Psychogeriatric day hospital reduces depression and anxiety symptoms and improves quality of life

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ABSTRACT

AIMS: To measure changes in depression and anxiety symptoms, as well as quality and satisfaction with life in older adults attending a psychogeriatric day hospital.

METHODS: One hundred and eighty-five consecutive patients (24% male) provided self-report data at intake and discharge.

RESULTS: Patients showed significant reductions in anxiety and depressive symptoms and significantly improved quality of life and satisfaction with life. All changes were of moderate effect size.

CONCLUSION: Attending a psychogeriatric day hospital that provides time-limited personalised care is associated with statistically significant and clinically meaningful reductions in anxious and depressive symptoms for patients, as well as increasing subjective satisfaction and quality of life. Given the projected rise in the number of older adults in coming decades, the establishment of more psychogeriatric day hospitals should be considered as an alternative to expensive and stretched inpatient services.

The population of older adults in developed countries is increasing markedly, with estimates that at least 25% of people in these countries will be aged 60 and over by 2050. Social and medical services will be stretched and providing efficient services will be essential. Psychogeriatric care provided in a day hospital may be an effective option for service delivery for patients with more needs than can be met by outpatient visits alone, but who do not require an inpatient admission.

Research into the effectiveness of psychiatric day hospitals is scarce, and research that focuses on older adults is rarer still. The evidence for the effectiveness of psychogeriatric day hospitals has been judged as “very weak” due to the low number of studies and lack of controlled and randomised designs. The dearth of research is likely in part related to day hospitals having different functions and goals. Commentators note that many psychogeriatric day hospitals in the UK focus on providing day or respite care for people with dementia. This is quite a different model from day hospital treatment primarily for psychiatric disorder in a majority cognitively intact cohort.

Only one study could be found that measured treatment outcomes for a psychiatric population. Bramesfeld et al ran an observational study that assessed 44 older adults (mean age 68.9) in a German day clinic. They found a reduction in depressive symptoms after 11 weeks of treatment.

The needs of older adults are different from the needs of younger people. Therefore, planners need evidence as to whether a psychogeriatric day hospital can provide mental health benefits that could make it a viable treatment option for the burgeoning older adult population. The current study investigates whether treatment at a day hospital was associated with decrease in depressive and anxious symptoms, and increases in satisfaction with and quality of life.
Methods

In New Zealand there is only one psycho-geriatric day hospital, run by the Canterbury District Health Board (one of 20 district health boards across the country). The day hospital was first introduced as a pilot in 1987 at Sunnyside Hospital in Christchurch (now Hillmorton Hospital). In 1997, the day hospital service was moved to The Princess Margaret Hospital. In 2016, it was moved to purpose-built facilities at Burwood Hospital and was renamed the Burwood Day Clinic. The day hospital is part of a larger older adult mental health service, providing for all adults 65 and over in the catchment area (with a few exceptions). The older adult mental health service includes the day hospital, a community team, a consult liaison team, two inpatient wards and a memory assessment clinic.

Current staffing of the day clinic consists of one full-time equivalent (FTE) clinical manager, three FTE nurses, one FTE doctor, one FTE clinical psychologist (shared with two inpatient wards), one FTE social worker, one FTE occupational therapist, 0.75 FTE occupational therapist assistant, one FTE physiotherapist, one FTE physiotherapist assistant (each shared with two inpatient wards) and one FTE administrator. The medical cover for the unit during the time of the study was always a consultant psychiatrist (mostly psychiatrists of old age), an experienced senior medical officer or a supervised registrar doing advanced training in psychiatry of old age. Patients also have access to additional health workers as required, including an incontinence nurse and pharmacist.

Patients referred to the Burwood Day Clinic come from a larger pool of older adults referred to the Older Persons Mental Health service. All come following an assessment from some part of this wider service, including a doctor, nurse or allied health assessment following discussion in the community team IDT, the psychiatric inpatient ward, the memory assessment clinic or from a medical ward through the consult liaison team. Patients are referred to the Burwood Day Clinic when their acuity is believed to be higher than can be managed well with outpatient appointments through the community team, but lower than required for an inpatient admission. Often the purpose of the admission is to clarify diagnosis, including that of cognitive impairment, providing treatment in an IDT environment and for determining the level of assistance required for successful living in the community, or for determining whether the person wants/needs to move to aged residential care.

Figure 1: The lounge, dining and kitchen areas at the Burwood Day Clinic.
The day hospital operates five days a week from 10am to 3pm. Patients are provided with transport, lunch, and morning and afternoon teas. Most patients attend one day per week, with flexibility to increase the number of days in response to symptom exacerbations or increased risk level. Patients take part in a range of planned group activities and meet individually with members of the interdisciplinary team, depending on their individualised treatment plan. Facilities include a combined lounge, dining and kitchen area; an outside courtyard and seating area (Figure 1); interview rooms; a treatment room; a large meeting room for family meetings and group treatments (Figure 2); and a gym for physical therapy.

Beginning in late 2014, three self-report measures began to be routinely used for every patient at intake and discharge as part of an ongoing auditing process of the effectiveness of day clinic intervention, as well as to provide useful information for patients and their case-managers. The measures were selected to assess symptoms of the most frequent diagnoses seen at the clinic (depression and anxiety disorders), as well as measures of quality and satisfaction with life as a proxy for functionally significant symptom change.

The Clinically Useful Depression Outcome Scale (CUDOS) is a self-report measure that rates the severity of all DSM-IV symptom criteria for major depressive and dysthymic disorders. It also includes an item rating the degree of disruption caused by symptoms of depression, and an item rating quality of life. The Geriatric Anxiety Inventory (GAI) was developed specifically for older adults using plain language, a simple yes/no response format, and it omits somatic symptoms that are common in all older adults. The Satisfaction with Life Scale (SWLS) assesses a subjective judgement of satisfaction with life. This scale consists of five questions measured on a 7-point scale. Two research reviews by the authors identify several studies that have used the SWLS with diverse groups of older adults.

