

**95 / 95**  
**BY 2025**

**ENSURE THAT BY 2025**  
**95% OF PEOPLE WITH**  
**SERIOUS FUNGAL DISEASE**  
**ARE DIAGNOSED AND**  
**95% TREATED = 95-95**



## Appendix 8

### References

- 1. Park BJ, Wannemuehler KA, Marston BJ, Govender N, Pappas PG, Chiller TM**  
Estimation of the current global burden of cryptococcal meningitis among persons living with HIV/AIDS. *AIDS* 2009;23:525-30.
- 2. Denning DW, Pleuvry A, Cole DC**  
Global burden of chronic pulmonary aspergillosis as a sequel to tuberculosis. *Bull WHO* 2011;89:864-72.
- 3. Brown GD, Denning DW, Gow NAR, Levitz S, Netea M, White T**  
Human fungal infections: the hidden killers. *Sci Transl Med* 2012;4:165rv13.
- 4. Denning DW, Pleuvry A, Cole DC**  
Global burden of ABPA in adults with asthma and its complication chronic pulmonary aspergillosis. *Med Mycol* 2013;51:361-70.
- 5. Denning DW, Pleuvry A, Cole DC**  
Global burden of chronic pulmonary aspergillosis complicating sarcoidosis. *Eur Resp J* 2013;41:621-6.
- 6. Armstead J, Morris J, Denning DW**  
Multi-country estimate of different manifestations of aspergillosis in cystic fibrosis. *PLoS One* 2014;9:e98502.
- 7. Hay RJ, Johns NE, Williams HC, Bolliger IW, Dellavalle RP, Margolis DJ, Marks R, Naldi L, Weinstock MA, Wulf SK, Michaud C, J L Murray C, Naghavi M**  
The global burden of skin disease in 2010: an analysis of the prevalence and impact of skin conditions. *J Invest Dermatol* 2014;134:1527-34.
- 8. Denning DW, Pashley C, Hartl D, Wardlaw A, Godet C, Del Giacco S, Delhaes L, Sergejeva S**  
Fungal allergy in asthma-state of the art and research needs. *Clin Transl Allergy* 2014;4:14.
- 9. Denning DW, Kneale M, Rautemaa-Richardson R, Sobel JD**  
Global prevalence of recurrent vulvovaginal candidiasis. Abstract presented at European Conference on Clinical Microbiology and Infectious Diseases, Barcelona. May 2014.
- 10. Shahrin L, Leung DT, Matin N, Pervez MM, Azim T, Bardhan PK, Heffelfinger JD, Chisti MJ**  
Characteristics and predictors of death among hospitalized HIV-infected patients in a low HIV prevalence country: Bangladesh. *PLoS One* 2014;9:e113095.
- 11. Etard JF, Ndiaye I, Thierry-Mieg M, et al.**  
Mortality and causes of death in adults receiving highly active antiretroviral therapy in Senegal: a 7-year cohort study. *AIDS* 2006; 20:1181-9.
- 12. Sodqi M, Marih L, Lahsen AO, et al.**  
Causes of death among 91 HIV-infected adults in the era of potent antiretroviral therapy. *Presse Med* 2012; 41:e386-90.
- 13. Walker AS, Prendergast AJ, Mugenyi P, et al.**  
Mortality in the year following antiretroviral therapy initiation in HIV-infected adults and children in Uganda and Zimbabwe. *Clin Infect* 2012; 55:1707-18.



### References

**14. Zachariah R, Fitzgerald M, Massaquoi M**

Risk factors for high early mortality in patients on antiretroviral treatment in a rural district of Malawi. *AIDS* 2006; 20:2355-60

**15. Bhowmik A, Bhandari S, De R, Guha SK**

Predictors of mortality among HIV-infected patients initiating anti retroviral therapy at a tertiary care hospital in eastern India. *Asian Pac J Trop Med* 2012;5:986-90

**16. Muñoz B, Martínez MA, Palma G, Ramírez A, Frías MG, Reyes MR, Taylor ML, Higuera AL, Corcho A, Manjarrez ME**

Molecular characterization of *Histoplasma capsulatum* isolated from an outbreak in treasure hunters. *BMC Infect Dis* 2010;10:264.

