Fungal infections are silent killers, and cause misery to millions. More die of fungal diseases than either TB or malaria. After headaches and rotten teeth, skin fungal infections are the commonest diseases on Earth. Serious fungal infections afflict the most economically productive, especially in TB, AIDS and cancer patients, having a disproportionate impact on economies.

Necessary specialised diagnostic tests for fungal diseases are not done, or not available in most low and middle income countries. Doctors treat blind, or more commonly, not at all.

Well-established antifungal drugs are not available in many countries or are unaffordable.

Over 80% of patients could be saved if specialised diagnostics and antifungals were available everywhere, and used wisely by doctors.

- WHO has no funded programs on fungal diseases
- The number of national surveillance programs on fungal infections is fewer than 10
- Specialised reference labs that provide key diagnostic tests and critical expertise in fungal infections are found in fewer than 20 countries
- We spend over $8 billion on antifungal drugs each year
**FACTS AND FIGURES**

After TB about 10% of patients develop lung fungal infection, which slowly progresses to death over several years, unless arrested with treatment, an estimated burden of 1.2 million people worldwide. Fungal meningitis and pneumonia kills in excess of 1 million patients with AIDS every year, including many children, before treatment for HIV can begin to work.

<table>
<thead>
<tr>
<th>Fungal infection</th>
<th>Annual burden</th>
<th>Case fatality rate</th>
<th>Estimated deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cryptococcal meningitis</td>
<td>370,000</td>
<td>15-20% USA &gt;50% developing world</td>
<td>&gt;125,000</td>
</tr>
<tr>
<td>Pneumocystis pneumonia</td>
<td>&gt;500,000</td>
<td>15% in AIDS 50% non-AIDS</td>
<td>&gt;250,000</td>
</tr>
<tr>
<td>Invasive aspergillosis</td>
<td>&gt;250,000</td>
<td>50% mortality if treated</td>
<td>&gt;125,000</td>
</tr>
<tr>
<td>Invasive candidiasis</td>
<td>&gt;700,000</td>
<td>45% mortality treated</td>
<td>&gt;350,000</td>
</tr>
<tr>
<td>Chronic pulmonary aspergillosis</td>
<td>~3 million</td>
<td>15% mortality in developed world</td>
<td>&gt;450,000</td>
</tr>
<tr>
<td>Disseminated histoplasmosis</td>
<td>&gt;100,000</td>
<td>&gt;30% in AIDS, if diagnosed</td>
<td>&gt;80,000</td>
</tr>
<tr>
<td>Severe asthma with fungal sensitization (SAFS)</td>
<td>~10 million</td>
<td>&gt;1% but no good figures</td>
<td>~350,000 asthma deaths ~50% related to SAFS</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>&gt;14.9 million</td>
<td></td>
<td>&gt;1.7 million</td>
</tr>
</tbody>
</table>

Blindness caused by fungal infection of the eye affects over 1 million adults and children globally because the tools are not available for rapid diagnosis and treatment. Skin fungal infections affect a billion people worldwide. Severe asthma with fungal allergy probably contributes to half of the 350,000 deaths from asthma each year, yet it is treatable with antifungal drugs.

Professor Denning explains: “This is a global catastrophe on an unappreciated scale. While the World Health Organisation has just developed clinical guidelines for doctors for fungal meningitis in AIDS, other critical fungal infections are ignored. The lack of basic fungal diagnostic capability and unavailable treatments in many countries results in millions of avoidable deaths and illness. GAFFI is here to change this dismal situation.”

**OUR SUCCESSES**

Algeria, Argentina, Austria, Australia, Belgium, Brazil, Canada, Chile, China, Czech Republic, Dominican Republic, Ecuador, Egypt, France, Germany, Greece, Guatemala, Hungary, India, Indonesia, Iran, Iraq, Ireland, Israel, Jamaica, Jordan, Kenya, Madagascar, Mexico, Mongolia, Mozambique, Nepal, Netherlands, New Zealand, Nigeria, Qatar, Portugal, Romania, Russia, Saudi Arabia, Serbia, Serbia, Singapore, South Korea, Spain, Sri Lanka, Tanzania, Thailand, Trinidad and Tobago, Uganda, UK, Ukraine, Uruguay, Venezuela, Vietnam, Zambia. Other countries are ongoing.

In a coalition with other agencies including US Centers for Disease Control, attendees from LIFE, WHO, Medicines Sans Frontieres (MSF), Clinton Health Access Initiative and numerous universities and public health institutions, GAFFI successfully lobbied WHO to place amphotericin B and flucytosine on the Essential Medicines List to treat cryptococcal meningitis and other life-threatening fungal infections.

GAFFI is implementing a national ‘Fungal Diseases’ development plan in Kenya through its 8 referral hospitals and a national plan in fungal infections in AIDS in Guatemala as demonstration sites.

GAFFI has issued a 10 year Roadmap calling for 95% of the world’s population to have access to fungal diagnostic tests and antifungal drugs by 2025 - [http://www.gaffi.org/roadmap/](http://www.gaffi.org/roadmap/)
FINANCIAL SUPPORTERS

UHSM Academy
Support of the chronic pulmonary aspergillosis following TB study in Gulu, Uganda and the Medical Mycology Masters

Fungal Infection Trust
Supporting patients and researchers

JYLAG
Supporting education, health and enabling research for the poorest communities

BIO Ventures for Global Health
Co-organisers of Global Fungal Infection Forum

Wellcome Trust
Global charitable foundation dedicated to achieving extraordinary improvements in human and animal health.

Burroughs Wellcome Fund
Advancing Biomedical Science by supporting research & education

Private Donors

RESEARCH PARTNERS

Immy Ltd
Provision of research materials (LFA for cryptococcal antigen)

ISCA Ltd
Provision of research materials (LFA for Aspergillus antigen)

Dynamiker
Provision of research materials (Aspergillus IgG antibody tests)

VirionSerion
Provision of research materials (Aspergillus IgG antibody tests)

Siemens Healthcare
Provision of research materials (Aspergillus IgG antibody tests)

Omega Diagnostics
Provision of research materials

NETWORKS AND SOCIETIES

LIFE
For health professional education

International Society for Human and Animal Mycology

European Confederation of Medical Mycology

Healthcare Infection Society

International Society for Infectious Diseases

European Society for Clinical Microbiology and Infectious Diseases
OUR PEOPLE
Meet the people who together are the driving force behind GAFFI and are the true leaders behind making a difference to thousands of people’s lives.

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