HIDDEN CRISIS
HOW 150 PEOPLE DIE EVERY HOUR FROM FUNGAL INFECTION WHILE THE WORLD TURNS A BLIND EYE
Serious Fungal Infections. The size of the problem

HIV/AIDS 2016
- 3M at risk
- 19M on treatment
- 15M not on treatment
- 1.2M AIDS deaths a year
  - Fungal diseases account for nearly 50% of all AIDS deaths
- Aspergillosis 56K
- Histoplasmosis 80K
- Cryptococcal meningitis 181K
- Pneumocystis pneumonia (PCP) 260K
- Tuberculosis 400K

TUBERCULOSIS AND TB-LIKE FUNGAL DISEASES
- 5,200,000 Pulmonary TB cases a year
- 1,200,000 Chronic pulmonary aspergillosis cases after TB
- 3,000,000 Est. prevalence of TB-like fungal cases

CANCER AND FUNGAL INFECTIONS
- 7,400,000 Cancer cases a year
- Major surgery
  - Chemotherapy
  - Radiotherapy
- All at risk of fungal diseases
- Leukaemia
  - Fatal fungal infections 130,000
  - Lung cancer
    - Fatal fungal infections 32,000

EYE INFECTIONS (FUNGAL KERATITIS)
- 10% of keratitis is fungal in temperate climates
- 50% of keratitis is fungal in tropical & sub-tropical climates

NEGLECTED TROPICAL FUNGAL DISEASES
- Disfiguring skin & soft tissue
- Mycetoma
  - Chromoblastomycosis
  - Basidiobolomycosis
  - Phaeohyphomycosis
- 100,000's?
  - Neglected area
  - No good estimates

Visual recovery with Natamycin drops
- 60% No treatment leads to a blind eye
- 75%
GAFFI. Action Plan 2018-2025

01 Diagnostics
- Access to approved tests with high performance characteristics.
- Upskilling in microscopy.
- Support for new tests geared for low resource settings.

02 Therapy
- Registrations of generic antifungals.
- Local clinical guidelines
- Drug monitoring capacity increased.
- Resistance monitoring.

03 Education
- Online and face to face teaching of doctors, pharmacists and community workers.
- Peer support for complex cases.
- Lab technology education.
- Clinical guideline development.

04 Impact
- Systematic estimation of burden by country.
- Support epidemiology studies to fill gaps.
- Quality of life improvement for chronic fungal diseases.

05 Advocacy
- Persuade WHO and governments to address fungal diseases.
- Get WHO antifungals onto each country’s essential medicines list.
- Fungal disease awareness in professionals and public health.
- Highlighting forgotten fungal diseases.

One of our educational partners
- Microscopy and histology course in English, Spanish, French and Portuguese at: microfungi.net
- Education through LIFE in English and Spanish at: life-worldwide.org
GAFFI in action. A Case Study

Minimising AIDS deaths through rapid fungal diagnosis and better care in Guatemala

At least 280,000 Guatemalans suffer from a serious fungal infection per year of which an estimated 4,790 are immediately life threatening.

01 GAFFI's project has taken off - Diagnostics in place
GAFFI's national project has brought the key mycology diagnostic tests into Guatemala, through the NGO ‘Asociación de Salud Integral’ (ASI) (http://www.asi.org.gt) which offers them to all 16 HIV comprehensive care units. Sample transport from around the country takes 24/48 hours to ASI. Tests are requested from any mobile device and reported back electronically.

02 All antifungals now available
GAFFI's national project has ensured availability of key antifungal drugs in all HIV units to treat AIDS related and opportunistic infections.

03 Educating the doctors
Meetings, webinars and clinical experience of better diagnostics is empowering local doctors to recognize fungal disease early. Continuing education through the portal (http://fungired.gt/) is paying off.

04 Impact in the first 6 months of 2017
In the first 6 months of 2017, 2,655 samples were submitted from 1243 patients with AIDS - 139 (11%) tested positive. Pneumocystis PCR will be introduced in 2017, which will increase diagnostic yield. Rapid, accurate fungal disease diagnosis will save many lives, as the treatment of fungal disease is well established. Detailed data collection is ongoing to document the individual patient and public health impact of the program.

05 National and hospital advocacy to expand the reach of the program
Expansion of the program to non-AIDS patients is under discussion. The Health Ministry and AIDS Public Health have been petitioned to recognize ASI as an official Mycology Reference Laboratory for AIDS-related fungal opportunistic diseases. Support from the regional office of Pan-American Health Organisation (PAHO) and regional office of Centres for Disease Control (CDC) is valued and will highlight this program as an exemplar for the region.

Case Study  Before and after 6 months antifungal therapy

Blastomycosis before treatment  Lab diagnosis  After treatment
Developed national diagnostic programs in Guatemala, Kenya and Uganda - these are world first’s

Developed a 10 year global Roadmap for improving fungal disease diagnosis and management (95-95 by 2025)

Shown that 1,600,000 lives could be saved from fungal infections in AIDS with 60% coverage of fungal diagnostics & drugs

Pushed for 5 antifungal agents being accepted onto the WHO Essential Medicines List (adult and child)

Estimated the burden of serious fungal diseases in 71 countries (>80% of the global population)

Published the lack of availability and huge price variations for all 6 critical antifungals

Persuaded the WHO to include chromblastomycosis and other tropical fungal diseases to be on the Neglected Tropical Disease list

Argued the case for fungal diagnostics being a key component in fighting antimicrobial resistance (AMR)

**WHAT IMPACT HAS GAFFI HAD SINCE 2013?**

**GAFFI has:**
A worldwide network of country Ambassadors with real expertise.

**GAFFI has:**
Greatly increased awareness of the global problem of fungal disease and its size.

**GAFFI is:**
Actively working with diagnostic and pharma companies to increase access to life-saving diagnostics and medicines for low and medium income countries in all continents.

**GAFFI IS THE ONLY GLOBAL NGO FOCUSED EXCLUSIVELY ON FUNGAL DISEASES**
GAFFI. GLOBAL ACTION FUND FOR FUNGAL INFECTIONS

Over **400,000** people develop Pneumocystis pneumonia in AIDS and always die without therapy. High dose cotrim therapy is available, cheap and effective. The diagnosis is too often missed - no access to testing.

Over **135 MILLION** women suffer from recurrent yeast infection (thrush) each year - with much discomfort, anxiety and productivity loss - a hugely under-appreciated problem.

Nearly a **BILLION** people have a Fungal Infection of the skin, the 3rd most common illness on earth, after headaches and dental caries.

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YOU CAN REDUCE ILLNESS AND DEATH ASSOCIATED WITH FUNGAL DISEASES

PLEASE DONATE

GAFFI requires substantial funding to deliver its mission. Current fund raising is focused on major donor agencies and philanthropists from any country.

If you want to make a contribution to GAFFI’s work please go to our website and click on Donate.

Thank you.

OUR VISION

Our vision is to reduce illness and death associated with fungal diseases worldwide.

OUR MISSION

Reaching the poor and vulnerable through access to tests and anti-fungal drugs.

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To address these issues GAFFI has a 10 year roadmap ‘95/95 by 2025’

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Fungal diseases illustrated on front cover (from top left): Chromoblastomycosis in PNG, blind from Candida endophthalmitis in UK, Aspergillus niger onychomycosis in Korea (PMC3505779), disseminated histoplasmosis in Guatemala, fungal keratitis in Greece, fluconazole resistant oropharyngeal candidiasis in UK, Aspergillus osteomyelitis in UK, tinea capitis in Kenya and cutaneous coccidioidomycosis in USA.

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