THE COMPLIER-AVERAGE CAUSAL EFFECT (CACE) OF PSYCHOLOGICAL TREATMENT FOR DEPRESSION

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We consider the estimation of treatment effects in a multi-centre (N=427) trial to compare psychological interventions with routine care for depression in primary care (the Outcomes of Depression Network or ODIN Trial, Dowrick *et al.*, 2000). In this trial, despite agreeing to be randomised, only about half of the participants who were allocated to the psychological intervention actually received the treatment offered. Outcome was measured by severity of depression as assessed by the Beck Depression Inventory (Beck *et al.*, 1961). In the intervention arm, loss to follow-up (non-response) was strongly associated with non-adherence to the offered treatment.

We estimated the Complier-Average Causal Effect (CACE) of treatment by maximum likelihood using Mplus Version 3.0 (Muthén & Muthén, 1998-2004; Dunn *et al.*, 2005), allowing for centre membership and baseline BDI as covariates in models for both compliance status and outcome, assuming the missing data mechanism to be either ignorable or latently ignorable as defined by Frangakis & Rubin (1999). Were necessary, we also imposed exclusion restrictions on both outcome and non-response and checked the sensitivity of the CACE estimates to the assumptions concerning both the missing data mechanism and the exclusion restrictions.