INTRODUCTION

Involuntary treatment (also in Australia termed 'civil commitment') for substance dependence refers to treatment outside the criminal justice system, which the individual is compelled to enter without choice (Broadstock et al., 2008; Hall et al., 2014). This differs from coercive treatment, where the individual has the choice of engaging with addiction treatment or receiving the alternative consequences as prescribed by the law, policy or agency (Miller and Flaherty, 2000). Coercive treatment is better studied and less contentious than involuntary treatment, most research demonstrating efficacy and cost benefits, including reduced substance use and criminality, improved health and employment (Miller and Flaherty, 2000). In contrast, the evidence for the effectiveness of involuntary treatment is limited and inconclusive. Studies are heterogeneous in nature with small patient numbers, poorly equivalent comparison groups (if any) and limited follow-up (Swan and Alberti, 2004; Klag et al., 2005; Stevens et al., 2005; Pritchard et al., 2007; Broadstock et al., 2008).

For 100 years, in New South Wales (NSW) in Australia, involuntary treatment for substance dependence was permitted under the Intoxicated Act 1912. On 4 September 2012, two new state-wide Involuntary Drug and Alcohol Treatment (IDAT) programs opened in NSW, operating under the Drug and Alcohol Treatment Act 2007 (Dore et al., 2013). The 2007 Act allows for involuntary treatment initially for up to 28 days, if an Accredited Medical Practitioner is satisfied that the person has (a) a severe substance dependence (defined as the presence of tolerance and withdrawal symptoms as well as the loss
of capacity to make decisions about his/her substance use and personal welfare due primarily to his/her dependence on the substance) and (b) care, treatment or control is necessary to protect the person from serious harm, and (c) the person is likely to benefit from treatment of his/her substance dependence but has refused treatment and (d) no other appropriate and less restrictive means for dealing with the person are reasonably available. An application can be made to extend the order for up to a further 36 days if there is evidence of substance-related brain injury.

IDAT patients referred to the Northern Sydney Local Health District (LHD) were admitted to a 15-bed inpatient unit (four beds for involuntary patients; 11 beds for voluntary detoxification patients). This facility is locked; only voluntary patients could come and go at will. The initial treatment focus was on medically supervised withdrawal, and assessment and treatment of co-existing medical and psychiatric conditions. Inpatients attended Alcoholics Anonymous (AA) as well as individual and group treatment programs. These included psychoeducation, relapse prevention, mood and anxiety management, aftercare planning, lifestyle management and introduction to Self-Management and Recovery Training (SMART). Patients with cognitive impairment also attended a living skills program and had detailed neuropsychometric assessment. A social worker addressed financial and housing issues, and coordinated family meetings and guardianship hearings. Brokerage funding was available to support a range of treatment, educational and housing options.

The NSW Ministry of Health’s Model of Care (NSW Health, 2012) requires that all IDAT patients have voluntary community-based care (with a designated case manager) for a minimum of 6 months after the involuntary admission. Patients from all LHD’s were encouraged to attend residential rehabilitation, AA and SMART meetings after discharge as well as the weekly barbecue and IDAT psychotherapy group at the inpatient unit. Patients from other LHD’s were discharged to a treatment program in their area where the frequency and intensity of aftercare available was variable, depending on resources. Patients from the Northern Sydney LHD were followed up by an Assertive Community Treatment (ACT) team based within the IDAT program. The model for this team utilized the following principles: (a) a flexible and patient-focussed approach, appointments being provided at dates and times best suited to patients’ needs; (b) provision of regular home visits; (c) coordination of crisis management; (d) a small case load; (e) assertive engagement, with multiple attempts to follow-up and engage patients with poor attend- ance; (f) care coordinators worked within a multidisciplinary team that met weekly to discuss patients (Wright et al., 2003; Burns et al., 2007; Passetti et al., 2008). This paper presents findings from 40 alcohol-dependent patients admitted to the Northern Sydney LHD program during the first 18 months.

**METHODS**

The NSW Ministry of Health determined a set of requirements for a prospective health evaluation of the program. Sociodemographic data and length of stay (LOS) were captured using the Minimum Data Set questionnaire (Mental Health Drug and Alcohol Office, 2003). Severity of dependence was assessed using The Severity of Dependence Scale (SDS). A score of 3.0 or above is indicative of alcohol dependence (Lawrinson et al., 2007). Substance use in the preceding 4 weeks was assessed using the Australian Treatment Outcomes Profile (ATOP; Ryan et al., 2014). Corroborative information from family, carers and case managers assisted the veracity of self-report data from the ATOP.

