

**Methods:** Data are taken from an epidemiological survey conducted with a national clustered sample of 3998 Australian adults. Following the presentation of a vignette describing depression or schizophrenia, respondents were asked a series of questions relating to their knowledge and recognition of the disorder, beliefs about the helpfulness and harmfulness of helping professionals and treatments, likely outcomes and causes, and personal and perceived stigma.

**Results:** Participant age was coded into five categories and cross-tabulated with mental health literacy variables. Multiple comparisons between the youngest age group (18–24) and all other groups showed that although young adults were better than those aged 70+ at correctly recognizing depression and schizophrenia, they were more likely to misidentify schizophrenia as depression. For those who received the depression vignette, younger adults differed from older age groups in terms of their beliefs about the helpfulness and harmfulness of certain treatments, and personal stigma. Differences were also observed between younger and older adults who received the schizophrenia vignette, specifically for helpfulness and harmfulness ratings, and beliefs about causes.

**Conclusions:** Differences in mental health literacy across the adult life span suggest that more specific, age-appropriate messages about mental health are required to inform different age groups. The tendency for young adults to ‘overidentify’ depression perhaps signals the need for awareness campaigns to focus on differentiation between mental disorders.

## A randomized double-blind trial of right prefrontal cortex low-frequency transcranial magnetic stimulation in major depression

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**Background:** Low-frequency right prefrontal repetitive transcranial magnetic stimulation (rTMS) appears to have antidepressant properties although the effectiveness of this treatment in clinical practice has not been assessed and the optimal stimulation parameters defined. The boundaries of ‘low-frequency’ stimulation are not clear.

**Methods:** A total of 122 patients with treatment-resistant depression were randomized to either 1- or 2-Hz stimulation over right prefrontal cortex (PFC) (one single 15-min train) for 2 weeks. A second 2-week

period of treatment was provided for patients showing initial response (>20% reduction in HAMD score).

**Results:** One hundred eighteen patients received a full 2 weeks of treatment (63 – 1 Hz, 55 – 2 Hz). There was a mean reduction in HAMD scores of  $30.1 \pm 29.8\%$  in the 1-Hz group and  $33.2 \pm 31.7\%$  in the 2-Hz group ( $P > 0.05$ ). Seventy-eight patients received a further 2 weeks of treatment. Over the full 4 weeks, there was a reduction in HAMD scores of  $62.2 \pm 25.1$  (1-Hz group) and  $61.3 \pm 25.2\%$  (2-Hz group) ( $P > 0.05$ ). Thirty of 63 (48%) patients in the 1-Hz group and 29 of 55 (53%) patients in 2-Hz group met response criteria (>50% reduction HAMD score) at study end. There was no difference in clinical response between groups.

**Conclusions:** Despite a heterogeneous sample, a significant proportion (~50%) of patients met clinical response criteria following treatment. There was no difference in clinical response to 1- or 2-Hz rTMS applied to right dorsolateral PFC. This suggests that 2-Hz right PFC rTMS has antidepressant properties but offers no advantage over 1-Hz stimulation despite a twofold increase in pulse number.

## A meta-analytic study of changes in brain activation in depression

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**Introduction:** A large number of studies with considerably variable methods have been performed to investigate brain regions involved in the pathophysiology of major depressive disorder. The aim of this study was to use a quantitative meta-analytic technique to synthesize the results of much of this research.

**Methods:** Three separate quantitative meta-analytical studies were conducted using the activation likelihood estimation technique. Analysis was performed of studies conducted at rest comparing brain activation in patients with depression and controls, studies conducted of brain changes associated with antidepressant medication treatment and studies comparing brain activation patterns induced by the induction of positive or negative emotion in patients with depression compared with controls.

**Results:** The results of the study indicated a complex series of areas of the brain implicated in the pathophysiology depression. This included a network of dorsal regions that are hypoactive in depressed subjects and increase in activity with treatment and a corresponding

set of subcortical and limbic regions in which opposite changes are found.

**Conclusions:** The pathophysiology of major depressive disorder involves a complicated series of networks of frontal, temporal-parietal cortical and limbic brain regions and the cerebellum. Questions remain as to whether one or other of these networks play a primary role in the etiology of the disorder.

## An fMRI study of the effects of low- and high-frequency transcranial magnetic stimulation treatment in depression

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**Objective:** The study aimed to explore the effects of high-frequency, left-sided repetitive transcranial magnetic stimulation (rTMS) (HFL-TMS) and low-frequency stimulation to the right prefrontal cortex (LFR-TMS of HFL-TMS) using functional magnetic resonance imaging (fMRI) before and after a course of rTMS in patients with treatment-resistant depression (TRD).

**Methods:** The study was a randomized parallel before and after trial using fMRI to study the effects of 3 weeks of daily HFL-TMS and LFR-TMS treatment. Twenty-six patients with TRD underwent rTMS treatment and were scanned with fMRI during a planning task pretreatment and after 3 weeks.

**Results:** There was a significant reduction in depression severity for patients in both treatment groups [ $F(1, 24) = 17.5, P = 0.05$ ]. Responders to HFL-TMS showed an increase in task-related activation in prefrontal regions bilaterally. In contrast, responders to LFR-TMS showed a decrease in bilateral prefrontal activity. There were also differences in pretreatment scans between responders and nonresponders.

**Conclusions:** Changes in task-related brain activation produced by HFL-TMS and LFR-TMS occur bilaterally in frontal brain regions but are opposite in direction, with high-frequency stimulation increasing and low-frequency stimulation decreasing task-related activation.

## Outcome in a specialist referral clinic for mood disorders: a qualitative and quantitative review

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**Background:** The Black Dog Institute Depression Clinic provides comprehensive clinical assessment and management strategies, operating to a subtyping diagnostic model. The study aimed to determine whether baseline clinical assessment was predictive of short-term outcome for patients referred with a depressive disorder. Factors contributing to outcome were identified, and the utility of a subtyping approach was discussed.

**Methods:** A consecutive series of 85 patients referred to the clinic completed the computerized mood assessment program, followed by interview with the assessing psychiatrist. Prognostic judgments were made reflecting clinical factors (eg disorder type, previous therapy response). Quantitative and qualitative analyses of other contributory factors were undertaken to assess impact on outcome.

**Results:** Global assessment of outcome at baseline was predictive of short-term outcome, while outcome trajectories were influenced for those who did not receive (or were unable to continue with) recommended treatments. Comparably high rates of improvement were evident in those with bipolar, melancholic and nonmelancholic subtypes, and somewhat lower in those diagnosed with 'secondary depression'. Other factors influencing outcome included referral source (ie psychiatrist vs. general practitioner), degree of recommendation uptake and implementation of psychotropic drug strategies.

**Conclusions:** Improvement rates were high in a clinic weighting a subtyping diagnostic approach to shaping pluralistic management plans. Nonetheless, the absence of a comparator service disallows firm conclusions. These results will guide further definitive study designs.

## First-episode psychosis in the community in NSW: detection and service utilization

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**Background:** New South Wales has adopted an early psychosis (EP) program based on research that early intervention improves mental health outcomes. EP 'flags' recorded at community contacts are reportedly underused, making it difficult to analyze EP pathways and outcomes. This study aims to measure the number of first-episode psychosis cases in 2004–2005, examine the performance of the EP flags and investigate differences in service utilization.