**17. Caceres DH, Scheel CM, Tobón AM, Ahlquist Cleveland A, Restrepo A, Brandt ME, Chiller T, Gómez BL**

Validation of an enzyme-linked immunosorbent assay that detects *Histoplasma capsulatum* antigenuria in Colombian patients with AIDS for diagnosis and follow-up during therapy. *Clin Vaccine Immunol* 2014;21:1364-8.

**18. Adenis A, Nacher M, Hanf M, Vantilcke V, Boukhari R, Blachet D, Demar M, Aznar C, Carme B, Couppie P**

HIV-associated histoplasmosis early mortality and incidence trends: from neglect to priority. *PLoS Negl Trop Dis* 2014;8:e3100.

**19. [www.who.int/tb/challenges/mdr/en](http://www.who.int/tb/challenges/mdr/en)**

**20. Lozano R, Naghavi M, Foreman K, Lim S, Shibuya K, Aboyans V, et al**

Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the global burden of disease study 2010. *Lancet* 2012; 380:2095–2128

**21. Deorukhkar S, Katiyar R, Saini S**

Epidemiological features and laboratory results of bacterial and fungal keratitis: a five-year study at a rural tertiary care hospital in western Maharashtra, India. *Singapore Med J* 2012;53:2

**22. Waddell KW**

Childhood blindness and low vision in Uganda. *Eye (Lond)* 1998;12:184–192.

**23. Esterre P, Andriantsimahavandy A, Ramarcel ER, Pecarrere JL**

Forty years of chromoblastomycosis in Madagascar: a review. *Am J Trop Med Hyg* 1996; 55: 4547

**24. Queiroz-Telles F, Nucci M, Colombo AL, et al**

Mycoses of implantation in Latin America: an overview of epidemiology, clinical manifestations, diagnosis and treatment. *Med Mycol.* 2011;49:225–36

**25. Andresen D, Donaldson A, Choo L, Knox A, Klaassen M, Ursic C, Vonthethoff L, Krilis S, Konecny P**

Multifocal cutaneous mucormycosis complicating polymicrobial wound infections in a tsunami survivor from Sri Lanka. *Lancet* 2005;365:876-8

**26. Benedict K & Park BJ**

Invasive fungal infections after natural disasters. *Emerg Infect Dis* 2014;20:349-55.

**27. Zaraa I , Hawilo A, Aounallah A, Trojjet S, El Euch D, Mokni M et al**

Inflammatory tinea capitis: a 12-year study and a review of the literature. *Mycoses*, 2013; 56: 110–116

**28. [www.ukneqas.org.uk](http://www.ukneqas.org.uk)**

**29. [www.folkhalsomyndigheten.se/documents/projektwebbar/ram/neqamm-2009-report.pdf](http://www.folkhalsomyndigheten.se/documents/projektwebbar/ram/neqamm-2009-report.pdf)**

**30. [www.rcpaqap.com.au/microbiology/](http://www.rcpaqap.com.au/microbiology/)**

**31. Brüggemann RJ, Touw DJ, Aarnoutse RE, Verweij PE, Burger DM**

International interlaboratory proficiency testing program for measurement of azole antifungal plasma concentrations. *Antimicrob Agents Chemother* 2009;53:303-5

