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Treatment of Intestinal Parasites in Immigrants

To the Editor: The conclusion by [Muennig](#) et al. (March 11 issue)¹ that empirical treatment of all U.S. immigrants at risk for parasitosis would result in a net health benefit is driven by the assumption in their decision-analysis model that albendazole has no serious side effects. The authors base this assumption on the seven field trials of albendazole that found no serious side effects requiring medical attention. However, these trials studied the use of albendazole in a total of fewer than 3000 patients. Most of the trials monitored patients for three weeks or less and relied principally on the patients' reports of adverse events. Only two of the trials evaluated post-treatment laboratory data.

It may not be valid to extrapolate the finding that there were no adverse events in the relatively small number of patients treated in these field trials to a population of approximately 700,000 immigrants at risk. Albendazole is known to be teratogenic in animals and is thus contraindicated in pregnant women. SmithKline Beecham reports in this year's *Physicians' Desk Reference* that albendazole has been associated with rare deaths due to pancytopenia or granulocytopenia.²

With their model, [Muennig](#) et al. predict that the empirical use of albendazole in approximately 700,000 immigrants would save 33 lives. However, if albendazole caused a serious adverse event in even 1 of every 50,000 patients, much of its net health benefit would be lost. As [Muennig](#) et al. note, almost all deaths due to parasites in the United States are due to *Strongyloides stercoralis* hyperinfection. This phenomenon occurs almost exclusively in patients who are immunosuppressed.³ Instead of treating all immigrants at risk for parasitosis with albendazole, a more prudent course of action would be to target immigrants at risk for *S. stercoralis* hyperinfection — that is, those who are currently immunocompromised and those who are likely to receive immunosuppressive therapy.

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Edward Mitre, M.D.
New York University
New York, NY 10016

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3. Mahmoud AA. Strongyloidiasis. *Clin Infect Dis* 1996;23:949-953. [[Medline](#)]

To the Editor: As clinicians who care for many low-income immigrants, we doubt that our patients would follow the recommendation of **Muennig** et al. to take a medication as prophylaxis against conditions (disseminated strongyloidiasis and ascariasis) for which the lifetime chance of death is less than 1/5 of 1 percent. This is especially true because many immigrants who have recently arrived in the United States do not have health insurance, and most are not eligible for Medicaid. Financial factors adversely affect health status and access to care among low-income immigrants. Would a low-income family of five asymptomatic immigrants opt to pay \$58.95 for albendazole (the retail cost for five persons treated with 400 mg of albendazole per day, given orally for five days, at the Boston Medical Center's outpatient pharmacy) because we say empirical treatment will save society a few million dollars and prevent 33 deaths nationally each year? We think not.

A better focus for the study would have been the provision of empirical antiparasitic treatment to immigrants with high-risk medical conditions (such as asthma or autoimmune disease) just before their departure from countries where the parasites are endemic (perhaps as part of the medical evaluation of applicants for U.S. visas) or shortly after their arrival in the United States. The costs of strongyloidiasis and ascariasis in immunosuppressed patients could have been estimated in advance, in order to focus the study on a more practical approach that probably would have increased the documented savings. Yet, except in the case of refugee visa holders, overseas evaluation (and hence empirical antiparasitic treatment) is also at the immigrant's expense. . . .

Paul Geltman, M.D., M.P.H.
Alan Meyers, M.D., M.P.H.
Boston University School of Medicine
Boston, MA 02118

The authors reply:

To the Editor: We agree with Drs. Geltman and Meyers that an immigrant may be reluctant to spend current dollars to avert future ills of dubious likelihood. This reluctance results from the natural tendency to discount future costs and the difficulty of making rational decisions about events of low probability. The physician is also likely to base his or her decision on feelings, in accordance with the notion that medicine is an art, not a science. Formal analysis of cost effectiveness contributes to rational decision making by quantifying discounting and using stochastic models with sensitivity analysis to calculate expected values.

Decision making emphasizes that which is certain and in the present or near future over that which is unlikely and in the more distant future. Our patients must often be convinced of the necessity of an annual Papanicolaou smear, which has concrete costs in the present and averts a future event of low probability. Whether the recommended preventive regimen of albendazole should be administered after immigrants arrive in the United States or during the overseas examination is a decision for policy makers.

On the other hand, if the regimen of low-dose albendazole that we studied proved to have clinically significant side effects, the analysis would need to be repeated. The adverse effects cited by Dr. Mitre occurred with prolonged regimens, such as those required for the treatment of neurocysticercosis or echinococcosis.¹ These regimens generally involve a dose of 800 mg of albendazole per day for a minimum of 30 days, whereas we studied a regimen of 400 mg per day for 5 days. In areas where the parasites are endemic, similar low-dose regimens of the medication have been used for almost 10 years for the presumptive treatment of parasitosis.

Our model was based on the assumption that the only side effects would be mild somatic symptoms requiring a single medical visit for reassurance. The net health benefits and cost savings would be maintained as long as less than 20 percent of persons receiving treatment encountered this problem.

We did not claim that most or all deaths from parasitic infections in the United States were due to *S. stercoralis*. Instead, this organism was responsible for most of the deaths due to parasitic disease in our model, which included the costs and outcomes for only four parasites. The preventive regimen we studied would also cure many parasitic infections not included in the analysis.

Daniel J. Pallin, M.D.

Peter A. Muennig, M.D., M.P.H.

*New York City Department of Health
New York, NY 10013*

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