

Economics of Malaria

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Economics of Malaria

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Economics of Malaria

Malaria is a root cause of low productivity in tropical areas, especially now in Africa.

It is a debilitating disease, that affects almost everyone in tropical Africa



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Convention about “south” and “north”

- “south”
 - Less developed countries, Third world, Underdeveloped countries. Developing countries. I prefer to use the word “south” as a generic for these groups of countries
- “north”
 - Industrialized countries, rich countries, G8, etc. I prefer to use the word “north” as a generic for these groups.
- CAVEAT
 - Does not work perfectly .. e.g. Australia



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No longer a problem in the “north”

- Why no longer a problem in the “north”
 - Take Florida, USA – a tropical climate. Aggressive control of mosquitoes using aerial spraying, ground fogging, etc. Started decades ago, and continuing today.
 - California, USA – same story. Mosquitoes used to be a problem. Mosquito control reduces malaria vector – reduces malaria
 - Darwin, Australia – tropical climate and malaria now reduced through aggressive use of aerial spraying and ground fogging



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Why still a problem in the “south”

- Many reasons – none acceptable
 - Not enough money to run a mosquito control program
 - Better to use bed nets to protect from mosquitoes
 - Not a priority for development assistance
 - Not really a problem, it has always been like this
 - Vaccines are coming
 - Treatment solves the problem
 - Too expensive. Who cares about the “south” anyway?



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How big is the problem in the “south”

- Take Africa
 - About 900 million people in Africa, probably 500 million in malaria affected areas.
 - Almost everyone in Africa has had malaria, or has it now. Having malaria fever is a debilitating experience.
 - In the case of children, without medical treatment it can be fatal. The number of African children dying of malaria every day is probably more than 3,000
 - Adults suffering from malaria experience loss of energy, which translates into loss of economic performance.



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How big is the problem in the “south”

- What is the economic cost of all this?
 - Malaria is the reason why a good proportion of 500 million people in Africa are lethargic. If people cannot produce, the lost economic value is huge. What is the number?
 - 200 million people * \$100 of lost product = \$20 billion
 - You choose your number ... the lost value is big
 - Imagine if malaria was endemic on the same scale in the USA
 - 300 million people, say 60 million in the workforce, which at an average of \$25,000 a year comes to \$1.5 trillion. A 10% loss of performance costs \$150 billion ... huge huge huge



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How to address the problem?

- What are the options?
 - Hide from malaria – the bednet approach
 - A stop gap measure that has costs for ever
 - Kill mosquitoes on a household scale
 - Very expensive and not really effective
 - Let people get malaria and treat it
 - An option – dangerous, resistant strains emerging
 - Eliminate the malaria vector – the mosquito
 - The preferred solution in the USA, Australia and other malaria affected areas



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Sustainable solutions

- Eliminate the malaria vector – the mosquito
 - This requires a commitment by leadership
 - It requires an organization with the capacity to do the work – planes, trucks, spraying equipment, competent staff
 - It requires funding
 - It requires a medical and scientific component to ensure safety and efficacy



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Justification for a sustainable solution

- Justification 1
 - In Monrovia, if 50% of the population are affected by malaria, it is more than 1.5 million people. If the annual value of not contracting malaria is just \$50 per capita then the value to the community is \$75 million a year.
 - If a comprehensive program to eliminate mosquitoes is going to cost \$10 million a year, the community has an economic value multiplier of 7.5 and an absolute gain of \$65 million.
 - If the malaria risk is reduced – other development options like foreign corporate investment become more attractive.



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Justification for a sustainable solution

- Justification 2

- How much value for just one life saved. In the “north” a human life is valued in millions of dollars. Medical malpractice and life is reimbursed with \$10 million settlements.
- How many lives might be saved in Monrovia?
 - If it is 1,000, and each life is valued at \$10,000 then the program value is \$10 million
 - If it is 10,000, then the program value is \$100 million. The values are huge.
- NOT solving the problem ought not to be an option



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Justification for a sustainable solution

- Justification 3
 - Why a sustainable solution like vector removal?
 - Bednets only address part of the problem
 - Coils, sprays, only address a part of the problem and are expensive
 - Medication is expensive and not available to all
 - Medication getting more problematic with resistant strains
 - Mosquito removal can eventually end the problem.



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Risks should be taken into consideration

- Risks

- What about build up of mosquito resistance?
 - Yes a possible problem. Program needs management. Can be handled.
- What about resistant strains of malaria?
 - Another potential problem. Needs monitoring. Can be handled.
- What about pesticide in the environment?
 - A possible risk, but low compared to certainty of death and incapacity caused by endemic malaria.
 - DDT and other pesticides should be used with care and environmental monitoring handled responsibly.



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Why malaria was not eliminated years ago?

- History

- A global effort to eliminate malaria was mounted in the 1950s and 1960s ... but more difficult to implement than expected.
- Government implementation capacity was a constraint and the knowledge of the malaria disease and the mosquito was more limited than it is today.
- The cost was more than donors anticipated, and agencies like WHO and UNICEF chose to focus on other aspects of public health before significant progress was made in Africa.



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Why malaria was not eliminated years ago?

- End-note
 - It is time to try again. The economics are clear. Malaria has a huge cost for Africa
 - Leadership has recognized the importance of malaria and it is included in programs like the Global Fund (GFATM)
 - Local programs to implement need to be planned and need to be funded.
 - Good programs with management information to provide transparency and accountability.



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Questions?

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