Publix, Walmart, Target, and Costco) via established national distributors. Supplement and on-demand channels, such as GNC and Vitacost, will further boost unbuzzd™'s presence in the fast-growing wellness and convenience categories.

The product is offered as a ready-to-mix powder stick in various multi-pack configurations for convenience and trial, with a ready-to-drink ("RTD") beverage launch slated for 2026 to further expand use occasions and meet mainstream consumer preferences. The brand's phased retail progression avoids high slotting and promotional fees characteristic of early entry into national chains, preserving capital and gross margins through its proof-of-concept period. unbuzzd™'s model also allows for rapid international expansion thanks to strategic licensing and equity partnerships with distributors, a compelling structure for risk-managed growth.

Unbuzzd Wellness outsources manufacturing and logistics to third-party partners, allowing the company to scale quickly without heavy capex or inventory risk.

The company's commercial plan is reflected in its revenue and profitability forecasts through 2028. Early investment is focused on e-commerce infrastructure, regional pilots, and specialty channel partnerships; wider national retail activation is staged after proof-of-velocity in contained markets.

Figure 9: unbuzzd™ Planned Commercial Rollout



Source: Company presentation: unbuzzd

Management expects unbuzzd™ to realize positive EBITDA in 2027, driven by a stepwise transition from direct-to-consumer and retail pilots to national and club-scale retail distribution. By 2028, the company targets $48.6 million in revenue and nearly $12 million in EBITDA, achieving a margin approaching 24%. These financials are based on continued channel diversification, traction in both specialty and mass retail, and ongoing operational leverage through Quantum's asset-light model.

The company's growth prospects are backed by macro trends, with large market expansion, consumer emphasis on wellness and responsible drinking, and rising demand for evidence-based functional supplements. The global market for alcohol recovery and wellness products is forecast to rise from $2.85 billion in 2024 to $12.4 billion in 2034, growing at a CAGR of 15.8%, while the U.S. market is projected to grow from $525 million to $2 billion over the same period, corresponding to a CAGR of 14.3%. unbuzzd™'s scientific leadership, first-mover status with real-time efficacy and safety claims, and scalable commercial platform position it to capture significant market share as category adoption grows.

Management

Zeeshan Saeed – Founder, CEO, President & Executive Co-Chairman of the Board
Mr. Saeed is the founder of Quantum BioPharma. He initially joined the company as a partner when it was merely a concept on paper. Mr. Saeed was instrumental in securing the initial seed capital and played a pivotal role in transitioning Quantum BioPharma into a publicly traded company. His efforts were crucial in assembling a team of professionals, forging key relationships, and developing the company's business plan. Before founding Quantum BioPharma, Mr. Saeed served as President of ZZ Telecommunications Inc., a long-distance telecommunications carrier. He has extensive experience in international capital markets, having successfully assisted multiple start-ups in raising initial funding and securing listings on various stock exchanges. Earlier in his career, Mr. Saeed was the founder and Chief

Executive Officer of Platinum Telecommunications Inc. He holds a Bachelor of Science in Mechanical Engineering.

Anthony Durkacz – Founder & Executive Co-Chairman of the Board
Mr. Durkacz is the Co-Founder of Quantum BioPharma. Mr. Durkacz has served as a director and the Executive Vice-President of First Republic Capital Corporation since 2014. Prior to co-founding the Company, Mr. Durkacz was President of Capital Ideas Investor Relations. He previously served as the Chief Financial Officer and a director of Snipp Interactive Inc., a global marketing solutions company that provides a modular software-as-a-service technology suite. Mr. Durkacz was instrumental in the financing and public listing of Snipp Interactive Inc. with operations in Canada, the U.S., Mexico, and India. From 2006 to 2009, he served as Chief Operating Officer and Chief Financial Officer of MKU Canada Inc. and engaged in mergers and acquisitions of companies around the world. Mr. Durkacz also served as the Chief Financial Officer and a director of Astris Energi Inc., a dual-listed public company in the U.S. and Canada which was acquired by an international conglomerate. Mr. Durkacz began his career at TD Securities on the capital markets trading floor. He holds an Honors Bachelor of Business Administration from Brock University with a major in both Accounting and Finance.

