

WHITE PAPER

# Molluscum Contagiosum: The Unmet Need for a Safe, Effective Treatment

*A Market Opportunity Analysis for Pharmaceutical Partners*

April 2026

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## Executive Summary

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**Molluscum contagiosum (MC)** is a highly contagious viral skin disease affecting an estimated **6 million Americans** annually, predominantly children between the ages of 1 and 10. Despite its prevalence, the disease has historically been managed with a conservative clinical approach, with physicians often advising families to "wait it out" for extended periods. This approach is driven not by the absence of disease burden or patient suffering, but by the absence of a treatment worth prescribing.

Two FDA-approved therapies have emerged since 2023: cantharidin (Ycanth) and berdazimer gel (Zelsuvmi). Both represent genuine regulatory progress; however, neither fully addresses the central unmet need. Ycanth is a physician-administered vesicant that induces blistering, requires in-office application, and is associated with local skin reactions in the vast majority of patients (approximately 97% in clinical trials). Zelsuvmi offers the advantage of at-home application but demonstrated complete clearance in approximately one-third of patients at 12 weeks in clinical trials, highlighting modest efficacy. Its mechanism of action in MC is not fully characterized and may not directly target viral clearance. To date, neither therapy has demonstrated direct, clinically confirmed antiviral activity against the molluscum contagiosum virus in humans, leaving a meaningful gap in mechanism-based treatment.

The market is validated, primed, and underserved. The approval of two therapies has established a clear regulatory pathway, set premium pricing precedents, and confirmed strong physician willingness to prescribe; however, both therapies have meaningful clinical limitations that leave the central unmet need unaddressed. Publicly available pricing data indicate that recently approved therapies are generally priced approximately in the \$1,500 to over \$2,000 range per treatment course, depending on dosing and payer coverage. Clinicians still lack a treatment that is simultaneously effective, safe, pain-free, and directly antiviral. This gap represents a compelling commercial opportunity for a pharmaceutical partner prepared to bring a differentiated, mechanism-driven product to market.

### Key Finding

The current physician-accessible MC market reflects suppressed demand driven by historically limited treatment options. An effective, at-home, pain-free therapy would not simply capture existing market share—it would expand the market by unlocking substantial pent-up demand from millions of patients and families who currently do not seek care.

## Disease Overview: What Molluscum Contagiosum Really Is

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Molluscum contagiosum is caused by the molluscum contagiosum virus (MCV), a member of the Poxviridae family, the same family as smallpox. Unlike most common viral skin infections, MCV employs immune evasion mechanisms that delay effective host immune clearance, allowing the virus to persist in the skin for months to years while largely avoiding systemic immune detection.

The clinical presentation is characteristic: small, dome-shaped, flesh-colored papules with central umbilication, typically appearing in clusters on the face, trunk, arms, and legs. In children with atopic dermatitis, lesions are often more widespread and may be concentrated in flexural areas due to increased skin-to-skin contact and barrier disruption. Lesions may be pruritic, and scratching frequently leads to autoinoculation, driving progressive spread across affected areas. Secondary bacterial infection can occur, particularly in excoriated lesions and in patients with underlying atopic dermatitis, where skin barrier disruption increases susceptibility.

### Three populations are primarily affected:

1. Children (ages 1–10): The largest group, accounting for the majority of cases. Transmission occurs through direct skin contact, shared towels, and contaminated pool or gymnasium equipment. In-household transmission rates approach 41%.
2. Sexually active young adults: MC is classified as a sexually transmitted infection in adults, with genital lesions being the predominant presentation.
3. Immunocompromised individuals: In patients with HIV or on immunosuppressive therapy, MC can be extensive, disfiguring, and refractory to all available treatments, with lesion counts in the hundreds.

While MC is technically benign and self-limiting, the qualifier "self-limiting" deserves scrutiny. The average duration of untreated MC in otherwise healthy children ranges from 8 to 18 months, with some cases persisting for 3 to 5 years. Spontaneous resolution is not a predictable or rapid process and during the interval, families are left managing an infectious, spreading, itchy, socially stigmatizing condition with no effective pharmacological option.

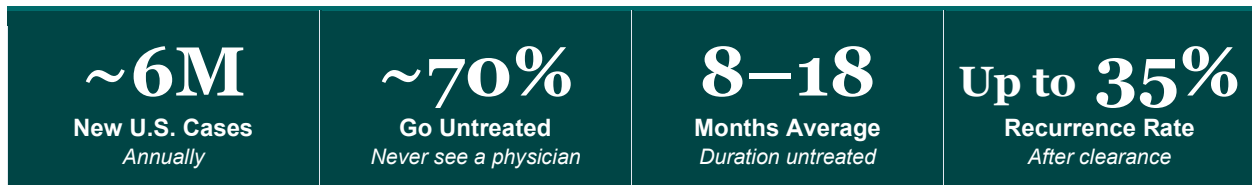
## Epidemiology: The Scale of the Problem

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Despite its prevalence, the epidemiology of MC in the United States remains incompletely characterized. The most rigorous population-based study of MC incidence, a CDC-supported analysis using Indian Health Service data, estimated an average annual rate of MC-associated outpatient visits of 22 per 10,000 individuals (2001–2005). Applied to the current U.S. population, this corresponds to approximately 750,000 physician-visited cases per year. However, this figure captures only diagnosed, physician-presenting cases. Multiple studies suggest that a majority of MC cases, often estimated at approximately 70%, never reach a physician.

Correcting for this diagnostic gap yields the widely cited industry figure of approximately 6 million new cases annually. This is an estimate consistent with data used in Verrica Pharmaceuticals' and Alphyn Biologics' FDA submissions, clinical trial publications, and the Centers for Disease

Control and Prevention's public health guidance. For this analysis, 6 million annual new cases are treated as the established incidence benchmark.



Pediatric patients bear the greatest burden. Children ages 1–4 experience the highest incidence, with rates in some studies reaching 150 per 10,000 annually, nearly seven times the general population rate. The condition is associated with atopic dermatitis in approximately 40–50% of pediatric cases, and children with atopic dermatitis develop significantly more lesions and experience longer disease duration than those without.

The global burden is substantial. World Health Organization and GBD data indicate that approximately **122 million people globally** were affected by MC as of 2010, representing approximately 1.8% of the global population, a figure that has continued to rise. In the United Kingdom, MC incidence increased 50% between 1998 and 2008. In Australia, seroprevalence studies have identified MCV antibodies in 23% of the population, suggesting prior infection exposure is far broader than diagnosed clinical cases.

## The Clinical Burden: More Than "Just Bumps"

The tendency to minimize MC as a cosmetic nuisance, a "wait and see" condition, reflects an outdated and paternalistic view of pediatric skin disease. For families managing MC, the experience is prolonged, distressing, and far-reaching in its impact.

### Psychosocial Impact

MC lesions are highly visible and frequently appear on the face, neck, arms, and trunk. These are areas that are impossible to conceal in social settings. Children with MC face exclusion from swimming pools, gymnasiums, and sports teams due to contagion concerns. Visible lesions are associated with peer teasing, bullying, and significant psychosocial distress. Published patient experience data from the B-SIMPLE4 clinical trial found that self-consciousness and embarrassment were the most frequently reported psychosocial impacts, cited by the majority of participating families. The average reported disease duration among B-SIMPLE4 participants at the time of enrollment was nearly two years. Nearly two years of visible, spreading, socially stigmatizing lesions in children who are already navigating the social complexities of school and peer relationships.

### Caregiver and Healthcare System Burden

Families managing MC typically make multiple physician visits before achieving resolution. Pediatricians often defer to dermatologists; dermatologists administer in-office procedures; procedures either fail to clear all lesions or trigger new lesions through autoinoculation at the procedure site. Parents report averaging 3 to 5 physician visits before resolution, a cycle that generates substantial direct costs (copays, specialist fees, procedure charges) and indirect costs (lost work time, childcare disruption, transportation).

The contagious nature of MC creates additional family burden: siblings and playmates are exposed, and household transmission rates approaching 41% mean that a single child's infection frequently becomes a multi-child household outbreak. School nurses, pediatric offices, and dermatology practices expend significant counseling time on MC, resources that would not be necessary with an effective, at-home, self-applied treatment.

