

# Change in treatment regime for cryptococcal meningitis may be needed

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The most cost-effective treatment for cryptococcal meningitis (a serious infection of the brain membranes, usually in people with AIDS or other immune system deficiencies) is different to that currently recommended by the World Health Organization (WHO), warranting a review of policy, according to the findings of a study published in this week's *PLOS Medicine*.

Researchers from Makerere University in Kampala, Uganda, and from the University of Minnesota in the US found that a short (7-day) course of amphotericin along with high-dose fluconazole for at least 2 weeks is the most cost-effective and least toxic treatment for cryptococcal meningitis.

The authors reached their conclusions by calculating the overall cost of six induction treatments for cryptococcal meningitis in HIV-infected patients using 2012 [healthcare costs](#) in Uganda for drugs, supplies, and hospital care, and average laboratory costs for monitoring treatment from three [African countries](#). Then they estimated the survival, cost, and cost per benefit associated with each treatment.

Currently, WHO recommends a 14-day regimen of injected amphotericin (a very toxic drug) and oral flucytosine or fluconazole for induction therapy of cryptococcal meningitis, but this regimen is impractical in many [low income countries](#) because of the cost of the drugs and [hospital admission](#); so high-dose fluconazole alone is the usual treatment, even though this regimen is much less effective resulting in

more deaths.

The authors say: "Short-course (7-day) amphotericin induction therapy coupled with high-dose fluconazole is very cost effective per [World Health Organization](#) criteria and may be a worthy investment for policy-makers seeking cost effective [clinical outcomes](#)."

They add: "Amphotericin should be moved from the "complementary list" to the "core list" in the WHO Model List of Essential Medications."

In an accompanying Perspective article, Andrew Farlow from the University of Oxford (uninvolved in the study) says that two results stand out: "First, the least cost-effective regimen is high-dose fluconazole monotherapy, which has been associated with a nearly 2-fold higher 10-week mortality rate and about 30% greater absolute mortality than the short course (5-7 days) amphotericin-based regimen. Second, long-course (14 days) amphotericin-based regimens, as recommended by the World Health Organization are not only more costly but appear to be no more effective than short course amphotericin-based regimens."

Farlow adds: "If the second finding is confirmed in further trials, the World Health Organization will need to adjust its advice."

**More information:** Rajasingham R, Rolfes MA, Birkenkamp KE, Meya DB, Boulware DR (2012) Cryptococcal Meningitis Treatment Strategies in Resource-Limited Settings: A Cost-Effectiveness Analysis. PLoS Med 9(9): e1001316. [doi:10.1371/journal.pmed.1001316](https://doi.org/10.1371/journal.pmed.1001316)

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