Dr. Lakshmi P. Kotra, PhD – President Quantum BioPharma, CEO Quantum BioPharma Australia Pty Ltd. (subsidiary of Quantum BioPharma)
Dr. Lakshmi Kotra, Senior Scientist at Krembil Brain Institute, University Health Network (UHN), and Professor of Medicinal Chemistry at the University of Toronto, joined Quantum BioPharma as CEO of its wholly owned subsidiary, Lucid, upon completion of its acquisition of Lucid Psycheceuticals in September 2021. Dr. Kotra received his Ph.D. in Pharmacy/Medicinal Chemistry from the University of Georgia and completed postdoctoral training at Wayne State University. He has authored or co-authored over 130 publications and delivered over 140 scientific talks internationally. Dr. Kotra is the recipient of several awards, including the Julia Levy Award from the Society of Chemical Industry (SCI) Canada in recognition of his substantial contribution to the successful commercialization of innovation in Canada in the field of biomedical science and engineering. An academic entrepreneur, Dr. Kotra has contributed to a number of important drug discovery and development projects, including anti-HIV drugs, antibacterials, insulin, antimalarials, medical cannabis-based therapeutics, and drugs targeting multiple sclerosis. In addition to Lucid Psycheceuticals, he co-founded WinSanTor Biosciences, a San Diego, CA-based company developing treatments for peripheral neuropathies, and CannScience Innovations (Scientus Pharma), a Toronto, ON-based company focused on medical cannabis and cannabinoids.

Donal Carroll – Chief Financial Officer
Mr. Carroll joined Quantum as interim CFO in 2018 and was appointed to the position on a permanent basis in December 2019, where he served until May 2021. Mr. Carroll was appointed as COO of the corporation on August 15, 2021. Mr. Carroll has also served on Quantum's Board of Directors from May-July 2018 and since May 2021. Mr. Carroll has 20 years of corporate finance leadership and public company experience, as well as experience in syndicate investing both in equity and debt securities. From June 2005 to January 2008, he served as an Accounting Supervisor with Alberto Culver (now Unilever (NYSE:UL)); from February 2008 to October 2013, Mr. Carroll served as Controller with Videojet Technologies; and from October 2013 to July 2017, he served as a Corporate Controller with Cardinal

Meats, where he was instrumental in major restructuring activities, mergers and acquisitions, and the implementations of new internal controls and ERP systems. Mr. Carroll has been a Director of Bird River Resources Inc. since August 2019 and a Director of Climb Credit Inc. since May 2020. He holds a CPA-CMA designation as well as a Bachelor of Commerce degree from University College Dublin.

Jason Sawyer – Head of Finance and M&A
Mr. Sawyer is a veteran financier, having led Bahamas-based alternative investment and advisory firm Access Alternative Group S.A. (AAG) for more than 20 years. AAG and its affiliates have completed over $5 billion of capital placement spanning leading global alternative fund managers, capital formation and investment in private and public startups, early-stage growth companies, as well as targeted M&A across various sectors. Mr. Sawyer sits on various corporate boards and advisory committees.

Nathan Coyle, CPA – Controller
Nathan Coyle joined Quantum BioPharma in 2020 as Corporate Controller and was appointed to the Interim Chief Financial Officer role in 2021. Mr. Coyle has 15 years of executive business experience as a finance leader in both public and private roles. Mr. Coyle was previously with Illinois Tool Works (NYSE: ITW), where he was a key player in restructuring the organization shaping its growth, and streamlining business within the industrial packaging segment. His involvement in multiple mergers and acquisitions and integrating those organizations was key to company growth. After ITW, Mr. Coyle worked with a private organization implementing the same corporate strategies to maximize growth. Mr. Coyle holds a Bachelor of Business Administration with honors from Brock University and is a Chartered Professional Accountant.