## Medical Complications

While MC is categorized as benign, complications are not uncommon. Secondary bacterial infection with *Staphylococcus aureus* or *Streptococcus pyogenes* can occur when scratched lesions become open wounds. This is a particular risk in children with concurrent atopic dermatitis who have compromised skin barrier function. Eczema herpeticum-like presentations, extensive inflamed dermatitis surrounding MC lesions ("molluscum dermatitis"), occur in a subset of patients and can be mistaken for allergic reactions, leading to inappropriate steroid prescribing that may paradoxically worsen MC. In immunocompromised patients, MC can produce hundreds to thousands of lesions and is associated with significant morbidity.

### Clinical Reality Check

*"Benign and self-limiting" is not the same as "acceptable." Strep throat is self-limiting. We treat it. Warts are self-limiting. We treat them. The persistence of a 'wait it out' standard for MC reflects not an absence of suffering, it reflects the absence, until recently, of anything worth prescribing.*

## The Treatment Landscape: A History of Inadequacy

For a century and a half since MC was first described the treatment landscape has been characterized by improvisation, inconsistency, and clinical resignation. The variety of treatment approaches that have been employed (curettage, cryotherapy, cantharidin, imiquimod, tretinoin, salicylic acid, potassium hydroxide) reflects not an abundance of effective options, but a scramble for any option at all.

### Procedural Treatments

Physical removal methods of curettage, cryotherapy, and electrodesiccation have historically been the most common approaches for patients who do seek care. Curettage involves scraping lesions with a sharp instrument under local anesthetic; cryotherapy freezes lesions with liquid nitrogen. Both are painful, particularly for young children, who may require physical restraint or sedation for extensive lesion burdens. Both require serial office visits, as new lesions continue to appear during active infection. Neither addresses the underlying viral infection; they destroy lesions mechanically without any antiviral effect, leaving the virus to generate new lesions at adjacent sites.

### Off-Label Pharmacologic Treatments

Before 2023, no FDA-approved pharmacological treatment existed for MC. Clinicians used a range of off-label topical agents such as imiquimod (an immune response modifier), tretinoin (a retinoid), salicylic acid, and cantharidin (a vesicant derived from blister beetles). Of these, cantharidin was the most widely used, having been employed in compounded form since the

1950s, but it was removed from formal FDA review in 1962 and existed in a regulatory gray zone for decades. Its efficacy varied with compounding quality, concentration, and method of application, all unregulated variables that produced widely inconsistent clinical outcomes.

## The FDA Approval of Ycanth and Zelsuvmi: Progress With Significant Limitations

The approval of Ycanth (cantharidin 0.7%, Verrica Pharmaceuticals) in July 2023 and Zelsuvmi (berdazimer gel 10.3%, Ligand/Pelthos) in January 2024 represent the first regulatory acknowledgment that MC warrants pharmacological treatment. However, both approvals carry meaningful clinical limitations that leave the core unmet need substantially intact.

Treatment	Mechanism	Direct Antiviral Activity	Pain-Free	At-Home	Episode Price	Status
Cantharidin (Ycanth)	Blistering agent	No	No	No	\$1,440-\$1,654 per visit	FDA-Approved
Berdazimer (Zelsuvmi)	Nitric oxide-Releasing agent	Direct antiviral activity not demonstrated	Yes	Yes	\$1,970-\$2,350 per kit	FDA-Approved
Curettage / Cryotherapy	Mechanical removal	No	No	No	Varies	Procedure
<b>Zabalafin Hydrogel</b>	<b>Multi-Target MTT®</b>	Designed for direct antiviral activity	<b>Yes</b>	<b>Yes</b>	<b>TBD</b>	<b>Phase 2</b>

### Ycanth (Cantharidin): Efficacy at the Cost of Tolerability

Ycanth’s pivotal CAMP-1 and CAMP-2 trials demonstrated complete lesion clearance in 46% and 54% of patients, respectively, versus 18% and 13% with vehicle, a statistically significant but clinically modest result, with nearly half of treated patients failing to achieve complete clearance. More critically, local skin reactions were reported in the vast majority of patients (approximately 97% in clinical trials), including blistering, pain, vesiculation, discoloration, and erythema. Ycanth is applied exclusively in a physician’s office and cannot be self-applied at home. A full course typically requires up to four treatment visits at approximately three-week intervals, generating total episode costs that may be substantial, particularly in cases requiring multiple in-office treatment visits. For families with limited access to dermatologic specialists, this treatment may present meaningful logistical challenges.

