

investments from governments of developed nations and private scientific foundations and innovative partnering with private industry. This fact has been known for a long time. If that were to happen, the burden of parasites and neglected diseases in general would be exponentially reduced (2).

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## Using Microbicides to Fight the Spread of HIV

WE WELCOME THE INCREASING INTEREST IN the use of microbicides to fight HIV ("Raising new barriers against HIV infection," R. S. Trager, *News Focus*, 3 Jan., p. 39). The need for a female-controlled method of HIV prevention to supplement male options (condoms and male circumcision) has been apparent for 20 years. Sadly, we have to agree with the judgment expressed in Trager's article by Zeda Rosenberg, the CEO of the new International Partnership for Microbicides, that if current strategies are followed, then a microbicide is unlikely to be approved "until after 2010." Moreover, it would still take several more years to achieve an epidemiologically significant level of use.

If we are to prevent the AIDS pandemic from overwhelming developing countries in the next decade, we desperately need to develop new methods for preventing the sexual transmission of HIV. These must be available, acceptable, and affordable to that quarter of the world's population eking out a living on less than \$2 a day.

Perhaps the developed world is ill equipped to respond to such a challenge? Patenting, confidentiality, profit motives, and a goal of high efficacy with virtually zero risk may not be appropriate in the face of a disease that has the potential to kill more than half the population over 15 years of age in some countries (1). Ideally, money and know-how should be transferred to the frontline researchers in those countries most affected by AIDS.

We cannot afford the luxury of evaluating 50 candidate microbicides in the hope of finding one that might meet developed-world standards of acceptability sometime after 2010. A less-than-optimum microbicide available now will save more lives than

an almost perfect one in a decade's time.

There are a number of promising leads that could be evaluated immediately. Intravaginal lemon juice has been used as an effective spermicide since time immemorial (2); we are currently studying its effects on the vagina of monkeys (3). Another possibility is that topical vaginal estrogen, by thickening and keratinizing the human vaginal epithelium, could protect women against HIV infection (4). The combined oral contraceptive pill, if given vaginally, is an effective contraceptive (5), and its estrogen might protect by thickening the vagina.

HIV is going to kill more people than died as civilians and combatants in World War II. The rapidity with which a microbicide reaches widespread use is a life-or-death issue for literally millions of women, nearly all living in the developing world. The international community must be more imaginative and courageous in attempting to develop simple, acceptable, low-cost solutions to this crisis.

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#### CORRECTIONS AND CLARIFICATIONS:

**Letters:** "A risky forest policy in the Amazon?" by F. D. Merry *et al.* (21 March, p. 1843). Two co-authors were not listed: Benno Pokorny of the center for International Forestry Research, Belém, Brazil, and Imme Scholz of the German Development Institute, Bonn, Germany.

**Reports:** "Detection and monitoring of ongoing aseismic slip in the Tokai region, central Japan" by S. Ozawa *et al.* (1 Nov., p. 1009). In reference (9), three of the equations had errors. In line 16, the equation should be

$$\log[Z \int \exp[-(v_0^- - v_0)^T V_0^{-1} (v_0^- - v_0)] dv_0].$$

In line 19, the equation should be

$$-\alpha^2 \bar{v}_0^T G \bar{v}_0.$$

In line 21, the equation should be

$$\propto \exp[-(v_0 - \bar{v}_0)^T V_0^{-1} (v_0 - \bar{v}_0)].$$