Dr. Andrzej Chruscinski, MD, PhD – Vice-President, Clinical and Scientific Affairs
Dr. Chruscinski leads Quantum's clinical programs and helps to lead the Company's clinical trials as Associate Vice-President, Clinical Affairs. Dr. Chruscinski received his MD, PhD from Stanford University, followed by residency in internal medicine at Stanford, fellowship in cardiology at Stanford and Toronto General, and recently led two major clinical trials investigating tolerance in transplantation and new biomarker discovery. He is a board-certified cardiologist and carries an active medical license in Michigan.

Ashwini Joshi, MS, PG Diploma (QA&RA) – Director, Pharmaceutical Development
Ms. Joshi is a pharmaceutical drug development professional with over nine years of experience developing formulations on small molecules for global markets in mid to large generic and pharmaceutical industries. She worked in various drug developmental stages starting from product development at R&D to its successful scale-up and subsequent regulatory filings. Ms. Joshi received her master's degree in pharmacy (Pharmaceutics) from NMIMS, Mumbai, India and a Post Graduate Diploma in QA & RA from Academy of Applied Pharmaceutical Sciences, Toronto, Canada.

Ahsan Khan, CFA – Financial Analyst
Mr. Khan brings financial management expertise and international experience to Quantum BioPharma as a financial analyst. Prior to joining Quantum, Mr. Khan held key positions at prestigious financial institutions, including Deutsche Bank in Geneva, where he served as an investment manager. His

expertise includes conducting in-depth financial planning and analysis, risk management, and company valuation. Additionally, he has extensive experience in portfolio optimization and strategic asset allocation. Mr. Khan holds a master's degree in finance from HEC Lausanne in Switzerland and is a CFA charterholder.

Risks to Our Price Target

- **unbuzzd™ generates limited revenue**. Quantum BioPharma's business and prospects depend on two products, unbuzzd™ and Lucid-MS. With Lucid-MS entering mid-stage clinical trials, unbuzzd™ does not currently and is unlikely to ever generate enough revenue on its own for the company to operate at cash flow breakeven. An inability to secure, or delay in obtaining FDA clearance for Lucid-MS would prevent Quantum from achieving cash flow breakeven and profitability on its anticipated timeline.

- **Lucid-MS efficacy in humans is still unproven**. Physician sentiment toward Lucid-MS is cautiously optimistic, based primarily on promising Phase 1 safety results and its novel, non-immunomodulatory mechanism of action. However, as the drug has not yet demonstrated efficacy in human trials, broader professional adoption and sentiment hinge on the results of the upcoming Phase 2 studies.

- **Clinical studies are subject to inherent uncertainty**. Clinical studies can be delayed or take longer than anticipated to complete due to difficulties in enrolling patients. Once completed, negative or inconclusive study results may not support regulatory clearance.

- **Commercial success requires successful scaling of sales and marketing capabilities**. Quantum may not be able to successfully develop adequate sales and marketing capabilities to achieve its growth objectives. In a competitive market environment, sales may be difficult to scale.

- **Slower than anticipated product adoption may delay profitability**. Lack of visibility and market awareness in a crowded market environment may result in slower than anticipated product adoption for unbuzzd™. For Lucid-MS, lower than anticipated efficacy in mid- to late-stage clinical trials may limit patient demand.

- **Lack of insurance coverage may restrict sales growth**. Failure to secure and maintain adequate coverage and reimbursement for Lucid-MS from third-party payers would jeopardize broad adoption. Third-party payers may decline to cover and reimburse Lucid-MS or may challenge its sales price. In addition, physicians are less likely to prescribe a therapy when there is no certainty that adequate reimbursement will be available for the time, effort, skill, practice expense and malpractice costs required to provide the therapy to patients.

- **Competitive products can cause technological obsolescence or limit profitability**. In a market with low barriers to entry, such as alcohol misuse therapies, the rapid pace of innovation can

result in technology obsolescence. Numerous pharmaceutical, biotechnology, drug delivery and medical technology companies, some with greater financial resources than the company's, are engaged in the development of alternatives to Quantum's technology, may achieve greater market share than Quantum, or force Quantum to lower its prices to remain competitive.

