Impact of Depression Relapse on Participant Quality of Life and Costs to the English NHS: Secondary Analysis from the Antler Study on Antidepressant Discontinuation in Well Patients in Primary Care

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Background

Depression is a common and debilitating mental-health condition.

Antidepressants are often given as first-line treatment, and often taken for months or years after a depressive episode.

The ANTLER study investigated the impact of tapered discontinuation of medication in _well_ patients, compared to maintenance treatment, to determine whether maintenance treatment prevented relapse.

Aims

Calculate impact on health-related quality-of-life (HRQoL) and National Health Service (NHS) costs, of experiencing a depression relapse, using ANTLER patient-level trial data.

Methods

478 participants from 150 UK general practices recruited in 2017-2019 to a randomised, double-blind trial (ANTLER).

Utility scores were captured every 3 months, calculated in three ways:

- From EQ-5D-5L preference-based measure of HRQoL using the value set for England (base case analysis)
- From EQ-5D-5L using crosswalk tariff
- From Short Form 12 (SF-12) using SF-6D tariff.

Costs were calculated using standard unit costs and resource use captured at baseline, 6 and 12 months from:

- Primary care electronic records (no missing data)
- Self-completed questionnaires focusing on mental health.

Relapse was assessed every 3 months using the retrospective Clinical Interview Schedule - Revised (rCIS-R) to identify the onset of a depressive episode over the previous 3 months.

Panel regression analysis was performed, with adjustments for randomised group, ANTLER medication, baseline disease severity, and site, as well as baseline QOL or cost.

Main clinical results [1]

Main clinical results: estimated time to relapse (primary outcome) was 13.3 weeks vs. 19.0 weeks, for discontinuation and maintenance, respectively (hazard ratio, 2.06; 95% confidence interval, 1.56 to 2.70; p<0.001).

Proportion of relapses by arm, per quarter
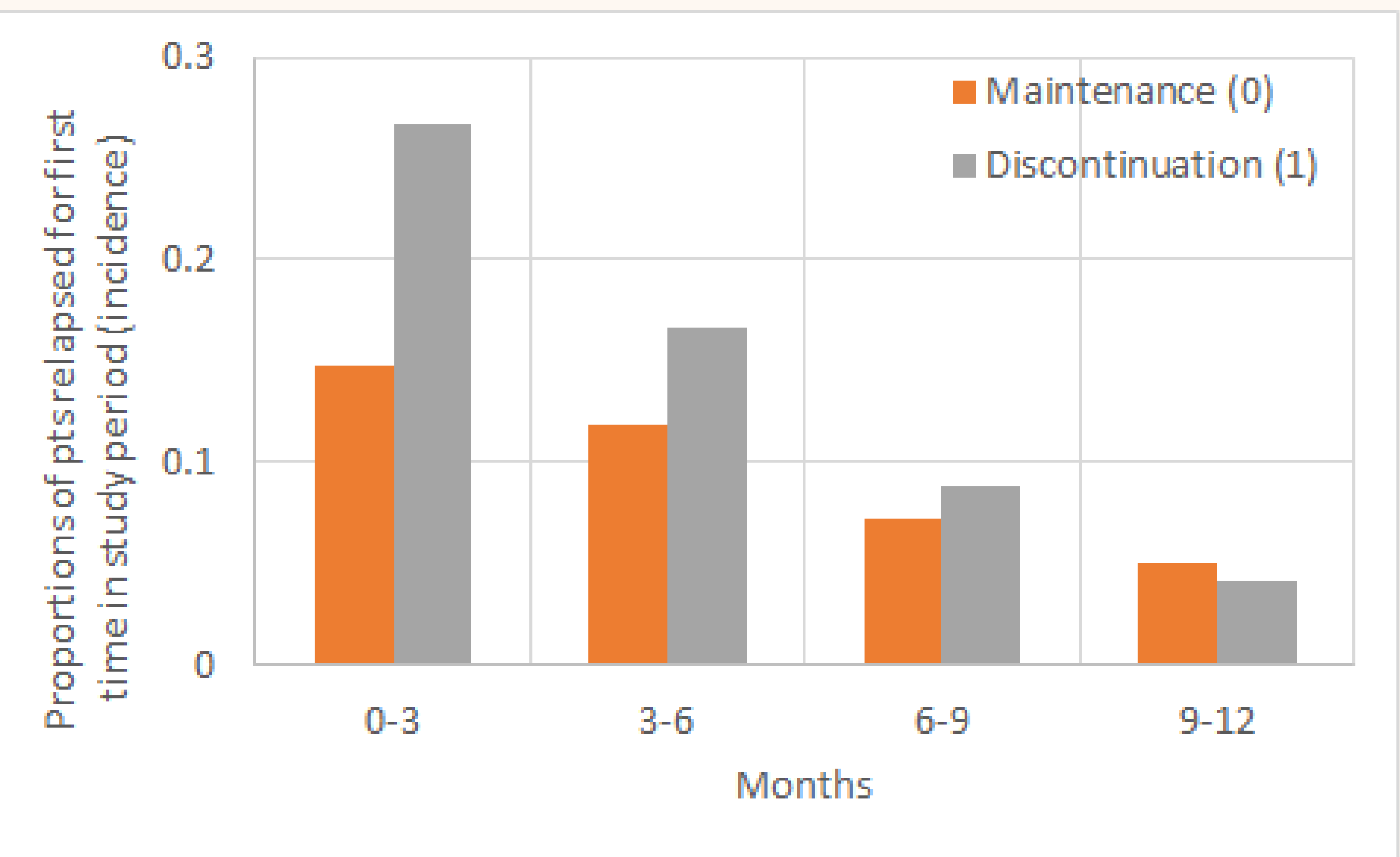
Results – impact of relapse on HRQoL and costs

Relapse corresponded to a small but statistically significant increase in primary care consultation costs and in overall costs per patient (see Table 1). There was no significant difference in self-reported costs. The reduction in antidepressant costs was caused by relapse rather than the other way round. When adjusting, no other variable was statistically significant (besides relapse).

For quality of life, relapse corresponded to a small but statistically significant reduction in HRQoL (see Table 2). When adjusting, no other variable was consistently statistically significant (besides relapse) across the three utility tariff methods used.

Primary cost-effectiveness analysis results [2]

Participants randomised to the discontinuation arm had:

- Significantly worse utility scores at 3 months (− 0.032; 95% confidence interval [CI] − 0.053 to − 0.011) than maintenance arm
- No significant difference in quality-adjusted life-years at 12 months (− 0.011; 95% CI − 0.026 to 0.003) vs. maintenance arm
- No significant difference in health service costs at 12 months (£3.11; 95% CI − 41.28 to 47.50) vs. maintenance arm

The probability that discontinuation was cost-effective compared to maintenance was 12.9% at a threshold of £20,000 per QALY gained.

TABLE 1 – COSTS	Mean (95% CI)
Unadjusted (relapse only)	
Primary care consultation costs	24.56 (12.01, 37.12)
Self-complete costs (mental health)	9.13 (-4.94, 23.21)
Antidepressant medication costs	-0.61 (-1.04, -0.18)
Total costs (complete case analysis)	29.73 (11.26, 48.19)
Total costs (self-complete missing=zero)	32.89 (6.78, 59.00)
Adjusted for baseline costs, group, medication, CIS-R, site	
Primary care consultation costs	26.17 (14.07, 38.27)
Self-complete costs (mental health)	10.86 (-2.50, 24.22)
Antidepressant medications	-0.40 (-0.81, 0.00)
Total costs (complete case analysis)	35.94 (18.36, 53.52)
Total costs (self-completed missing=zero)	39.75 (16.43, 63.07)

TABLE 2 – HRQoL	Mean (95% CI)
Unadjusted (relapse only)	
EQ-5D-5L VSE	-0.046 (-0.059, -0.033)
EQ-5D-5L crosswalk	-0.051 (-0.067, -0.035)
SF-12/SF-6D	-0.090 (-0.103, -0.076)
Adjusted for baseline QOL, group, medication, CIS-R, site	
EQ-5D-5L VSE	-0.050 (-0.063, -0.037)
EQ-5D-5L crosswalk	-0.057 (-0.073, -0.041)
SF-12/SF-6D	-0.094 (-0.107, -0.080)

Conclusions

Depression relapse corresponded to significant reductions in HRQoL for patients.

This agrees with previous work suggesting that generic preference-based measures are valid in common mental-health disorders, facilitating comparability with economic evaluations in other disease areas.

This work also presents evidence of the cost of a depression relapse to the NHS, an area where high-quality evidence has previously been lacking.

References

[1] Lewis et al., _New England Journal of Medicine_, Sept 2021 (https://www.nejm.org/doi/full/10.1056/NEJMoa2106356)

[2] Clarke et al., _Applied Health Economics and Health Policy_, Nov 2021 (https://pubmed.ncbi.nlm.nih.gov/34748164/)

Duffy et al., NIHR report to funder, _Health Technology Assessment_, Nov 2021 (https://www.journalslibrary.nihr.ac.uk/hta/hta25690)

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antidepressants to prevent relapse in depression

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^ Professor Michael King very sadly passed away in early September 2021 so approved the ANTLER primary cost-effectiveness work (Clarke et al. 2021 in _Applied Health Economics and Health Policy_, https://pubmed.ncbi.nlm.nih.gov/34748164/), but not this specific secondary analysis.