### Zelsuvmi (Berdazimer): Accessible Delivery, Modest Efficacy

Zelsuvmi’s B-SIMPLE4 trial enrolled 891 patients, the largest interventional MC trial conducted to date, and demonstrated complete clearance in 32.4% of treated patients versus 19.7% in the vehicle group at week 12. This represents a 12.7 percentage point absolute difference, statistically significant but clinically modest, with only 1 in 3 patients achieving complete

clearance at 12 weeks. Its mechanism of action in MC is not fully characterized, and it has not demonstrated direct, clinically confirmed antiviral activity against MCV. Berdazimer functions through nitric oxide release; however, the FDA label acknowledges that the mechanism of action for MC treatment is unknown. While the drug improves lesion clearance rates, it may not directly address the underlying viral burden. Common adverse events include application-site reactions such as burning, stinging, erythema, and pruritus, tolerable but present.

### **The Core Unmet Need in One Sentence**

*No currently approved treatment has demonstrated direct, clinically confirmed elimination of the molluscum contagiosum virus, which means neither Ycanth nor Zelsuvmi can be considered curative based on currently available clinical evidence. They reduce lesion burden through indirect mechanisms while the virus persists, which is why recurrence rates remain as high as 35% after apparent clearance.*

## **What "Safe and Effective" Actually Means for MC**

The regulatory and commercial success of Ycanth and Zelsuvmi has established the primary endpoint standard for MC: complete clearance of all lesions. What neither drug has established is the full profile of what an ideal MC treatment would look like. That profile, informed by the limitations of both approved drugs and by patient experience data from B-SIMPLE4, can be defined across five dimensions:

1. **Direct antiviral activity:** Kills the MCV pathogen itself, not just the lesions it produces. This is the only mechanism consistent with true cure and meaningful reduction in recurrence rates. No currently approved MC therapy achieves this.
2. **Pain-free tolerability:** Acceptable for daily use by children and self-application by parents and caregivers. The 97% skin reaction rate of Ycanth and the burning and stinging of Zelsuvmi both limit real-world adherence and patient experience.
3. **Multi-symptom activity:** Addresses itch (pruritus), inflammation, and dermatitis, not just lesion count. Patient experience data consistently identifies itch, scarring, and visible inflammation as the most bothersome symptoms, not lesion number per se.
4. **At-home application:** Eliminates the specialist visit barrier. Access to dermatology is constrained by geography, wait times, and insurance. A home-applied treatment multiplies the addressable patient population dramatically.
5. **Pediatric safety profile:** Suitable for children as young as 6 months, with a clean adverse event profile that supports continuous use without concerns about cumulative toxicity. MC in children with atopic dermatitis often requires months of sustained treatment.

The significance of this profile extends beyond clinical outcomes. A treatment that meets all five criteria would fundamentally change prescriber behavior: physicians who currently advise watchful waiting would begin prescribing at first presentation; pediatricians who currently defer to dermatologists would prescribe directly; telehealth platforms could enable diagnosis and prescription without a physical visit. The access barriers that currently suppress the addressable market would begin to dissolve.

## Precedent: What Happens When Effective Treatment Arrives

The argument that an effective MC treatment would expand and not merely capture the existing market is not speculative. It is supported by direct precedent from three analogous disease areas in dermatology and infectious disease, each of which followed an identical pattern: large, undertreated patient populations tolerated suffering until a genuinely effective product arrived, at which point treatment-seeking behavior changed, physician prescribing changed, and markets grew dramatically beyond prior estimates.

### Case Study 1: Onychomycosis (Nail Fungus): The Closest Parallel

#### Why This Matters for MC

*Onychomycosis is benign, self-limiting, cosmetically distressing, and affects a stigmatized body part. Before effective treatment, 50–90% of patients never sought care. The analogy to molluscum contagiosum is direct.*

Onychomycosis is a fungal infection of the nails affecting an estimated 10–14% of the U.S. population. This is a condition that is, like MC, benign in immunocompetent individuals, self-limiting in theory, visible and stigmatizing, and historically dismissed as not worth treating. Before the development of effective oral antifungal agents, most patients simply lived with discolored, thickened nails. Physicians either offered ineffective topical treatments or told patients to accept the condition.

Research consistently shows that between 50% and 90% of patients with nail fungal infections do not seek or receive treatment, even today, with effective treatments available. The barriers mirror those in MC exactly: patients believe nothing will work; physicians perceive the condition as cosmetic; the specialist visit requires effort that the perceived treatment benefit does not justify.

The oral antifungal terbinafine (Lamisil) received FDA approval in 1996. Its arrival — the first genuinely effective systemic treatment for onychomycosis, fundamentally changed the market. Patients who had accepted the condition began seeking care. Physicians who had dismissed nail fungus as untreatable began diagnosing and prescribing. The onychomycosis treatment market grew to over \$4.2 billion by 2020 and is now projected to reach \$9.8 billion by 2032 at a CAGR of over 8%. A condition that the majority of sufferers tolerated in silence became one of the most commercially robust segments in medical dermatology. Driven not by an increase in disease prevalence, but by an increase in the proportion of patients willing to seek care once an effective option existed.

The parallel for MC is direct: a pediatric population accepting suffering because nothing worked + an effective, safe, at-home treatment = a market that expands beyond what physician visit rates would suggest.

## Case Study 2: Herpes Labialis (Cold Sores): The Stigma and Awareness Parallel

### Why This Matters for MC

*Cold sores share MC's psychosocial stigma dynamic. Before effective antivirals, patients tolerated outbreaks without seeking care. Effective antiviral treatment normalized the condition and dramatically grew the treatment market through awareness and prescriber behavior change.*

Herpes labialis, caused by herpes simplex virus type 1 (HSV-1), affects over 67% of the global population under age 50, yet for most of the twentieth century, patients simply managed recurrences with topical OTC products of limited efficacy or accepted outbreaks as an unavoidable nuisance. The social stigma surrounding visible labial lesions, socially proximate to sexually transmitted infection in the public perception, created an additional barrier to seeking physician care, mirroring the social stigma that discourages MC patients from discussing their children's condition openly.

The availability of effective antiviral therapies, acyclovir, then valacyclovir (Valtrex), which offered superior absorption and a more convenient dosing regimen, changed the treatment-seeking dynamic. Public health campaigns, education initiatives, and direct-to-consumer advertising reinforced awareness that effective treatment existed. The result was a documented expansion in treatment-seeking behavior: patients who had silently managed recurrences began proactively seeking prescriptions. Valacyclovir became one of the best-selling branded prescription drugs globally in its peak years, despite being prescribed for a condition that a large portion of sufferers had previously not treated at all.

The herpes labialis treatment market is now projected to reach \$1.57 billion by 2031, growing at a CAGR of 6.3%. More significantly, published market analyses explicitly attribute this growth to the psychosocial impact of visible outbreaks contributing to early diagnosis and treatment-seeking behavior. The same dynamic that would operate for parents of children with visible, spreading MC lesions once an effective at-home treatment is available.

## Case Study 3: Herpes Zoster (Shingles): The Most Dramatic Market Expansion

### Why This Matters for MC

*The Shingrix story is the most powerful precedent. A vastly superior product, 97% efficacy vs. ~50% for its predecessor, launched into a market where most at-risk patients had been told "there's nothing great available." GSK ran out of supply within the first year because demand expansion so far outpaced forecasts.*

The shingles vaccine market offers the most dramatic documented example of market expansion following the introduction of a superior product. Before 2017, Zostavax, a live attenuated vaccine approved in 2006, was the only FDA-approved shingles prevention option. Zostavax offered approximately 50% efficacy in adults over 60, with waning protection over time and limited utility in immunocompromised patients. As a result, most at-risk adults either did not receive vaccination or were told it offered imperfect protection. Vaccination rates among U.S. adults over 60 remained modest.

In October 2017, GlaxoSmithKline received FDA approval for Shingrix, a recombinant, adjuvanted vaccine that demonstrated 97.2% efficacy in adults aged 50 and older and 89.8% efficacy in those over 70. The efficacy differential versus the existing vaccine was decisive. The CDC recommended Shingrix over Zostavax in January 2018, and the market's response was immediate and dramatic.