Financial Perspective

Quantum BioPharma is an early clinical development stage business with limited revenues. For the year ended 2024, Quantum BioPharma registered a net loss of $14.9 million, with interest and investment income of $572,891 and total operating expenses of $16.1 million. With the commercial launch of unbuzzd™ currently underway, modest product revenue is expected to commence during H2 2025. Quantum's biggest expense categories were SG&A and R&D.

Investor sentiment around Lucid-MS can be characterized as a mix of high optimism tempered by significant risk awareness. While the drug's novel approach to treating MS is viewed as a potential game changer, its unproven efficacy in human trials makes Quantum BioPharma stock a high-risk, high-reward, long-term investment. Lucid-MS is designed to repair myelin degradation, which is the root pathology of MS. If successful, it may not only slow disease progression, but reverse disability. Its ultimate success depends on replicating lab results in human trials, a process that requires patience.

Investment Thesis

Quantum BioPharma stands at the forefront of innovation in neurological and metabolic disease therapeutics, anchored by its pioneering work in MS and alcohol misuse treatment. The company's lead asset, Lucid-MS, is advancing toward Phase 2 clinical development after a successful Phase 1 trial demonstrated favorable safety and early biomarker efficacy for remyelination. In parallel, unbuzzd™, is at the early commercial launch stage.

Ongoing asset development represents opportunities for revenue growth and portfolio risk reduction as clinical assets reach later stages of development. The company's model, which combines organic R&D innovation with selective in-licensing and external partnerships, is designed to further enhance upside potential while mitigating concentration risk.

Valuation

Our valuation of Quantum BioPharma is based on a discounted cash flow analysis assuming successful Phase 2 and 3 trials of Lucid-MS in the 2026-2028 timeframe, and a commercial launch in 2029. We apply a 50% discount rate to reflect clinical development and execution risk, noting the 60-70% failure rate of drug candidates in Phase 2 and 40-50% failure rate in Phase 3 clinical development. We apply a perpetual growth rate of 15% to final year (2030) free cash flows considering Lucid-MS's market potential as a prospective breakthrough therapy for MS and blockbuster peak sales potential, which would not be realized until later in the 2030s.

Quantum Biopharma, Ltd. Valuation of the Firm and Common Equity as of August 31, 2025

