Pitman, RJ; Cooper, BS; Trotter, CL; Gay, NJ; Edmunds, WJ; (2005) Entry screening for severe acute respiratory syndrome (SARS) or influenza: policy evaluation. BMJ, 331 (7527). pp. 1242-1243. ISSN 0959-535X DOI: https://doi.org/10.1136/bmj.38573.696100.3A

Downloaded from: http://researchonline.lshtm.ac.uk/id/eprint/6808/

DOI: https://doi.org/10.1136/bmj.38573.696100.3A

Usage Guidelines:

Please refer to usage guidelines at https://researchonline.lshtm.ac.uk/policies.html or alternatively contact researchonline@lshtm.ac.uk.

Available under license: Creative Commons Attribution Non-commercial http://creativecommons.org/licenses/by-nc/3.0/
Commentary: Sleeping sickness—a growing problem?
Jean G Jannin

This Ugandan sleeping sickness research is timely. After five years of intensified control, the human African trypanosomiasis landscape has changed. Before 2000, the sleeping sickness epidemic was spreading in Africa. Approximately half a million people living in the poorest areas were expected to be infected by this killer disease. Early detection of cases, before the parasites start to destroy the central nervous system, is essential for effective treatment. This is the only way to avoid using existing potent drugs (melarsoprol) or drugs that are very difficult to administer in remote areas (eflornithine requires an infusion every six hours for 14 days). In 2000, the availability of drugs was threatened and the treatment of patients challenged. The establishment of a large programme based on ensuring access for populations to health facilities, diagnosis, and treatment was conceived. This led to a long term donation of drugs—pentamidine, melarsoprol, eflornithine (Sanofi-Aventis), and suramin (Bayer)—with access to financial support (from Sanofi-Aventis, France and Belgium), which led to a drastic reduction in epidemics, assisted in the training of technicians, and ensured an efficient drug supply system, as well as promoting the use of the most efficient diagnostic tools and mobilizing the international community. Considering the achievements made in the area of control of sleeping sickness, leading to a current reduction of new cases and increase of surveillance activities, the International Scientific Council for Trypanosomiasis Research and Control (at its 28th conference in Addis Ababa in September 2005) recommended that WHO “Launch an elimination programme of sleeping sickness, to adapt control strategies towards this goal and advocate partners who have permanently provided support to maintain their efforts and assistance.”

Elimination of sleeping sickness as a public health problem through use of existing tools for diagnosis and treatment can be considered achievable. However, owing to the lack of safe oral drugs to treat both early and late stages of the disease, the integration of control activities in basic health system might be impossible and may lead to a non-sustainable elimination as it has been seen in the past.

The key for the integrated management of the disease by local health facilities is the availability of very simple cheap diagnostic tools and safe oral drugs to treat both Trypanosoma brucei rhodesiense and T b gambiense. Finding new diagnostics and drugs will be the key for an achievable and cost effective sustainable elimination. But as a down side of success, entry into the elimination stage might cause control of sleeping sickness to be seen as less of a major public health problem. A low priority is being given to the disease and its research and development. The main challenge today is to avoid creating a situation in which the re-emergence of the disease might occur, after huge efforts had been expended in achieving a situation in which we are close to its elimination.

In this context, the Ugandan case is of great interest, because the possible overlap of T b rhodesiense and T b gambiense could provoke big difficulties for the diagnosis and treatment of patients, taking into account the fact that no easy way exists to identify the two strains of parasites. It could also provoke a high burden because the treatments are different. A close surveillance of this phenomenon is a priority. In addition, as cattle are the main reservoir of T b rhodesiense, this should encourage authorities to treat cattle systematically to avoid new epidemics. This kind of large mass chemotherapy for cattle will be advantageous if done in partnership with the medical sector.

Competing interests: None declared.


Entry screening for severe acute respiratory syndrome (SARS) or influenza: policy evaluation
R J Pitman, B S Cooper, C L Trotter, N J Gay, W J Edmunds

The appearance of severe acute respiratory syndrome (SARS) and recent outbreaks of avian influenza have raised the question of how best to protect the population of England and Wales from such infections. Entry screening is at present of unknown benefit.

We assess the possible benefit of entry screening for SARS and pandemic influenza should an epidemic occur.

Methods and results

Throughout this analysis, we assume that effective exit screening is in place, that symptomatic patients will not...
be allowed to board flights, and that the value of entry screening is to detect people who develop symptoms in flight.

We estimated the incubation periods for influenza and SARS from published sources. We used these distributions to estimate the proportion of individuals with initially latent SARS and influenza infection developing symptoms during a flight from any of the top 100 sources of international airline passengers to the United Kingdom, given information on the mean duration of a direct flight from these destinations (www.britishairways.com/travel/schedules/public/en_gb). For influenza, given an overall prevalence of individuals with latent infection, we used existing transmission models to estimate the proportion expected to have been infected one, two, or more days previously, during the increasing phase of the epidemic. We back calculated corresponding proportions for SARS from the incidence of infection in Hong Kong at the start of the epidemic.

For SARS, the probability of in-flight progression rises slowly with the duration of the flight. During a six hour transatlantic flight, an infected passenger would have a 0-11% chance of progressing during a 10 hour flight. As most flights are of much shorter duration, we have ignored the possibility of in-flight transmission.

Entry screening is unlikely to be effective in preventing or delaying an epidemic resulting from the importation of SARS or influenza.

What this study adds

Entry screening is unlikely to be effective in preventing or delaying an epidemic resulting from the importation of SARS or influenza.

What this study adds

Entry screening is unlikely to be effective in preventing or delaying an epidemic resulting from importation of SARS or influenza.