Within its first year of commercial availability, Shingrix generated approximately \$700 million in annual sales, a figure that stunned analysts who had modeled demand based on the prior Zostavax market trajectory. By 2022, Shingrix generated approximately \$3.2 billion in global annual revenue, reflecting a compound annual growth rate exceeding 30% in its early commercial years. GSK was forced to rapidly expand manufacturing capacity because patient demand, driven by the dramatic efficacy improvement, far outpaced supply. Vaccination rates among eligible U.S. adults climbed substantially, as patients who had previously declined Zostavax due to its limited efficacy sought out the superior product.

The mechanism of market expansion was not demographic growth or new patient identification; it was a behavioral change driven by a product good enough to justify acting. The at-risk population had always existed; what changed was that a product finally met the bar at which acting on the risk felt worth the effort.

### The Common Thread: Effective Treatment Creates Demand

	Onychomycosis	Herpes Labialis	Herpes Zoster
<b>% Untreated pre-effective Rx</b>	50–90%	>60% not seeking Rx	Low vacc. rates pre-Shingrix
<b>Game-changer product</b>	Terbinafine (1996)	Valacyclovir (1995)	Shingrix (2017)
<b>Key advantage</b>	First truly effective oral	Superior absorption, 1-day dose	97% efficacy vs. ~50%
<b>Market post-launch</b>	\$4.2B by 2020	~\$1.57B by 2031	\$3.2B/yr by 2022
<b>Growth driver</b>	Patients finally seek care	Awareness + Rx normalization	Demand outstripped supply

In each case, the critical variable was not the size of the patient population, it was the existence of a treatment good enough to change behavior. For MC, the patient population is 6 million new cases per year. The treatment-seeking behavior is currently suppressed by inadequate options. The behavioral lever that would unlock that demand is precisely what the existing approved drugs have failed to provide: a safe, effective, pain-free, at-home treatment that directly eliminates the virus. The precedents are clear, consistent, and commercially documented.

## Market Opportunity: Suppressed Demand and Market Creation

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### The Current Market Is Not the Real Market

Current physician-accessible estimates reflect a market under conditions of therapeutic failure. Approximately 70% of MC cases never reach a physician, not because parents do not notice or do not care about their children's suffering, but because the available options have offered little reason to seek medical care. Curettage is painful. Ycanth causes blistering. Zelsuvmi clears lesions in only one-third of patients. When physicians themselves routinely advise "wait and see," the signal reaching patients is that treatment is not worth pursuing.

This behavioral pattern is not a permanent feature of the MC market. It is a consequence of inadequate treatment. Analogous precedents in dermatology and infectious disease are instructive: before effective antifungal therapies for onychomycosis existed, nail fungal infection was similarly dismissed and undertreated. Once terbinafine and itraconazole became available (drugs that actually worked), the market expanded dramatically as previously discouraged patients began seeking care. Before oral antivirals for herpes labialis (cold sores) were available, most patients simply managed recurrences without treatment. Valacyclovir's availability substantially changed treatment-seeking behavior and created a billion-dollar market for a condition previously tolerated as untreatable.

The same dynamic applies to MC. An effective, safe, at-home treatment would create new demand through multiple simultaneous mechanisms:

1. Parents who previously accepted the "wait it out" recommendation would return to physicians with awareness that a real treatment now exists.
2. Pediatricians who currently dismiss MC would prescribe at first diagnosis, knowing treatment is available and appropriate.
3. At-home application removes the specialist visit barrier, bringing patients into the prescribing funnel who currently self-resolve or never engage the healthcare system.
4. School nurses, daycare administrators, and pediatric nursing staff, who currently advise exclusion from pools and gyms, would begin recommending treatment as a public health measure.
5. Social networks among parents are highly effective at disseminating information about effective pediatric treatments; word-of-mouth from families who achieve rapid, complete clearance would drive organic demand.