		Fiscal Year Ending					
		12/31/25	12/31/26	12/31/27	12/31/28	12/31/29	12/31/30
$(000s)							
Lucid-MS		0.0	0.0	0.0	0.0	214,900.0	572,600.0
Unbuzzd		2,400.0	10,100.0	26,300.0	48,600.0	50,544.0	50,544.0
Revenue		**2,400.0**	**10,100.0**	**26,300.0**	**48,600.0**	**265,444.0**	**623,144.0**
Cost of Goods Sold		0.0	0.0	0.0	0.0	60,300.0	111,816.0
Gross Profit		**2,400.0**	**10,100.0**	**26,300.0**	**48,600.0**	**205,144.0**	**511,328.0**
% Gross Margin						*77.3%*	*82.1%*
Operating Expenses							
Research & Development Expense		8,363.0	12,000.0	25,000.0	25,000.0	10,000.0	10,000.0
Selling Expense		0.0	0.0	0.0	1,000.0	5,000.0	10,000.0
General & Administrative Expense		12,571.0	15,567.0	23,350.5	35,025.8	40,381.1	46,304.9
Total Operating Expenses		**20,934.0**	**27,567.0**	**48,350.5**	**61,025.8**	**55,381.1**	**66,304.9**
EBITDA		**(18,534.0)**	**(17,467.0)**	**(22,050.5)**	**(12,425.8)**	**149,762.9**	**445,023.1**
Depreciation and Amortization		(520.0)	(560.0)	(600.0)	(650.0)	(725.0)	(900.0)
EBIT		**(19,054.0)**	**(18,027.0)**	**(22,650.5)**	**(13,075.8)**	**149,037.9**	**444,123.1**
Interest Expense (Income), net		496.0	(1,400.0)	(1,500.0)	(500.0)	(1,000.0)	(4,000.0)
EBT		**(19,550.0)**	**(16,627.0)**	**(21,150.5)**	**(12,575.8)**	**150,037.9**	**448,123.1**
TAX CALCULATIONS							
Tax rate		21%	21%	21%	21%	21%	21%
EBT		(19,550.0)	(16,627.0)	(21,150.5)	(12,575.8)	150,037.9	448,123.1
Taxes Paid - without NOLs		0.0	0.0	0.0	0.0	31,508.0	94,105.9
NOLs Applied		0.0	0.0	0.0	0.0	150,037.9	112,710.0
Taxes Paid - with NOLs		0.0	0.0	0.0	0.0	0.0	70,436.7
New NOLs Created		(19,054.0)	(18,027.0)	(22,650.5)	(13,075.8)	0.0	0.0
NOL - Opening Balance		189,940.7	208,994.7	227,021.7	249,672.2	262,747.9	112,710.0
Increase in NOL		19,054.0	18,027.0	22,650.5	13,075.8	-150,037.9	-112,710.0
NOL - Closing Balance		208,994.7	227,021.7	249,672.2	262,747.9	112,710.0	0.0
Memo Item: Taxes Paid		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**70,436.7**
NET WORKING CAPITAL							
as % of Revenue							
WC - Opening							
Increase in WC							
WC - Closing							
Memo Item: Change in Net Working Capital		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPEX		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
FREE CASH FLOWS							
EBIT		(19,054.0)	(18,027.0)	(22,650.5)	(13,075.8)	149,037.9	444,123.1
less Taxes Paid		0.0	0.0	0.0	0.0	0.0	70,436.7
plus Depreciation/Amortization		520.0	560.0	600.0	650.0	725.0	900.0
less Change in Net Working Capital		0.0	0.0	0.0	0.0	0.0	0.0
less Capex		0.0	0.0	0.0	0.0	0.0	0.0
less Payments to Other Forms of Capital		0.0	0.0	0.0	0.0	0.0	1.0
Free Cash Flows		**(18,534.0)**	**(17,467.0)**	**(22,050.5)**	**(12,425.8)**	**149,762.9**	**374,585.4**
Memo Item: Free Cash Flow (w/out tax shield)							
PRESENT VALUE OF FREE CASH FLOWS							
Discount Rate	50.00%						
Discount Period		0.333	1.333	2.333	3.333	4.333	5.333
Discount Factor		0.874	0.582	0.388	0.259	0.173	0.115
PV (FCFs)		(16,190.9)	(10,172.6)	(8,561.3)	(3,216.3)	25,843.0	43,092.1
PV (FCFs)	30,794						
TERMINAL VALUE							
Perpetual Growth Rate	15.00%						
Terminal Value (Future Value)							1,230,780.5
Terminal Value (Present Value)	141,588						
NOLs							
Future Value							0.0
Present Value	0						
ENTERPRISE VALUE	**172,382**						
plus Cash on Balance Sheet	1,498						
plus Cash From Option Exercise	-						
less Debt	321						
Common Equity Value	173,559						
Common shares outstanding	3,816						
Implied common equity value per share	**$45.48**						

Sources: Company reports, Capital IQ, Kingswood estimates.

