

Improving Spatial Accessibility to Antiretroviral Treatments for HIV/AIDS

by

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ABSTRACT

There are an approximate 7 million needing treatment for HIV/AIDS in the developing world, of which only 2 million are currently receiving treatment. Treatment alone is not a viable option. There is a need to both treat the 5 million left without access to antiretroviral medication and to make sure that they are sufficiently adherent to their treatment.

In this thesis we have investigated the impact of patients' travel distance to antiretroviral treatment centers on adherence and have thus devised a model for optimally locating new ART centers to maximize adhering population using Zambia as a case study. We have demonstrated that a) relaxing the catchment radii of ARV centers has a negative impact on the number of patients caught and remaining adherent by a MaxCap facility location algorithm and that b) there exists a better algorithm for maximizing adherent patients than MaxCap.