### Revenue Scenarios: Suppressed Baseline vs. Unleashed Market

The following scenarios model U.S. revenue potential across a range of market conditions, anchored to the 6 million annual new case figure (industry-standard estimate) and a treatment episode price of \$1,200–\$1,500, positioned as a premium discount to Zelsuvmi's \$1,970–\$2,350 list price while reflecting superior clinical profile.

Scenario	Seek Care	Rx Penetration	ASP	Peak U.S. Revenue
Suppressed - Conservative	~30%	25%	\$1,200	<b>\$540M</b>
Suppressed - Base Case	~30%	35%	\$1,350	<b>\$851M</b>
Unleashed - If 40% seek care	~40%	35%	\$1,350	<b>\$1.13B</b>
Unleashed - If 50% seek care	~50%	40%	\$1,350	<b>\$1.62B</b>
Unleashed - Standard of Care	~55%	50%	\$1,500	<b>\$2.48B</b>

Assumptions: 6M annual U.S. new cases; percentage seeking physician care applied to derive addressable pool; Rx penetration rate applied to addressable pool. Suppressed scenarios reflect today's market under inadequate therapeutic options. Unleashed scenarios reflect precedent-consistent demand expansion when effective treatment is introduced. Does not include ex-U.S. revenue potential.

## Regulatory Pathway: Established and Clear

The approval of Ycanth and Zelsuvmi has conferred a significant benefit on any subsequent MC drug development program: the regulatory pathway is fully established. The FDA has accepted complete clearance of all treatable lesions as the primary endpoint for MC pivotal trials. The trial design, randomized, double-blind, placebo-controlled, with a 12–16 week treatment period and a two-week follow-up is standardized. The patient population criteria (ages 6 months and older; 3 or more lesions) are established. The safety assessment framework is defined.

This represents a substantial de-risking of Phase 3 development. A sponsor entering Phase 3 for an MC indication does not face the regulatory uncertainty of a novel therapeutic area — they face a well-mapped submission environment with precedent efficacy thresholds and established comparator benchmarks. The 32.4% complete clearance rate of Zelsuvmi and the 46–54% rates of Ycanth define the competitive efficacy bar that a superior drug must exceed to differentiate commercially, not merely to gain approval.

Particularly relevant for novel botanical drug candidates: the FDA's botanical drug development pathway (as articulated in the FDA Botanical Drug Development Guidance) accommodates complex, multi-constituent plant-derived drugs with appropriate characterization studies. This pathway does not require complete elucidation of all active constituents, a critical provision for drugs derived from complex botanical sources where the precise multi-target mechanism is not yet fully characterized.

## Conclusion: The Case for Investment

Molluscum contagiosum represents one of the clearest and most compelling unmet medical needs in pediatric dermatology. The disease affects approximately 6 million Americans each year, predominantly children; it is associated with significant and well-documented psychosocial burden; it has historically been undertreated; and the two recently approved therapies, while commercially validating, fall meaningfully short of what patients and physicians actually need.

The commercial case for a superior MC treatment is built on four converging pillars:

- 1. Validated market:** Recently approved therapies demonstrate strong physician willingness to prescribe and patient/family willingness to pay, with pricing generally ranging from approximately \$1,500 to over \$2,000 per treatment course, depending on dosing and payer coverage.
- 2. Suppressed demand:** A majority of cases, often estimated at over 70%, remain untreated, representing a substantial market opportunity that is likely to expand meaningfully with the availability of an effective therapy.
- 3. Clear regulatory pathway:** Primary endpoints, trial design, and safety standards are well established, providing a defined and precedented path to approval.
- 4. Unmet clinical need:** Neither approved therapy has demonstrated direct, clinically confirmed antiviral activity against the molluscum contagiosum virus; neither achieves complete clearance in the majority of patients; and neither is both pain-free and directly antiviral in real-world use. The product profile for a superior therapy is well defined and achievable.

The question for a pharmaceutical partner is not whether the MC market is real: two FDA approvals at premium price points of approximately \$1,500 to over \$2,000 per treatment course have already answered that. The question is whether a partner with the right product, the right clinical profile, and the right commercial infrastructure is prepared to capture what the current market has validated and what a more capable drug would unlock.

With regulatory precedent established and commercial pricing validated, the MC treatment landscape is entering a critical inflection point where differentiated therapies can rapidly translate into market leadership.