### References

- 32. Denning DW & Bromley MJ**  
How to bolster a sparse antifungal pipeline. *Science* 2015;347:1414-6
- 33. [http://whqlibdoc.who.int/publications/2011/9789241502979\\_eng.pdf](http://whqlibdoc.who.int/publications/2011/9789241502979_eng.pdf)**
- 34. [www.who.int/maternal\\_child\\_adolescent/documents/en](http://www.who.int/maternal_child_adolescent/documents/en)**
- 35. Head MG, Fitchett JR, Atun R, May RC**  
Systematic analysis of funding awarded for mycology research to institutions in the UK, 1997-2010. *BMJ Open*. 2014;4:e004129
- 36. Ratanasuwan W, Anekthananon T, Techasathit W, Rongrungruang Y, Sonjai A, Suwanagool S**  
Estimated economic losses of hospitalized AIDS patients at Siriraj Hospital from January 2003 to December 2003: time for aggressive voluntary counseling and HIV testing. *J Med Assoc Thai* 2005;88:335-9.
- 37. Mulu A, Kassu A, Anagaw B, Moges B, Gelaw A, Alemayehu M, Belyhun Y, Biadglegne F, Hurissa Z, Moges F, Isogai E**  
Frequent detection of 'azole' resistant *Candida* species among late presenting AIDS patients in northwest Ethiopia. *BMC Infect Dis* 2013;13:82.
- 38. Smith E, Orholm M**  
Trends and patterns of opportunistic diseases in Danish AIDS patients 1980-1990. *Scand J Infect Dis* 1990;22:665-72.
- 39. Buchacz K, Baker RK, Palella FJ Jr, Chmiel JS, Lichtenstein KA, Novak RM, Wood KC, Brooks JT**  
HOPS Investigators. AIDS-defining opportunistic illnesses in US patients, 1994-2007: a cohort study. *AIDS* 2010;24:1549-59.
- 40. Lowe DM, Rangaka MX, Gordon F, James CD, Miller RF**  
*Pneumocystis jirovecii* pneumonia in tropical and low and middle income countries: a systematic review and meta-regression. *PLoS One* 2013;8:e69969.
- 41. Morris A, Lundgren JD, Masur H, Walzer PD, Hanson DL, Frederick T, Huang L, Beard CB, Kaplan JE**  
Current epidemiology of *Pneumocystis* pneumonia. *Emerg Infect Dis* 2004; 10:1713-20.
- 42. Rajasingham R, Smith RM, Park BJ, Jarvis JN, Denning DW, Govender NP, Loyse A, Boulware DR**  
Estimation of the Global Burden of Disease of HIV-Associated Cryptococcal Meningitis. Manuscript submitted.
- 43. Nacher M, Adenis A, Sambourg E, Huber F, Abboud P, Epelboin L, Mosnier E, Vantilcke V, Dufour J, Djossou F, Demar M, Couppié P**  
Histoplasmosis or tuberculosis in HIV-infected patients in the amazon: what should be treated first? *PLoS Negl Trop Dis* 2014;8:e3290.
- 44. Lofgren SM, Kirsch EJ, Maro VP, Morrissey AB, Msuya LJ, Kinabo GD, Saganda W, Diefenthal HC, Ramadhani HO, Wheat LJ, Crump JA**  
Histoplasmosis among hospitalized febrile patients in northern Tanzania. *Trans R Soc Trop Med Hyg* 2012;106:504-7.
- 45. Armstrong-James D, Meintjes G, Brown GD**  
A neglected epidemic: fungal infections in HIV/AIDS. *Trends Microbiol* 2014;22:120-7.
- 46. Rodriguez-Tudela JL, Alastruey-Izquierdo A, Gago S, Cuenca-Estrella M, León C, Miro JM, Nuñez Boluda A, Ruiz Camps I, Sole A, Denning DW**  
Burden of serious fungal infections in Spain. *Clin Microbiol Infect* 2015;21:183-9.
- 47. Chakrabarti A, Sood P, Rudramurthy SM, Chen S, Kaur H, Capoor M, Chhina D, Rao R, Eshwara VK, Xess I, Kindo AJ, Umabala P, Savio J, Patel A, Ray U, Mohan S, Iyer R, Chander J, Arora A, Sardana R, Roy I, Appalaraju B, Sharma A, Shetty A, Khanna N, Marak R, Biswas S, Das S, Harish BN, Joshi S, Mendiratta D**  
Incidence, characteristics and outcome of ICU-acquired candidemia in India. *Intensive Care Med* 2015;41:285-95.

