

**Methods:** Cases were identified based on their recorded contacts with community mental health teams between July 2003 and June 2005. The observed incidence was compared with recently published treated incidence rates through indirect standardization. The sensitivity of the EP flags for identifying cases was calculated. Service utilization, as measured by treatment days per quarter, was compared between EP clients and other groups.

**Results:** There were 2475 cases identified in 2004–2005, which is 40% higher than expected. The EP flags failed to identify these cases (sensitivity 7%–39%). Psychosis clients had a significantly higher level of service utilization: clients with a prior psychosis diagnosis had the highest mean treatment days (7.7), followed by first-episode psychosis (6.5), bipolar/mania (5.7) and other diagnoses (3.5). These differences persisted after controlling for age and AHS ( $P < 0.001$  for all contrasts).

**Conclusions:** The incidence of first-episode psychosis was higher than expected possibly because of inconsistencies in diagnostic recording in 2003–2004. The EP flags are underused and fail to identify clients with first-episode psychosis, whose service utilizations differs from other clients.

## A dissociation of structure and function in the auditory cortex of patients with schizophrenia

M Gavrilescu<sup>1</sup>, S Rossell<sup>1</sup>, R Maitra<sup>2</sup>, D Copolov<sup>3</sup>, T Shea<sup>1</sup>, K Henshall<sup>4</sup>, A Sergejew<sup>5</sup>, G Egan<sup>6</sup>

<sup>1</sup>Mental Health Research Institute; <sup>2</sup>National Brain Research Centre, India; <sup>3</sup>Monash University, Melbourne, Australia; <sup>4</sup>The University of Melbourne, Melbourne, Australia; <sup>5</sup>Maroondah Hospital; and <sup>6</sup>Howard Florey Institute, Melbourne, Australia

**Introduction:** A number of investigative methods, for example, structural, metabolic and functional, have indicated a role for the auditory cortices in the pathophysiology of schizophrenia. However, few studies have completed multimodal investigations in the same participants. The aim of this study was to explore the structure and function of the auditory cortices in patients with schizophrenia.

**Methods:** Structural and functional magnetic resonance imaging (fMRI) images were acquired for 27 patients with schizophrenia and 16 normal controls. Heschl's gyrus (HG) and planum temporale (PT) were manually delineated on the structural scans of all subjects in both hemispheres. A structural laterality coefficient was calculated based on region of interest (ROI) volumes. The fMRI data were recorded while the subjects passively listened to semantically neutral words. The functional data were then coregistered with the structural images, and a functional laterality

coefficient was calculated based on the number of activated voxels in the ROIs. The structural and functional laterality coefficients were compared across the groups using ANOVA.

**Results:** For HG, patients showed significantly reduced structural leftward laterality and increased functional rightward laterality in contrast to the control group. For PT, we found no structural differences between the groups, all groups were symmetric, while functionally again we found increased rightward laterality for the patients when compared with controls.

**Conclusions:** Patients with schizophrenia showed both reduced volume and poor activation of their left hemisphere auditory cortices. It therefore appears to be the case that language functions normally processed in the left hemisphere are processed in the right hemisphere in these individuals.

## Reduced interhemispheric connectivity in the central auditory system of patients with auditory hallucinations

M Gavrilescu<sup>1</sup>, S Rossell<sup>1</sup>, G Stuart<sup>2</sup>, T Shea<sup>1</sup>, K Henshall<sup>2</sup>, A Sergejew<sup>3</sup>, D Copolov<sup>4</sup>, G Egan<sup>5</sup>

<sup>1</sup>Mental Health Research Institute; <sup>2</sup>The University of Melbourne, Melbourne, Australia; <sup>3</sup>Maroondah Hospital; <sup>4</sup>Monash University, Melbourne, Australia; and <sup>5</sup>Howard Florey Institute, Melbourne, Australia

**Introduction:** Evidence from neuroanatomical, neurophysiological and functional neuroimaging studies has indicated that patients prone to auditory hallucinations (AHs) have structural and functional abnormalities affecting brain regions involved in a number of cognitive and emotional functions. Our previous work has shown deficits in the central auditory system of patients with AHs. In the current study, we hypothesized that this deficit is the result of interhemispheric pathway dysfunctions of the primary and secondary auditory cortices (PAC and SAC). The aim of this study was to investigate the interhemispheric functional connectivity (FC) of PAC and SAC in patients with AHs using functional magnetic resonance imaging (fMRI) data.

**Methods:** Fourteen patients with schizophrenia with AHs, 13 patients with schizophrenia without AHs (non-AHs) and 16 normal controls were scanned while passively listening to semantically neutral words and at rest. Regions of interest were defined for each subject over PAC and SAC in both hemispheres. For the stimulus data, the stimulus effects were identified and regressed out of these time courses to estimate a 'rest-like' FC.

**Results:** The interhemispheric FC was significantly reduced for the AHs group both for stimulus and resting-state data, while the non-AHs and controls had similar connectivity values.