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Assessing strategies against gambiense sleeping sickness through mathematical modeling

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Control of gambiense sleeping sickness relies predominantly on passive and active screening of people, followed by treatment.; Mathematical modeling explores the potential of 3 complementary interventions in high- and low-transmission settings.; Intervention strategies that included vector control are predicted to halt transmission most quickly. Targeted active screening, with better and more focused coverage, and enhanced passive surveillance, with improved access to diagnosis and treatment, are both estimated to avert many new infections but, when used alone, are unlikely to halt transmission before 2030 in high-risk settings.; There was general model consensus in the ranking of the 3 complementary interventions studied, although with discrepancies between the quantitative predictions due to differing epidemiological assumptions within the models. While these predictions provide generic insights into improving control, the most effective strategy in any situation depends on the specific epidemiology in the region and the associated costs.

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