Day hospital patients were administered the questionnaires within their first few visits following admission. When nurse case managers believed that the patient was competent to complete the scale independently they provided the scales to complete and return. Very unwell, cognitively impaired or literacy challenged patients completed the questionnaires with the nurse case manager who read the questions and response options for the patient to respond to verbally. The scales...
were completed again at discharge in the same manner. Statistical analyses consisted of descriptive statistics and a comparison of intake and discharge scores using the Wilcoxon Signed-ranks test. This is similar to a paired-samples t-test, used when data is non-parametric (in this case ordinal). Patients missing intake or discharge data were excluded from analysis. A small number of individual missed items on measures led to case-wise exclusion of that patient (deletion just from that particular comparison).

This study has been approved by the University of Otago Human Research Ethics Committee as an audit study (reference HD16/037).

Results

From November 2014 to December 2017 there were 308 patients who completed at least one of the assessments. Many at the beginning of the time period completed discharge assessments only since the study had not begun at the time of their intake. Many other patients at the end of this time period had intake data only as they were still currently attending the day clinic. One hundred and eighty-five patients (24% male) had both intake and discharge scores available and were included in the analysis. The mean length of admission was 22 weeks (min = 2, max = 70). At admission patients ranged in age from 57 to 93 years (mean = 76.6). Age distribution was 0.5% below age 65, 14.1% in the 65–69 group, 25.4% aged 70–74, 24.9% aged 70–74, 21.1% aged 80–84, 12.4% aged 85–89 and 1.6% aged 90+.

As shown in Table 1, scores on all measures significantly improved from intake to discharge. All improvements were of moderate effect size ($r > .30$).

### Discussion

This is the largest published study to show an improvement in psychiatric symptoms and functioning for older adults during attendance at a day hospital. Statistically and clinically significant improvement was seen on all measures, with a reduction in depressive and anxious symptom severity, reduced distress caused by symptoms and improved quality and satisfaction with life. This study supports the claim that a day hospital providing care intermediate to outpatient and inpatient treatment may produce clinical benefits for older adults with mental health diagnoses.

There are a number of limitations to this study. Most notably is that the study is observational and did not have a control group, therefore causal statements cannot be made, as an unknown amount of variance in symptom reduction will be due to factors that were not measured, such as natural recovery over time. Since there was no comparison to another active treatment we also cannot compare how treatment at the day hospital compared to standard outpatient or inpatient care. Observational and pilot studies play an important role in the beginning of data collection into emerging areas of care and treatment. This is only the second study published on this topic, and comes 17 years after the original study by Bramesfeld et al, with a sample

<table>
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<tr>
<th>Table 1: Comparison of median depression, anxiety, and satisfaction with life scores from intake to discharge.</th>
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<tr>
<td><strong>Self-report scale</strong></td>
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<tr>
<td>Clinically Useful Depression Outcome Scale (CUDOS) total score</td>
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<tr>
<td>CUDOS q.17**</td>
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<td>CUDOS q.18***</td>
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<tr>
<td>Geriatric Anxiety Inventory</td>
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<td>Satisfaction with Life Scale</td>
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*Number of participants with both intake and discharge data for comparison for this variable.
**Degree of disruption caused by depression symptoms.
***Quality of life. The question is reverse scored meaning that a lower score equates to a higher quality of life.
size four times larger. Studies such as this provide evidence that the effort involved in recruiting a control group may be a justifiable next step to determining the success of day hospitals.

Another limitation is that the data collected does not record specific diagnoses for each patient. Given that most patients who attend the clinic are given a diagnosis of major depressive episode and/or an anxiety disorder, this may not be too much of an issue as we are directly measuring these symptoms. However, it would be possible when sample sizes are larger to use cut-off scores to delineate diagnostic groups and compare how they fared at the end of treatment. Data on physical and cognitive health conditions are also not systematically collected. It is not uncommon for patients to have major or minor surgical procedures while attending the day hospital. Strokes and heart attacks and new diagnoses of serious physical illness occasionally occur. A minority of patients are diagnosed with mild cognitive impairment or dementia during their time at the clinic. Because data about these events was not collected for this study, their impact on the psychiatric symptoms and quality of life cannot be explored in post-hoc analyses.

As data collection is now part of standard clinical practice, an increasing sample size will be recruited over time, which will allow for finer-grained investigation of who is benefitting from the day hospital model, e.g., is there a difference in outcome by age group or symptom severity? Data collection will also be revised to include both ethnicity data and whether patients were living in the community or in residential care.

This paper has not investigated the economic viability of establishing or running a day hospital on a per patient basis, but can provide some information as to costs of the day clinic. The clinic has benefited from a purpose-built facility in which staff were able to have significant input into the design. However, a purpose-built facility is not a prerequisite and the clinic was run from 1987 to 2016 without such an advantage. The largest cost is staffing. Other significant costs include transport for patients to and from the clinic (this is currently performed with a mix of hospital and taxi transport), meals (provided by the hospital) and food supplies, staff training and education, admin and stationary costs, and activity and craft supplies. This is the first study since Bramesfeld et al. to provide any data about psychiatric treatment of older adults in a day clinic. This study provides additional evidence that day hospital treatment for older adults may indeed be an effective method for treating psychiatric disorder.

**Competing interests:**
Dr Hoggarth works at the Burwood Day Clinic as a clinical psychologist.

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REFERENCES: