

Supplemental File 1: Decision tree and model input parameters

Figure 1 shows the decision tree, including the square decision node representing the two intervention arms and the probabilities associated with each circular chance node. Each branch ends at a triangular terminal node labeled with the cost and effectiveness outcomes of the branch.

Each chance node is associated with a single probability, defined in Table 1. The probability of not having the event described at the chance node is 1 minus the probability of the event. Each chance event represented by a probability node might have an associated cost, an associated outcome, or both. At each terminal node, the costs and outcomes associated with each preceding probability node are added together. The costs are presented at the terminal node before the semicolon, and the malaria outcome is presented after the semicolon, with M representing a case of malaria and noM representing no malaria.

In this tree, first, the resident's household either receives IRS or does not. Then, she either uses an ITN or does not. Next, she is either infected with the malaria parasite or she is not. The probability of infection is dependent on which intervention(s) she receives. If she is not infected with the malaria parasite, she develops no malaria and the branch ends. If she is infected, then she might develop symptomatic malaria; if she does not, the branch ends. If she develops symptomatic malaria, she might seek and receive formal treatment; if she does not, she might or might not develop complicated malaria, and then the branches end. If she seeks treatment, it might fail; if it does not fail, the branch ends. If the treatment fails, it is assumed that she will seek treatment a second time for the new symptoms, whether they are symptoms of complicated malaria or not; in either case, the branch ends after this second round of treatment.

24 **Figure 1: Decision tree**



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27 **Table 1: Decision tree parameters**

Probability parameter	Associated event	Associated cost	Associated malaria outcome
pIRS	Receive IRS in the home	cIRS	—
pITN	Correctly use an ITN	cITN	—
pPara_noint	Develop parasitemia after receiving no intervention	—	—
pPara_IRS	Develop parasitemia after receiving IRS	—	—
pPara_ITN	Develop parasitemia after correctly using an ITN	—	—
pPara_IRSITN	Develop parasitemia after receiving IRS and correctly using an ITN	—	—
pMalaria	Develop symptomatic malaria	—	M
pTrt	Seek formal treatment for uncomplicated malaria	cmal_uncomp	—
pTrtFail	Treatment fails	—	—
pComp	Develop complications	cmal_comp	—