### References

**48. Bitar D, Lortholary O, Le Strat Y, Nicolau J, Coignard B, Tattevin P, Che D, Dromer F**

Population-based analysis of invasive fungal infections, France, 2001-2010. *Emerg Infect Dis* 2014;20:1149-55.

**49. Lortholary O, Renaudat C, Sitbon K, Madec Y, Denoeud-Ndam L, Wolff M, Fontanet A, Bretagne S, Dromer F**

French Mycosis Study Group. Worrying trends in incidence and mortality of candidemia in intensive care units (Paris area, 2002-2010). *Intensive Care Med* 2014;40:1303-12.

**50. Garey KW, Rege M, Pai MP, Mingo DE, Suda KJ, Turpin RS, Bearden DT**

Time to initiation of fluconazole therapy impacts mortality in patients with candidemia: a multi-institutional study. *Clin Infect Dis* 2006;43:25-31.

**51. Parkins MD, Sabuda DM, Elsayed S, Laupland KB**

Adequacy of empirical antifungal therapy and effect on outcome among patients with invasive *Candida* species infections. *J Antimicrob Chemother* 2007;60:613-8.

**52. Avni T, Leibovici L, Paul M**

PCR diagnosis of invasive candidiasis: systematic review and meta-analysis. *J Clin Microbiol* 2011;49:665-70.

**53. Nguyen MH, Wissel MC, Shields RK, Salomoni MA, Hao B, Press EG, Shields RM, Cheng S, Mitsani D, Vadnerkar A, Silveira FP, Kleiboeker SB, Clancy CJ**

Performance of *Candida* real-time polymerase chain reaction, beta-D-glucan assay, and blood cultures in the diagnosis of invasive candidiasis. *Clin Infect Dis* 2012; 54:1240-8.

**54. Kosmidis C, Denning DW**

The clinical spectrum of pulmonary aspergillosis. *Thorax* 2015;70:270-277.

**55. Antinori S, Nebuloni M, Magni C, Fasan M, Adorni F, Viola A, Corbellino M, Galli M, Vago G, Parravicini C, Ridolfo AL**

Trends in the postmortem diagnosis of opportunistic invasive fungal infections in patients with AIDS: a retrospective study of 1,630 autopsies performed between 1984 and 2002. *Am J Clin Pathol* 2009;132:221-7.

**56. ECDC report** 'Risk assessment on the impact of environmental usage of triazoles on the development and spread of resistance to medical triazoles in *Aspergillus* species'. February 2013. <http://life-worldwide.org/media-centre/article/ecdc-issues-risk-assessment-on-azole-resistance-in-aspergillus-from-environ>

**57. Xu H, Li L, Huang WJ, Wang LX, Li WF, Yuan WF**

Invasive pulmonary aspergillosis in patients with chronic obstructive pulmonary disease: a case control study from China. *Clin Microbiol Infect* 2012;18:403-8.

**58. Guinea J, Torres-Narbona M, Gijón P, Muñoz P, Pozo F, Peláez T, de Miguel J, Bouza E**

Pulmonary aspergillosis in patients with chronic obstructive pulmonary disease: incidence, risk factors, and outcome. *Clin Microbiol Infect* 2010;16:870-7.

**59. [www.who.int/respiratory/copd/burden/en/](http://www.who.int/respiratory/copd/burden/en/)**

**60. Ciapponi A, Alison L, Agustina M, Demián G, Silvana C, Edgardo S**

The epidemiology and burden of COPD in Latin America and the Caribbean: systematic review and meta-analysis. *COPD* 2014;11:339-50.

