Available resources are very for this research is limited, hence the need to be cost conscious. **OBJECTIVES:** The purpose of the research was to know which of the two antitubercular drugs (both of which are still actively used in Nigeria) is more cost effective in phase I treatment of tuberculosis and to influence decision making. **METHOD:** Cost Effectiveness Analysis was the applied tool for these methods, and the prescribed/dispensed antitubercular drugs between 1997 and 1999 were reviewed retrospectively. Relevant information such as diagnosis, prescribed/dispensed drugs, dosage, duration of therapy, physician’s remarks, and cost were obtained from patient case notes and dispensed prescriptions. These were used in conjunction with time and motion studies and standard cost accounting technique. The cost per defined daily dosage (DDD) was calculated, and the costs of drug/disposables acquisition and overhead costs were included in the analysis. The literature was reviewed for positive and negative consequences of the considered options. Outcome measure of effectiveness was improved in signs and symptoms of tuberculosis/eradication of Mycobacterium. A decision table was used to arrive at the effectiveness rating, which was compared using chi square analysis. **RESULTS:** The analysis showed that ethambutol tab is more cost effective than streptomycin inj, which is still widely in use. The cost/DDD of ethambutol was N4.00/unit effectiveness while that of Streptomycin was N6.50/unit of effectiveness. The decision did not change when some variables were altered in favour of streptomycin inj. (the less cost effective option). Increasing the cost of ethambutol by several folds, increased the effectiveness rating of streptomycin to that of ethambutol etc., which did not change the conclusion. **CONCLUSION:** Streptomycin inj, should no longer be considered as a primary drug in the treatment of tuberculosis, which is still very common in Nigeria. However, the various contraindications/side effects of ethambutol such as optic neuritis need to be monitored for in patient. Economic evaluation of therapy is necessary to avoid trading-off of more cost effective therapeutic options.