

New estimate doubles likely deaths from fungal disease globally

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The annual total of deaths from fungal disease worldwide has risen to 3.75 million, double the previous estimate, according to a new study.

In a paper, titled "Global incidence and mortality of severe fungal disease" published in *The Lancet Infectious Diseases*, David Denning, a professor of infectious disease at The University of Manchester also calculates an annual total at about 6.55 million acute cases using data from over 80 countries.

Though fungal disease has multiple causes, the updated mortality figures nevertheless dwarf deaths from other single pathogens, killing six times more people than malaria, and almost three times as many than tuberculosis.

The work is the result of a collaboration of over 300 professionals across the world who contributed to published estimates for their country and individual fungal diseases.

Previous estimates were imprecise, argues Professor Denning, as many fungal disease exacerbate an existing disorder, itself often severe, such as leukemia or AIDS.

However according to the study, of the deaths linked to fungal disease, around 68%—or 2.55 million were likely to have been directly caused by it.

Around 1.2 million deaths (32%) had other underlying disease, with fungal disease contributing.

Around a third of 3.23 million [chronic obstructive pulmonary disease](#) (COPD) deaths worldwide are linked to infection with the fungus *Aspergillus* finds Professor Denning.

Though [pulmonary tuberculosis](#) was classified as the cause of death in 1.2 million people in 2019, as many as 340,000 (28%) of these could actually be fungal disease deaths he estimates.

Of the estimated 311,594 leukemia deaths globally in 2020, 14,000 (4.5%) could be attributable to aspergillosis, and some to other [fungal infections](#) they find.

Lung and bronchus cancer annual deaths stand at 1.8 million, with the new estimate indicating that aspergillosis is implicated in 49,000 deaths (2.7%) of them.

Candida— another type of fungal infection- is a serious problem in [intensive care](#), complex surgical patients, diabetes, cancer and [renal failure](#), as well as premature babies.

The researchers estimate that about 1.57 million people suffer from Candida bloodstream infection or invasive candidiasis with 995,000 deaths (63.6%), each year.

Professor Denning said, "This work is the first global comprehensive annual incidence estimate of fungal disease, yet many gaps and uncertainties remain.

"Our prior estimates of annual mortality were 1.5 to 2 million, yet we now find the probable number dying with or of a [fungal infection](#) is double this at about 3.75 million.

"This estimate was inspired by massive changes in [fungal disease](#) awareness and diagnostic capabilities driven by Global Action For Fungal Infections (GAFFI), working in partnership with The University of Manchester, the Fungal Infection Trust, CIFAR's Fungal Kingdom: Threats and Opportunities program and GAFFI's global Ambassador network.

"This work would also not have been possible without the remarkable collaboration of over 300 professionals across the world who contributed

to published [estimates](#) for their country and individual fungal diseases."

More information: David Denning, Global Incidence and Mortality of Severe Fungal Disease, *The Lancet Infectious Diseases* (2023). On SSRN: [DOI: 10.2139/ssrn.4560971](https://ssrn.com/abstract=4560971)

Provided by University of Manchester

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