within 96 hrs of start of study drug who received at least 1 dose of FMGX were included in the mITT population. The primary efficacy endpoint was outcome at end of study treatment (EOST) as determined by an independent data review committee (DRC). Successful outcome was defined as clearance of *Candida* from blood cultures with no additional antifungal treatment and survival at EOST. All *Candida* isolates were tested for antifungal susceptibility.

***Results:*** A total of 21 subjects were enrolled in the study: 20 were included in the mITT. Median duration of FMGX was 11 days (range 5–14). All subjects received IV FMGX, 48% (10/21) received PO FMGX. The DRC-assessed success rate at EOST was 80% (16/20). Survival at day 30 was 85% (17/20); 3 deaths were not related FMGX. FMGX was well-tolerated with no treatment-related serious adverse events or discontinuations. FMGX had potent *in vitro* activity against all study *Candida* spp. (EUCAST MIC range 0.001–0.03 µg/ml) including those resistant to other antifungal agents.

***Conclusion:*** FMGX was safe, well-tolerated, and demonstrated proof of concept with a high level of treatment success in patients with candidemia.

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### 148. Fungal Disease Mortality Trends, United States, 1999–2017

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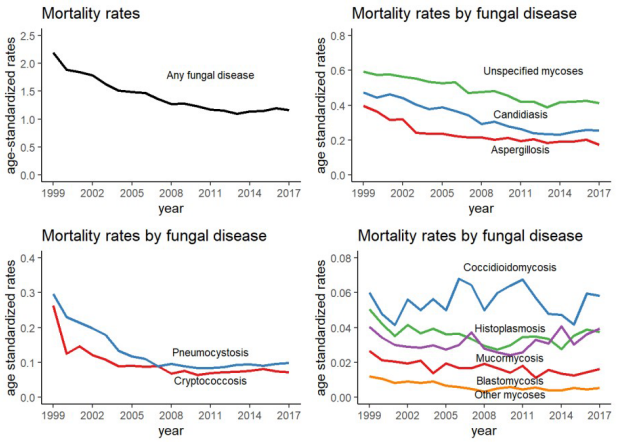
**Session:** O-28. Innovations and Updates in Mycology

***Background:*** Fungal diseases can lead to substantial morbidity and mortality, although research funding has been disproportionately low compared with other infectious diseases. Despite dramatic changes in immunosuppressive therapy over the past two decades, the U.S. mortality burden of fungal diseases has not been recently assessed.

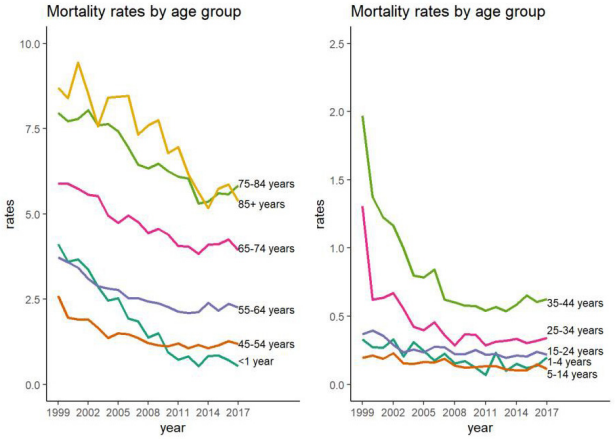
***Methods:*** We analyzed fungal disease-associated mortality trends during 1999–2017 using multiple cause-of-death mortality records from the National Vital Statistics System. We calculated age-standardized rates for aspergillosis, blastomycosis, candidiasis, coccidioidomycosis, cryptococcosis, histoplasmosis, mucormycosis, pneumocystosis, unspecified mycoses, and other mycoses based on the age distribution of the 2000 U.S. population.

