Levalbuterol may be prescribed in place of racemic albuterol to help decrease the adverse effects thought to be mediated by the S-enantiomer in racemic albuterol. Racemic albuterol is a 50:50 mixture of R- and S-enantiomers, whereas levalbuterol is only the R-enantiomer. A review of literature shows conflicting results regarding levalbuterol adverse effects.

An annual drug usage evaluation for levalbuterol 0.625mg and 1.25mg was completed for the time period of January 1, 2012 through January 31, 2013 across all inpatient admissions for a 550 bed not-for-profit regional medical center. The consensus standard of interchange of racemic albuterol for levalbuterol occurs with a 2:1 ratio (e.g. racemic albuterol 2.5mg for levalbuterol 1.25mg and racemic albuterol 1.25mg for levalbuterol 0.625mg). The cost avoidance for this study was calculated using this ratio.

The annual cost avoidance of automatically interchanging racemic albuterol in place of levalbuterol was determined by comparing the purchase costs and usage of levalbuterol 0.625mg and 1.25mg against the purchase costs of racemic albuterol 1.25mg and 2.5mg.

The cost avoidance at interchange rates between 70% through 100% was calculated. Depending on the annual rate of conversion, the automatic therapeutic interchange of racemic albuterol in place of levalbuterol can yield an annual cost avoidance from $71,186 to $101,695.

The range of cost avoidance using an automatic therapeutic interchange of racemic albuterol for levalbuterol can vary. Various health system pharmacies utilize different interchange rates.

Levalbuterol costs 3.5 to 25 times more than racemic albuterol. The purpose of this retrospective drug usage evaluation was to determine if any cost avoidance would occur by utilizing an automatic therapeutic interchange of racemic albuterol for levalbuterol.