community mental health clinicians as advocates for their pregnant clients, has been developed. Additional outcomes include an education package to up-skill clinicians in using the resource, a surveillance system to identify at-risk cases and an information system to enable evaluation of the impact on obstetric and child health outcomes.
**Conclusion:** This primary preventive intervention has the potential to significantly improve obstetric and neonatal outcomes for this high-risk cohort.

## Participatory action research: researching with disenfranchised populations

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Background: The aim of this study was to position participatory action research (PAR) as a vital, dynamic and relevant approach that can be used when researching disenfranchised populations. PAR enables people to contribute their ideas, and plan and partake in effective action to improve their lives.
**Method:** We have developed a chronic illness research program that has been guided by participatory principles. Research to date includes the following: the needs of people who were learning to live with human immunodeficiency virus (HIV) and the intrusion of fatigue, learning alongside older people with asthma, people (homeless men living with schizophrenia) who experienced incontinence, Aboriginal elders who wanted to develop strategies to bring their plight of the high incidence of diabetes to the attention of their community, and women who were homeless and had been sexually violated as children. In addition, PAR as a legitimate methodology, the literature identified the following disenfranchised groups: persons with chronic illnesses such as HIV/acquired immunodeficiency syndrome and depression ($n = 26$), psychiatric diagnoses (eg clinical depression, schizophrenia) ($n = 15$), survivors of abuse ($n = 6$), alcohol misuse ($n = 2$), illicit drug use ($n = 4$), prescription drugs use ($n = 4$), prison populations ($n = 2$) and people with organic brain disorders ($n = 5$).
**Results/Conclusions:** While we have used action research approaches to research with people to explore disruptive events and develop ways they can transition through the event to create a sense of continuity in their lives, the literature has established that PAR is now a well-established methodological means for engaging with disempowered and/or marginalized populations into their own health management.

## Validation of a pencil-and-paper measure for depression in the cardiac population: the DMI-10 and DMI-18

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**Background:** Two issues arise in relation to depression in the cardiac population. The first is in relation to clinical practice, although depression is now recognized as a risk factor for increased morbidity and mortality in those with acute coronary syndrome (ACS) and, to a lesser degree, heart failure (HF). It remains underdiagnosed and undertreated in clinical practice. The second issue is a measurement issue: much of the research on depression in the cardiac population relies on measurement of depression symptoms with psychiatric rating scales and applies cut-offs for these scales that were predetermined for use in psychiatric rather than medical setting. This may lead to measurement errors as many of these scales include somatic symptoms. A well-validated screening and measurement tool specifically validated for use in this population may speak to both these issues, aiding detection and treatment of this important risk factor, as well as measuring it more accurately for research purposes.
**Methods:** A total of 322 patients with ACS or HF completed the DMI measures, psychosocial questionnaires and a semistructured clinical interview during the hospital stay.
**Results:** Both measures showed good psychometric properties, with high sensitivity and specificity when evaluated against clinical judgment. Cut-off points of $\geq 6$ and $\geq 14$ were determined for the DMI-10 and DMI-14, respectively.
**Conclusion:** The DMI-18 and DMI-10 are appropriate for use as screening instruments in cardiac patients.

## Neurological soft signs in schizophrenia: using transcranial magnetic stimulation to investigate motor overflow

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**Background:** Neurological soft signs (NSSs) are impairments that indicate nonspecific cerebral dysfunction. NSSs are thought to be early premorbid traits of



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schizophrenia. Motor overflow, involuntary movement occurring during voluntary movement, is one such NSS found in schizophrenia.
**Method:** Thirty-seven participants (19 with schizophrenia, 18 controls) were tested. Participants exerted 25% and 75% of their maximal force output while overflow was monitored in the passive hand. Three transcranial magnetic stimulation protocols were designed to investigate the cortical origin of motor overflow: 1) motor cortex was stimulated unilaterally at 140% RMT; MEPs were recorded bilaterally; 2) stimulation of ispilateral hemisphere at 140% RMT was performed during motor overflow. Resulting latencies between the cMEP onset and the iSP onset were compared; 3) facilitated MEPs produced (through stimulation of contralateral hemisphere) during voluntary contraction and facilitated MEPs produced during motor overflow were compared. All procedures were applied to both hemispheres.
**Results:** Previous findings of increased motor overflow in schizophrenia compared with controls were confirmed ($P > 0.05$); neither group showed a significant difference between MEPs facilitated during voluntary movement and those facilitated during motor overflow ($P > 0.05$).
**Conclusions:** Results suggest that in both groups, motor overflow results from an imbalance between the transcallosal processes occurring during voluntary movement, leading to bilaterally active corticospinal tracts. Specific deficits in cortical excitability are likely to be responsible for greater overflow seen in schizophrenia.

## Central auditory processing deficits in patients with auditory hallucinations as shown by event-related potentials: preliminary results

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**Background:** It has been proposed that auditory hallucinations result from cortical or corticosubcortical disconnection. The results presented here are an initial event-related potential (ERP) exploration of data examining central auditory function and cortical connectivity.
**Methods:** Twenty-two controls, 26 nonhallucinating patients with psychosis and 22 currently hallucinating patients (AVH) with psychosis were recruited. ERPs to words and tones (left ear, right ear and bilaterally) were recorded during a passive listening task. Data from the left and right ear stimuli are presented here.
**Results:** The auditory N1 ERP was measured in two seven-channel composite regions – left temporal and right temporal. Words: N1 is enhanced contralaterally in the control group. With left words, both patient groups show reduced N1 in the right hemisphere. With right words, both patient groups show a reduction in the left hemisphere. Only AVH patients show a reduction in the ipsilateral hemisphere. Tones: No contralateral N1 enhancement is evident. With left stimuli, both patient groups show reduced N1 compared with controls in both contra- and ipsilateral hemispheres. With right stimuli, only the AVH group shows a reduction in both hemispheres.
**Conclusions:** The tones data confirm previous studies showing a reduced right ear advantage behaviourally in patients with schizophrenia, especially in those who hallucinate, suggesting a neurobiological origin for such behaviour. The word data suggest that more complex stimuli have a unique linguistic quality that has been more strongly lateralized. Having shown ERP differences in processing of lateralized words and tones, our next step is to look at left-right hemisphere connectivity.

## Self-reported depression and reduced bone mineral density in a community sample of men: Geelong Osteoporosis Study

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**Background:** Previous research in psychiatric and community samples has shown reduced bone mineral density (BMD) in individuals with clinical depression and depressive symptoms, although the findings are equivocal. This study investigated the association between self-reported depression and BMD in a community sample of men aged 20–96 years enrolled in the Geelong Osteoporosis Study.
**Methods:** A self-report questionnaire based on DSM-IV criteria was used to determine lifetime prevalence rates of depression within the study sample at baseline. Those currently taking oral glucocorticoids, testosterone or bisphosphonates were excluded ($n = 23$), resulting in a sample of 1279 men.
**Results:** In this sample, 155 men (12%) reported a lifetime history of depression (LHX). There were



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