The proportion of children receiving prompt and effective treatment for malaria is one of the core RBM indicators. Obtaining the information required to estimate this indicator accurately can be complex. Also, current guidelines as used in a Malaria Indicator Survey (MIS) do not address source, dose of treatment or diagnostics in detail. We propose an algorithm that can be used to obtain national estimates not just for country comparisons but also for national policy planning. Guided by an algorithm, with the correct sequence of questions we can determine if a febrile child has received prompt and effective treatment or not, identifying children with and without malaria parasites, and treatment status of those not tested. Household surveys in Ghana, Kenya and Senegal through the Mobilize Against Malaria (MAM) project were used to refine and validate the algorithm. Data from the surveys in the MAM project demonstrate the application of the algorithm to obtain overall estimates. They also illustrate the integration of the use of diagnostics for malaria and how they enable a focus on the treatment received by children who are positive and those who are negative for malaria parasites, depending upon their source of treatment seeking. This algorithm provides a model that can be used for the evaluation of a program targeting the treatment of febrile children; to obtain a national level estimate of the core RBM indicator by source of treatment and to estimate the type and magnitude of treatment provided to children who are RDT negative.