Quantum BioPharma Ltd. Income Statement 2024-2026

Quantum BioPharma Ltd. (QNTM)	MAR 24 A	JUN 24 A	SEP 24 A	DEC 24 A	FY 24 A	MAR 25 A	JUN 25 A	SEP 25 E	DEC 25 E	FY 25 E	MAR 26 E	JUN 26 E	SEP 26 E	DEC 26 E	FY 26 E
Revenue	0	0	0	0	0	0	0	900	1,500	2,400	2,100	2,300	2,600	3,100	10,100
Cost of Goods Sold	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gross Profit	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**900**	**1,500**	**2,400**	**2,100**	**2,300**	**2,600**	**3,100**	**10,100**
Operating Expenses:															
Research & Development	160	898	745	4,280	6,083	1,648	549	2,500	3,665	8,363	2,500	3,000	3,000	3,500	12,000
Selling Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General & Administrative	1,919	2,310	3,250	1,931	9,410	1,328	3,313	2,655	3,038	10,334	3,050	3,080	3,110	3,160	12,400
Stock-Based Compensation	58	112	65	-82	152	291	850	437	659	2,237	762	898	921	586	3,167
Depreciation & Amortization	120	137	121	113	491	130	141	124	125	520	140	140	140	140	560
Total Operating Expenses	2,257	3,457	4,181	6,241	16,136	3,397	4,853	5,716	7,487	21,454	6,452	7,118	7,171	7,386	28,127
Operating Income (Loss)	**(2,257)**	**(3,457)**	**(4,181)**	**(6,241)**	**(16,136)**	**(3,397)**	**(4,853)**	**(4,816)**	**(5,987)**	**(19,054)**	**(4,352)**	**(4,818)**	**(4,571)**	**(4,286)**	**(18,027)**
Other (Expense)/Income:															
Interest Expense	(12)	(8)	(10)	(2)	(33)	(351)	(117)	(289)	(300)	(1,057)	0	0	0	0	0
Interest and Investment Income	173	104	164	132	573	67	91	103	300	561	500	400	300	200	1,400
Other (Expense)/Income, net	6	8	12	655	681	(5,059)	(4,887)	(4,500)	(4,200)	(18,646)	(3,900)	(3,600)	(3,300)	(3,000)	0
Total Other (Expense)/Income	166	104	166	785	1,221	(5,342)	(4,913)	(4,686)	(4,200)	(19,141)	(3,400)	(3,200)	(3,000)	(2,800)	1,400
Income Tax Expense	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Income to Company	(2,091)	(3,352)	(4,015)	(5,456)	(14,915)	(8,740)	(9,766)	(9,502)	(10,187)	(38,195)	(7,752)	(8,018)	(7,571)	(7,086)	(16,627)
Minority Interest in Earnings	188	241	188	96	713	163	513								
Net Income	**(1,903)**	**(3,112)**	**(3,827)**	**(5,360)**	**(14,203)**	**(8,577)**	**(9,253)**	**(9,502)**	**(10,187)**	**(38,195)**	**(7,752)**	**(8,018)**	**(7,571)**	**(7,086)**	**(16,627)**
Per Share Data															
Net Loss per Share, Basic	($3.12)	($4.85)	($4.17)	($2.70)	($12.49)	($3.47)	($3.06)	($2.69)	($2.50)	($11.65)	($1.64)	($1.63)	($1.48)	($1.32)	($3.30)
Net Loss per Share, Diluted	($3.12)	($4.85)	($4.17)	($2.70)	($12.49)	($3.47)	($3.06)	($2.69)	($2.50)	($11.65)	($1.64)	($1.63)	($1.48)	($1.32)	($3.30)
Weighted Average Shares Outstanding (M)															
Basic	0.610	0.641	0.918	1.982	1.137	2.475	3.021	3.534	4.079	3.277	4.738	4.929	5.105	5.374	5.037
Diluted	0.610	0.641	0.918	1.982	1.137	2.475	3.021	3.534	4.079	3.277	4.738	4.929	5.105	5.374	5.037
All figures in thousands of U.S. Dollars, except per share items.															

Sources: Capital IQ (2024 and H1 2025 data), Kingswood estimates.

DISCLOSURES

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This report was produced with the significant assistance of Neel Dahake and Tejas Prakash, who contributed as Associate Analysts.

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HOLD	1	9.09	0	0.00
SELL	0	0.00	0	0.00
NOT RATED	1	9.09	1	100.00

As of July 2025.

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Quantum BioPharma, Ltd. Rating History as of August 28, 2025

Source: E*Trade.

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