

Systematic analysis of STD control: an operational model.

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<http://www.ncbi.nlm.nih.gov/pubmed/10023348>

<http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/40643>

Date: 1998-07

Abstract:

BACKGROUND: Sexually transmitted diseases (STDs) enhance HIV transmission, and improved management of STD in primary health care decreases HIV incidence. In resource poor countries, those responsible for planning and managing STD control programmes need to be able to analyse the STD situation in their setting and the interventions which are therefore likely to be most cost effective. However, the data required for such decision making are often not available in developing countries. This paper presents an operational model, developed as a practical tool to support planning, monitoring, and evaluation of STD intervention strategies in settings where data are unavailable or inadequate. **METHOD:** The operational model is based on the approach developed for estimating the effectiveness of control measures in tuberculosis programmes. Using available data, the model takes a step by step approach. It begins with analysis of the total male and female population, the proportion of men and women aged 15-49 years, and the proportion of these who are sexually active. Subsequent steps analyse numbers with STDs, and loss of cases to the health system at each stage between infection and cure. The model was tested in Nairobi, Kenya using available demographic, epidemiological, and public health data; no original data were collected. Data for the total population of Nairobi were not available to illustrate all the steps in the model. For these steps, relevant information was taken where available from a specific study population using a large STD referral centre. **RESULTS:** Despite the lack of precise data for Nairobi, the model highlighted sex imbalances in population, which has potential implications for STDs. It also showed significant disparities in terms of public health policy--for example, between the number of people infected with STDs and the number who have symptoms, and between the number with symptoms and those who seek treatment from public health facilities. It also showed differences between the numbers who attend a health facility, and those that are correctly diagnosed and treated, and, of these, the proportion that are cured. **CONCLUSION:** Even where data are incomplete or not available, the model can be a useful tool for analysis. Application of the model, as the Nairobi example illustrates, provides a useful starting point in terms of determining both general and specific determinants of STDs, identifying problems, highlighting significant sex differences, and indicating where it might be appropriate to focus interventions. The model showed that, in Nairobi, only a small proportion of STD cases are removed from the reservoir of infection in the community through curative services, that cases are lost to the health services at every step, and therefore that interventions are required at every step to achieve comprehensive STD control. It highlights the need for strategies to prevent infections, to identify and treat those with and without symptoms, to motivate those who are aware of their infection to seek treatment, and to improve the effectiveness of partner notification and treatment. Finally, the model points to areas where data are inadequate and where STD control programmes need to concentrate information collection efforts.