### The Bottom Line

Millions of children are affected by a visible, contagious condition that remains inadequately treated. Recent approvals have validated the market, established premium pricing, and confirmed strong physician willingness to prescribe, yet a meaningful clinical gap persists. A safe, effective, pain-free therapy with direct antiviral activity has the potential to redefine the standard of care and unlock significant market expansion. The opportunity is substantial, the pathway is established, and the timing is compelling.

### Key References & Data Sources

1. Alphyn Biologics, Inc. Phase 2 Enrollment Completion Press Release. March 24, 2026. *(Company press release)*
2. Browning JC, et al. Efficacy and safety of topical nitric oxide-releasing berdazimer gel in patients with molluscum contagiosum: a phase 3 randomized clinical trial. *JAMA Dermatol.* 2022; 158(8):871–878.

3. Browning JC, Cartwright M, Thorla I, et al. A patient-centered perspective of molluscum contagiosum as reported by B-SIMPLE4 clinical trial patients and caregivers: global impression of change and exit interview sub study results. *Am J Clin Dermatol*. 2023; 24:119–133.
4. Centers for Disease Control and Prevention (CDC). Molluscum Contagiosum. Updated November 2025.
5. Coherent Market Insights. *Cold Sore Treatment Market Size, Share, and Trends Analysis Report, 2024–2031*. October 2024.
6. Cunningham AL, Lal H, Kovac M, et al. Efficacy of the herpes zoster subunit vaccine in adults 70 years of age or older. *N Engl J Med*. 2016; 375(11):1019–1032.
7. Eichenfield LF, McFalda W, Brabec B, et al. Safety and efficacy of VP-102, a proprietary, drug-device combination product containing cantharidin, 0.7% (w/v), in children and adults with molluscum contagiosum: two phase 3 randomized clinical trials. *JAMA Dermatol*. 2020; 156(12):1315–1323.
8. GlaxoSmithKline plc. Annual Report 2018 and Annual Report 2022. London: GSK; 2019, 2023.
9. Global Market Insights. *Onychomycosis Treatment Market Size, Industry Analysis Report, 2021–2027*. 2021.
10. Hay RJ, Johns NE, Williams HC, et al. The global burden of skin disease in 2010: an analysis of the prevalence and impact of skin conditions. *J Invest Dermatol*. 2014; 134(6):1527–1534.
11. Hebert AA, Bhatia N, Del Rosso JQ. Molluscum contagiosum: epidemiology, considerations, treatment options, and therapeutic gaps. *J Clin Aesthet Dermatol*. 2023; 16(8 Suppl 1):S4–S11.
12. Lal H, Cunningham AL, Godeaux O, et al. Efficacy of an adjuvanted herpes zoster subunit vaccine in older adults. *N Engl J Med*. 2015; 372(22):2087–2096.
13. Looker KJ, Magaret AS, May MT, et al. Global and regional estimates of prevalent and incident herpes simplex virus type 1 infections in 2012. *PLoS One*. 2015; 10(10):e0140765.
14. McCollum AM, Holman RC, Hughes CM, et al. Molluscum contagiosum in a pediatric American Indian population: incidence and risk factors. *PLoS One*. 2014; 9(7):e103419.
15. Olsen JR, Gallacher J, Piguet V, Francis NA. Epidemiology of molluscum contagiosum in children: a systematic review. *Fam Pract*. 2014; 31(2):130–136.

16. Olsen JR, Gallacher J, Finlay AY, Piguët V, Francis NA. Time to resolution and effect on quality of life of molluscum contagiosum in children in the UK: a prospective community cohort study. *Lancet Infect Dis*. 2015; 15(2):190–195.
  17. Pelthos Therapeutics. ZELSUVMI Commercial Launch Press Release. July 10, 2025. *(Company press release)*
  18. Publicly available pricing data from commercial and manufacturer sources (2025–2026).
  19. Reynolds MG, Holman RC, Yorita Christensen KL, Cheek JE, Damon IK. The incidence of molluscum contagiosum among American Indians and Alaska Natives. *PLoS One*. 2009; 4(4):e5255.
  20. Verrica Pharmaceuticals. YCANTH FDA Approval Press Release. July 21, 2023. *(Company press release)*
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