Managing Programmes and Budgets in an Uncertain World: An HIV Modelling Study

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2 December 2016
Ron Cooke Hub, RCH/204 at 13:30

Abstract:

Resources for HIV treatment and prevention should be allocated according to local epidemiological conditions in order to maximise population health. For example, resources may be targeted at areas that signal a focal point of HIV transmission. However, estimates of HIV prevalence and high-risk behaviour are not known with certainty. This means that budgets allocated to specific localities or programmes may not be sufficient to execute the planned HIV treatment and prevention strategy (e.g. if HIV prevalence is much higher than expected, planned provision of antiretroviral drugs may be unaffordable). Decision makers held accountable for constraining expenditure to within available budgets may therefore be forced to cut planned services.

In this work we explore how the realities of disease- and local-level budget constraints impact upon the health generated by investment in HIV. We use simulation to compare how alternative budgetary policies perform under conditions of uncertainty and to estimate the value of collecting more data to reduce uncertainty.