***Results:*** Among over 47 million deaths, 86,058 (0.2%) people had one or more fungal diseases listed on the death certificate as an underlying or contributing cause of death (median 4,431 annually) (Figure 1). The age-standardized mortality rate was 2.2/100,000 population in 1999. By 2017, rates declined by 47% to 1.2. The largest declines occurred for pneumocystosis and cryptococcosis, diseases particularly associated with HIV, by 66–70% from 1999 to 2007 and by 3–6% from 2008 to 2017. During 1999–2017, rates for aspergillosis, candidiasis, and other mycoses declined by 46–56%, although rates for candidiasis and other mycoses increased (10% and 31%, respectively) from 2013 to 2017. Overall, the steepest declines were seen in infants and younger adults (Figure 2).

Age-standardized mortality rates for fungal diseases as underlying and contributing cause of death, per 100,000 people, by year and fungal disease type, United States, 1999–2017




Age-specific mortality rates for fungal diseases as underlying and contributing cause of death, per 100,000 people, by year and age group, United States, 1999–2017




***Conclusion:*** Fungal disease-associated mortality rates declined by half from 1999 to 2017. Improved treatment of HIV and availability of new antifungals likely influenced the decline. However, fungal diseases are still documented in thousands of deaths annually, and rates differed substantially by disease. Better prevention, diagnosis, and treatment are needed to reduce mortality from fungal diseases.

***Disclosures:*** **All Authors**: No reported disclosures

### 149. Efficacy of Cochleated Amphotericin B (CAMB) in Mouse and Human Mucocutaneous Candidiasis

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**Session:** O-28. Innovations and Updates in Mycology

***Background:*** *Candida albicans* causes debilitating mucosal infections in patients with inherited susceptibility to chronic mucocutaneous candidiasis (CMC), often requiring long-term azole-based treatment. Due to increasing azole resistance, alternative treatments are desirable. Acquired resistance to amphotericin B (AMB) is rare but AMB use is limited by parenteral administration and nephrotoxicity. Cochleated AMB (CAMB) is a new oral formulation of AMB and thus an attractive option for oropharyngeal candidiasis (OPC), esophageal candidiasis (EC) and vulvovaginal candidiasis (VVC). We assessed the efficacy of CAMB in mouse models of OPC and VVC and in 4 patients with azole resistant CMC manifesting as OPC, EC or VVC.

***Methods:*** *Act1-/-* mice were infected with *C. albicans* in models of OPC and VVC and were treated once daily via oral gavage with CAMB or vehicle or intraperitoneal AMB-deoxycholate (AMBd) from day 1 through 4 post-infection (pi). At day 5 pi, the tongue or vaginal tissue was harvested to quantify fungal burden. Patients with azole resistant CMC enrolled in a phase 2A CAMB dose escalation study. The primary endpoint was clinical improvement at 2 weeks based on an efficacy scale, followed by optional extension for long-term suppression of CMC to assess safety and efficacy.

***Results:*** CAMB-treated mice had significantly reduced tongue and vaginal tissue fungal burden compared to vehicle-treated mice, while they exhibited comparable fungal control relative to AMBd-treated mice. Among 4 CAMB-treated patients, 3 reached clinical efficacy by 2 weeks at a dose of 400 mg twice daily and one reached clinical efficacy at 200 mg twice daily. Three of 4 patients continued on the extension phase past 48 months with sustained clinical improvement of OPC and EC; patient #3 had relapse of esophageal symptoms at week 24 and was withdrawn from further study. Clinical response was not seen for onychomycosis or VVC. CAMB was safe and well-tolerated without renal toxicity.

***Conclusion:*** Oral administration of CAMB in IL-17-signaling deficient mice resulted in reduced tongue and vaginal tissue fungal burden during mucosal *C. albicans* infections. A proof-of-concept clinical trial in humans with inherited CMC showed efficacy in OPC and EC with good tolerability and safety.

***Disclosures:*** Benjamin Colton, PharmD, Merck (Shareholder)Pfizer (Shareholder) Ruying Lu, n/a, Matinas BioPharma Inc. (Employee)Matinas BioPharma Inc. (Employee, Shareholder) Theresa Matkovits, PhD, Matinas BioPharma (Employee, Shareholder) Raphael J. Mannino, n/a, Matinas BioPharma Inc. (Employee, Shareholder) Michail Lionakis, MD, ScD, Matinas BioPharma (Research Grant or Support)