

# Imipramine was as cost-effective as or more cost-effective than paroxetine for depression

Woods SW, Rizzo JA. **Cost-effectiveness of antidepressant treatment reassessed.** *Br J Psychiatry.* 1997 Mar;170:257-63.

## Objective

To compare the cost-effectiveness of imipramine with paroxetine for the treatment of depression.

## Design

Replication of a previous simulation that used a decision analysis model and compared the effectiveness of the tricyclic antidepressant (TCA) imipramine with the serotonin-specific reuptake inhibitor (SSRI) paroxetine. Revised assumptions were used to simulate more clinically relevant treatment patterns.

## Setting

United States.

## Patients

Simulation cohort with depression.

## Intervention

In the simulation, 1 cohort was initially treated with paroxetine, and the other was initially treated with imipramine. The intervention considered 3 scenarios for treatment success rates among patients who discontinued one therapy and

switched to the other: 60%, 75%, and 90% of the population average for initial treatment (SR1, SR2, and SR3, respectively). Three alternative treatment lengths of 20, 34, and 48 weeks of duration (LT1, LT2, and LT3, respectively) were considered with maintenance treatment lengths of 52, 78, and 104 weeks, respectively, if relapse occurred. Three initial treatment completion rates were also considered. The first (IS1) assumed a treatment completion rate for the 2 medications to be equally cost-effective. The other 2 completion rates were obtained by pooling results from 3 studies that compared paroxetine with imipramine (IS2) and 62 trials that compared SSRIs with TCAs (IS3).

## Main cost and outcome measures

Cost-effectiveness (direct cost per successfully treated patient) under alternative assumptions for success rates for switched therapies, treatment duration, and initial success rates.

## Main results

Under the SR1, SR2, and SR3 assumptions, imipramine cost slightly more than paroxetine (£732 vs £700), was about equally cost-effective (£658 vs £654), and cost less per successfully treated patient (£594 vs £612), respec-

tively. Using SR2 as the best estimate for success of switched treatment, the LT1, LT2, and LT3 assumptions showed that imipramine cost 6%, 11%, and 14% less per successfully treated patient than paroxetine, respectively. Using SR2 as the best estimate of success after switched treatment and LT2 as the best estimate of duration of treatment, the initial success rate of imipramine would need to be low (38%) compared with paroxetine (66%) for IS1. Given SR2 and LT2, imipramine was more cost-effective than paroxetine for IS2 (18%) and even more cost-effective for IS3 (28%). Cost-effectiveness was sensitive to drug costs per day, dosage, costs of treatment failure, delivery costs, and cost discounting.

## Conclusion

Unlike the previous simulation, in most scenarios the tricyclic antidepressant imipramine was as cost-effective as or more cost-effective than the serotonin-specific reuptake inhibitor paroxetine.

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## Commentary

Despite over 100 randomised trials, the relative cost-effectiveness of TCAs compared with SSRIs has been largely ignored. Elsewhere we have argued that this issue can only be addressed with large-scale randomised trials with simultaneous economic analyses of real clinical data (1). There is now 1 such trial that found no differences between the 2 classes of drugs (2).

The study by Woods and Rizzo is a reappraisal of an economic model I have criticized for many of the assumptions it used (3). The original model was based on the results of a single trial, which found that the dropout rates for SSRIs were much lower than for TCAs and assumed that this difference would lead to an escalated cost of treat-

ing the "treatment failures" (those who had dropped out of treatment). Several reviews now suggest that the difference in dropout rates between the 2 classes of drug is considerably lower than the original model had estimated. The reappraisal reported here corrected some of the key assumptions and found that the TCA did as well as or better than the SSRI in terms of cost-effectiveness. The strongest case this reappraisal makes is that such economic models are not robust methods of assessing the costs of 2 treatments that have little to separate them. Better economic analyses are needed to guide the prescribing decision of clinicians and policy makers.

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## References

- Hotopf MH, Lewis G, Normand C. *The Treatment of Depression: Evaluation and Cost-effectiveness.* London: London School of Hygiene and Tropical Medicine; 1996.
- Simon GE, VonKorff M, Heiligenstein JH, et al. Initial antidepressant choice in primary care. Effectiveness and cost of fluoxetine vs tricyclic antidepressants. *JAMA.* 1996; 275:1897-902.
- Hotopf M, Lewis G, Normand C. Are SSRIs a cost-effective alternative to tricyclics? *Br J Psychiatry.* 1996;168:404-9.