**61. Denning DW**

Therapeutic outcome of invasive aspergillosis. *Clin Infect Dis* 1996; 23: 608-615.

**62. Maini R, Henderson KL, Sheridan EA, Lamagni T, Nichols G, Delpech V, Phin N**

Increasing *Pneumocystis* pneumonia, England, UK, 2000-2010. *Emerg Infect Dis* 2013;19:386-92.

**63. Kim JH, Pseudos G Jr, Gonzalez E, Singh S, Kilayko MC, Sharp V**

All-cause mortality in hospitalized HIV-infected patients at an acute tertiary care hospital with a comprehensive outpatient HIV care program in New York City in the era of highly active antiretroviral therapy (HAART). *Infection* 2013;41:545-51.

### References

**64. Smith NL, Denning DW**

Underlying conditions in chronic pulmonary aspergillosis including simple aspergilloma. *Eur Respir J* 2011;37:865-72.

**65. WHO Report (2012): MDR & XDR TB**

[www.who.int/tb/challenges/mdr/en/](http://www.who.int/tb/challenges/mdr/en/)

**66. Denning DW, Pashley C, Hartl D, Wardlaw, A, Godet C, Del Giacco, Delhaes L, Sergejeva S**

Fungal allergy in asthma—state of the art and research needs. *Clin Transl Allergy* 2014;4:14.

**67. Burton MJ, Pithuwa J, Okello E, et al.**

Microbial keratitis in East Africa: why are the outcomes so poor? *Ophthalmic Epidemiol* 2011;18:158-63.

**68. Deorukhkar S, Katiyar R, Saini S**

Epidemiological features and laboratory results of bacterial and fungal keratitis: a five-year study at a rural tertiary-care hospital in western Maharashtra, India. *Singapore Med J* 2012;53:264-7.

**69. Mahe A**

Epidemiology and Management of Common Skin Diseases in Children in Developing Countries (2005). WHO.

[http://whqlibdoc.who.int/hq/2005/who\\_fch\\_cah\\_05.12\\_eng.pdf](http://whqlibdoc.who.int/hq/2005/who_fch_cah_05.12_eng.pdf)

**70. Isa-Isa R, Arenas R, Isa M**

Inflammatory tinea capitis: kerion, dermatophytic granuloma, and mycetoma. *Clin Dermatol* 2010;28:133-6.

**71. <http://www.life-worldwide.org/media-centre/article/burden-of-fungal-infection-in-argentina-australia-belgium-mexico-saudi-arab/>**

**72. Lass-Florl C, Greil, V, Denning DW**

'Fungal Burden' weltweit und in Österreich – LIFE Project. *Arzt Patient* 2014.

<http://www.gaffi.org/wp-content/uploads/Fungal-Burden.pdf>

**73. <http://www.life-worldwide.org/media-centre/article/multi-country-burden-of-fungal-disease-presented-at-eccmid-conference/>**

**74. <http://www.life-worldwide.org/media-centre/article/fungal-disease-burden-in-9-countries-from-4-who-regions-presented-at-eccmid>**

**75. Chrdele A, Mallatova N, Vašáková M, Haberd J, Denning DW**

Burden of serious fungal infections in the Czech Republic. *Mycoses* In press.

**76. Mortensen KL, Denning DW, Arendrup MC**

The burden of fungal disease in Denmark. *Mycoses* In press.

**77. Gugnani H, Denning DW**

The burden of serious fungal infections in Dominican Republic. *J Infect Pub Health* In press.

**78. Bitar D, Lortholary O, Le Strat Y, Nicolau J, Coignard B, Tattevin P, Che D, Dromer F**

Population-based analysis of invasive fungal infections, France, 2001-2010. *Emerg Infect Dis.* 2014;20:1149-55.

