Fighting a deadly fungus:
A new strategy to reduce deaths due to Cryptococcus

Cryptococcal meningitis is a leading cause of death among people living with HIV. In sub-Saharan Africa, it is estimated to kill more people than tuberculosis.

What is Cryptococcus?

Cryptococcus is a fungus that is found in the soil and produces spores that can be inhaled. People can get Cryptococcus early in life but never know it. If a person’s immune system is weakened (for example, by HIV), Cryptococcus can cause a life-threatening infection called cryptococcal meningitis.

Estimated causes of death in sub-Saharan Africa, excluding HIV, 2009

- Malaria: 1,135,861
- Diarrheal disease: 707,657
- Childhood Cluster disease: 527,126
- Cryptococcus: 504,000
- Tuberculosis: 347,871
- STDs excluding HIV: 92,606

Adapted from Park, et al., AIDS 2009

Why is Cryptococcus a major public health issue?

- It is a leading cause of death among people living with HIV.
- Cryptococcus is the most common cause of meningitis in Africa. Meningitis develops after the dormant fungus has been reactivated. For people living with HIV, it can be triggered when their CD4+ count drops.
- Cryptococcal meningitis mortality is high (50–70%).
- In developing countries, medication to treat cryptococcal meningitis is often unavailable or too expensive.
- Management of cryptococcal meningitis is intensive, requiring frequent lumbar punctures and lifelong medication.
New solutions for treating Cryptococcus

Because it is not possible to prevent the initial infection, it is best to screen people who have been exposed to Cryptococcus to prevent meningitis from developing. A novel dipstick screening test (currently pending FDA approval) has just been developed that is:

**Simple:** It’s easy to learn how to perform the test and read the results

**Available:** It’s a test that can be performed in the clinic, so people who live in remote rural areas (where there are no laboratories nearby) can use it, too

**Effective:** The test is highly sensitive and highly accurate (>95%)

**Affordable:** It costs $2 per test

**Quick:** Results are available in 10 minutes

If screening detects the presence of Cryptococcus, beginning treatment at this point—before meningitis develops—is:

**Affordable:** The medication that can be used before meningitis develops (oral fluconazole), is free or inexpensive ($1–$2 per month)

**Cost-effective** ($180/life year gained), similar to other more widely used preventive measures, such as co-trimoxazole prophylaxis or tuberculosis preventive therapy

**Lifesaving:** Studies where people were treated before developing meningitis have demonstrated better outcomes

### Cryptococcus: A call to action

By 2015, equip one-half of all HIV clinics in Africa and Asia to perform Cryptococcus screening and diagnostics. This could save 50,000–100,000 lives each year.

“The magnitude of the benefit of …screening [for Cryptococcus] is overwhelming.”

David Meya et al., Clinical Infectious Diseases 2010