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## HOOKWORM

### Shining light on a neglected disease

**Eradicating hookworm in the U.S. South brought about dramatic changes. We can do the same in Africa.**

By Hoyt Bleakley and Miriam Wasserman

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[President Bush](#)'s recent plan to spend \$350 million in Africa to treat intestinal worms seems far removed from the American experience.

But imagine for a moment a place where children are so infested with parasites that they are listless and weak. Tiny bloodsucking worms invade their intestines, causing anemia and holding back learning, if the kids are lucky enough to make it to school at all.

Some distant and exotic developing country? Not necessarily. This picture was commonplace in the southern United States less than 100 years ago.

The culprit, an intestinal parasite called hookworm, is one of the "neglected tropical diseases" that Bush has just pledged our country's support in attacking. While few Americans today have even heard of the disease, in 1910 about 40 percent of Southern children suffered from hookworm infection.

Some places, such as Decatur County in [Georgia](#), suffered from an infection rate of nearly 100 percent. The disease was so prevalent, in fact, that historians blame it (along with malaria and pellagra) for giving rise to the widespread stereotype of the "lazy Southerner."

Today, about 740 million people around the world are estimated to suffer from hookworm infection, with the highest infection rates occurring in sub-Saharan Africa and tropical Asia. Yet it is a neglected disease, in part because in some areas it is so prevalent as to be imperceptible: It has woven itself into the fabric of life.

Hookworm, while rarely a killer, does take a toll on its victims and on the regions it strikes. The parasite particularly afflicts children, who are in the critical stages of physical and mental development. The consequences can be lifelong. From stunted growth to impaired mental abilities, hookworm can prevent its victims from achieving their full productive potential.

In the U.S. South, the effect of eradicating hookworm was dramatic. Soon after John D. Rockefeller



sponsored the campaign against hookworm, testimonials flowed in from school principals and teachers.

Henry Thrift from the Tidewater region of Virginia reported that, after deworming, "children who were listless and dull are now active and alert; children who could not study a year ago are not only studying now, but are finding joy in learning."

School attendance rose sharply in "dewormed" areas, and time spent in school was more productive. Children in areas where hookworm was eradicated were more likely to learn how to read and write.

These gains continued in adulthood as well. Children born after hookworm had been eradicated went on to earn substantially higher lifetime incomes than those who had been born in their same area just 15 years earlier. Studies of historical data indicate that persistent childhood hookworm infection depressed lifetime income by 40 percent.

The weight of the economic burden of hookworm was large enough to be able to account for almost one-fifth of the income difference that existed at the time between the wealthier North and the impoverished South.

Yes, the "New South" in part stems from having healthier Southerners.

But the large benefits of eradicating hookworm are not limited to the South of 100 years ago. There is contemporary evidence that developing countries can reap equivalent rewards.

Economists Michael Kremer of Harvard University and Edward Miguel of the University of [California Berkeley](#) conducted a careful evaluation of a school-based treatment program run by International Child Support in Kenya. They found that curing hookworm cut school absenteeism by 25 percent, a number remarkably similar to estimates from the Southern U.S. Kremer and Miguel estimate that, with the higher incomes associated with more education, society gains more than \$30 for every dollar spent on deworming.

In the South, it took leadership from Rockefeller to raise awareness and channel resources toward what was until then a largely unknown problem. It took money: The Rockefeller Foundation gave \$1 million in 1910 dollars to the campaign. It took technology: a combination of deworming medicine and sanitary education. And, finally, it took follow-through from the local health boards that remained vigilant about hookworm's resurgence and continued the education efforts to ensure the problem could be vanquished for good.

The result was so successful that few Americans today know the problem ever existed. The rewards for eradicating these diseases are tremendous, in both humanitarian and economic terms. And it's doable. Let's do it.

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