

Why the Fight Against Antimicrobial Resistance Must Include Fungal Infections

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Francesco Maria Lavino explains how effective fungal infection management underpins advances in cancer care, transplantation, and other life-saving medical interventions.



While antimicrobial resistance (AMR) is often overshadowed by high-profile therapeutic areas such as oncology, its growing impact threatens progress across the entire healthcare ecosystem. Among the most urgent challenges are invasive fungal infections, which disproportionately affect immunocompromised patients, including those undergoing cancer treatment and stem cell transplantation. Despite rising resistance and increasing disease burden, no antifungal therapy with a novel mechanism of action has been approved for invasive fungal infections in more than 20 years. **At BIO International Convention 2026 in San Diego, BioSpectrum Asia spoke with Francesco Maria Lavino, CEO of F2G, about the company's positive Phase 3 results for olorofim, the urgent need for antifungal innovation, and why governments, investors, and industry must work together to strengthen the global response to fungal antimicrobial resistance.**

Antimicrobial resistance often receives less attention than oncology. Should that change?

Yes, I believe it should change. Oncology rightly receives significant attention and investment because of the immense impact cancer has on patients and society. However, antimicrobial resistance (AMR) is an equally important challenge that can undermine progress across many areas of modern medicine, including cancer care.

For patients with weakened immune systems, such as those undergoing chemotherapy or stem cell transplants, effective anti-infective treatments are critical. The rise of resistant fungal infections threatens our ability to protect these vulnerable patients and can directly affect treatment outcomes. Our novel antifungal drug candidate, olorofim, has the potential to enable these complex treatments to be undertaken in this immunocompromised patient population.

This is not about competing with oncology for attention; it's about recognizing that advances in cancer treatment depend on our ability to prevent and treat serious fungal infections. AMR remains an under-recognized threat, and addressing it will require greater awareness, investment, innovation, and cross-disciplinary collaboration to ensure we stay ahead of

evolving resistance.

How significant is the unmet need in invasive fungal infections?

The unmet need in invasive fungal infections remains profound and continues to grow. Severe fungal infections such as invasive aspergillosis are becoming increasingly common, particularly among immunocompromised patients, and are associated with substantial morbidity and mortality.

Despite the seriousness of these infections, clinicians have only a limited number of treatment options available. Existing antifungal therapies are often constrained by toxicity, significant drug-drug interactions, and the growing emergence of resistance, particularly to the azoles, which remain the only oral antifungal class available for invasive fungal infections.

Because invasive fungal infections frequently require treatment over many months, the fact that we have only limited oral alternatives for patients who are refractory to azole therapy represents a major challenge. This unmet need is further underscored by the fact that no antifungal agent with a novel mechanism of action has been approved for invasive fungal infections in more than two decades.

At F2G, we are focused on addressing this critical gap in collaboration with Shionogi. We are committed to bringing a novel oral antifungal treatment option for patients with invasive aspergillosis whose infection is either refractory to or unsuitable for azole therapy.

What does successful Phase 3 data mean for patients and clinicians?

The positive topline data from our joint Phase 3 study with Shionogi comparing olorofim to AmBisome® (liposomal amphotericin B formulation) followed by standard of care in patients with invasive aspergillosis who are refractory to or unsuitable for azole therapy, represents an important milestone as we advance the first novel mechanism antifungal agent for invasive fungal infections in over twenty years. It comes at a time when resistance to antifungals is on the rise and very limited options are available.

In patients for whom an azole is not an adequate therapy for invasive aspergillosis, the most recommended alternative therapy is a lipid amphotericin B-based regimen. The rate of drug-related treatment-emergent adverse events was 35.8% for olorofim and 63.9% for AmBisome® followed by standard of care, with the difference mainly driven by the higher rate of renal events in the AmBisome arm. Demonstrating non-inferiority to AmBisome® (liposomal amphotericin B formulation) followed by standard of care with an oral therapy is clinically meaningful and underscores the potential of oral olorofim to offer comparable outcomes in a hard-to-treat patient population with limited options.

How can industry encourage greater investment into infectious disease innovation?

Industry can drive greater investment in infectious disease innovation by bringing together biotech companies, investors, governments, and global health organizations around areas of significant unmet need.

Our own financing experience showed that capital is available when there is strong science, a differentiated product, and a clear patient need. As resistance continues to rise and treatment options remain limited, investors increasingly recognize both the medical and commercial opportunity in developing novel anti-infectives.

At the same time, innovative funding models and public-private partnerships remain essential. Initiatives such as the EIB's InnovFin Infectious Diseases Finance Facility and the AMR Action Fund help provide the long-term support needed to advance high-impact innovations.

Ultimately, we need to demonstrate both the societal value and the market opportunity. The lessons from the pandemic are clear: sustained investment in infectious disease innovation delivers benefits for patients, healthcare systems, and investors alike.

What role should governments play in supporting antifungal development?

Governments must play a foundational role in supporting antifungal development by providing catalytic capital and creating market incentives that recognize societal value. At F2G, we've been supported by the European Investment Bank's Infectious Diseases Finance Facility, which provided EUR 24 million to fight antimicrobial resistance. This type of government-backed capital is essential for bridging the 'valley of death' in early development, especially when major pharmaceutical companies have pulled back from antifungal research.

Legislation like the PASTEUR Act represents the policy innovation we need. Its subscription model would decouple revenue from sales volume by paying companies a fixed annual fee for access to new antifungals—directly addressing the fundamental economic challenge of antimicrobial development. For antifungals specifically, this is critical: invasive fungal infections affect small but critically ill populations, and stewardship means new therapies won't be used broadly. A broader mix of pull incentives including national stockpiling programs is likely needed to provide the financial stability needed to bring these life-saving treatments to market.

Infectious disease innovation requires a long-term view, and governments have the mandate to invest in high-risk science that delivers durable societal impact. The PASTEUR Act could transform antifungal development economics, aligning U.S. policy with EU AMR incentives. This is where public investment and innovative policy pay dividends for patients and healthcare systems.