**79. Ruhnke M, Groll A, Maysner P, Ullmann A, Rickerts V, Mendling V, Hof H, Denning DW**

Burden of fungal infections in Germany. *Mycoses* In press.

**80. Medina N, Samayoa B, Lau-Bonilla D, Denning DW, Herrera R, Mercado D, Guzmán B, Figueroa L, Pérez JC, Arathoon E**

Burden of Serious Fungal Infections in Guatemala. *Mycoses* In press.

**81. Sinkó J, Sulyok M, Denning DW**

Burden of serious fungal diseases in Hungary. *Mycoses* In press.

**82. Agarwal R, Denning DW, Chakrabarti A**

Estimation of the burden of chronic and allergic pulmonary aspergillosis in India. *PLoS One* 2014;9:e114745.

### References

83. <http://www.gaffi.org/india-has-one-of-the-highest-rates-of-candida-bloodstream-infection-in-the-world>
84. <http://www.life-worldwide.org/media-centre/article/burden-of-serious-fungal-diseases-presented-at-timm-for-10-more-countries>
85. <http://www.life-worldwide.org/media-centre/article/burden-of-serious-fungal-diseases-presented-at-eccmid-for-czech-republic-de>
86. **Dorgan E, Denning DW, McMullan R**  
Burden of fungal disease – Ireland. *J Med Microbiol* 2015;64:423-6.
87. **Ben-Ami R, Denning DW**  
Estimating the burden of fungal diseases in Israel. *Israel Med Assc J*. In press.
88. **Gugnani H, Denning DW**  
The burden of serious fungal infections in Jamaica. *West Ind Med J* In press.
89. **473. Guto JA, Bii C, Denning DW**  
Estimated burden of fungal infections in Kenya. Manuscript submitted.
90. **Shrestha Khwakhali U, Denning DW**  
Burden of serious fungal infections in Nepal. *Mycoses* In press.
91. **Oladele R, Denning DW**  
Burden of serious fungal infection in Nigeria. *West Afr J Med* 2014;33:107-14.
92. **Klimko N, Kozlova Y, Khostelidi S, Shadrivova O, Borzova Y, Burygina E, Vasilieva N, Denning DW**  
The burden of serious fungal infections in Russia. *Mycoses* In press.
93. **Badiane AS, Ndiaye D, Denning DW**  
Burden of serious fungal infection in Senegal. *Mycoses* in press.
94. **Jayasekera PI, Denning DW, Perera PD, Fernando A, Kudavidanage S**  
The burden of serious fungal infections in Sri Lanka. *Sri Lankan J Infect Dis* In press.
95. **Faini D, Maokola W, Furrer H, Hatz C, Battegay M, Tanner M, Denning DW, Letang E**  
Burden of serious fungal infections in Tanzania. *Mycoses* In press.
96. **Parkes-Ratanshi R, Achan B, Kwizwera R, Kambugu A, Meya D, Denning DW**  
The Burden of Fungal Disease in Uganda; What we know and how we can fill our knowledge gaps using Cryptococcal disease research in Uganda as a model. *Mycoses* In press.
97. **Osmanov A, Denning DW**  
Burden of serious fungal infections in Ukraine. *Mycoses* In press.
98. **Beardsley J, Denning DW, Chau NV, Yen NTB, Crump JA, Day JN**  
Estimating the burden of fungal disease in Vietnam. *Mycoses* In press.
99. **Denning DW, Hope WW**  
Therapy for fungal diseases: opportunities and priorities. *Trends Microbiol* 2010;18:195-204.
100. **Nam H-S, Jeon K, Um S-W et al**  
Clinical characteristics and treatment outcomes of chronic necrotizing pulmonary aspergillosis: a review of 43 cases. *Int J Infect Dis* 2010; 14: e479–82.
101. **Ohba H, Miwa S, Shirai M et al**  
Clinical characteristics and prognosis of chronic pulmonary aspergillosis. *Respir Med* 2012; 106: 724–729.