Questionnaires administered during the first week (after completion of acute alcohol withdrawal) and fourth week of admission included the ATOP and the SDS. Questionnaires administered 3 and 6 months after discharge included the ATOP, the SDS and a Service Attendance Questionnaire. Health Service Utilization (HSU) data were prospectively available for patients within the Northern Sydney LHD through an electronic medical record. This included number of Emergency Department and general hospital admissions, and the number of admission days in the 6 months pre- and post-IDAT. After discharge patients were invited to complete a Client Satisfaction Questionnaire (CSQ). Descriptive statistics were used for mean values, and paired t tests were used to analyze data from different time periods.

**RESULTS**

Of the 50 patients issued with involuntary treatment orders during the first 18 months, 40 were admitted with primary alcohol dependence, 7 with other drug dependence and 3 were transferred to another IDAT unit for treatment.

**Sociodemographic details**

The patients’ mean age was 46.2 years (range 24–66); 55% were male; one patient identified as Aboriginal, the remainder as Western European or Australasian in origin; 27 patients (67.5%) were single, separated or divorced with the remaining 13 patients in a current relationship. Most (92.5%) were financially dependent on a benefit from the State, three worked part-time and one was financially dependent on family; six (15%) were homeless and a further three (7.5%) were living in supported housing for homeless people. None had dependent children living with them. At discharge, 4 transferred to residential rehabilitation services and 2 to other hospitals, while 8 returned to their own home, 10 to private rental housing, 6 to their parents’ home and 3 to crisis accommodation; 10 returned to their usual subsidized Government or Non-Government housing.

**Alcohol and other substance use disorders (SUD’s)**

Patients’ mean daily alcohol consumption pre-IDAT was 28.21 standard drinks, drinking a mean of 27.28 out of 28 days per month; 28 had co-existing nicotine dependence; 19 had one or more secondary SUD; 9 had an opioid use disorder (1 methadone; 2 prescribed for chronic pain; 6 using licit and illicit opioids; 9 had benzodiazepine use disorders (6 misuse; 3 prescribed for anxiety). Other SUD’s included cannabis (8 patients), stimulants (3 patients) and quetiapine (2 patients).

**Mental health history**

Mental health problems were documented for 39 patients (97.5%): anxiety (32 patients), depression (34 patients), bipolar disorder (4 patients) and eating disorders (7 patients); 6 had a history of psychotic symptoms; 25 (62.5%) had one or more previous psychiatric admissions. A history of deliberate self-harm and/or suicide attempts was reported in 22 patients (55%). Forensic history included aggression towards others (19 patients), criminal convictions (22 patients) and imprisonment (6 patients). During their treatment, 31 patients (77.5%) were prescribed psychiatric medication: antidepressants (28 patients), mood stabilizers (5 patients) and antipsychotic medication (10 patients: 6 off-label for anxiety and depression).

**MRI/CT brain scans**

Sixteen patients (40%) had evidence of cerebral atrophy on a CT or MRI brain scan consistent with alcohol-related brain injury;
1 additional patient had evidence of traumatic brain injury alone; 15 patients had normal scans and 8 did not have scans.

**Alcohol pharmacotherapy**

Baclofen was prescribed for 23 patients (57.5%), either alone (16 patients) or in combination with another pharmacotherapy (3 with disulfiram, 2 with acamprosate, 1 with naltrexone, 1 with disulfiram and topiramate). Baclofen doses ranged from 10 to 75 mg tds, with a mean of 31 mg tds and median of 25 mg tds. Seven patients were not prescribed pharmacotherapy and the remaining 11 (27.5%) were prescribed disulfiram, acamprosate or naltrexone either alone or as a combination therapy.

**Number of admissions, LOS**

The mean LOS for the first IDAT admission (N = 40) was 32.9 days (range 2–84). For three patients, the LOS was less than a week (one absconded, one recovered from delirium with parenteral thiamine and accepted voluntary treatment, one was transferred to an acute mental health facility). A second IDAT admission occurred for 10 patients, with a mean LOS of 32.5 days (range 4–84). One patient had a third IDAT admission, with a LOS of 16 days.

**Alcohol use at 6 months follow-up**

Death during follow-up was reported for four patients (10%), two from acute gastrointestinal hemorrhage, one from accidental overdose and one from traumatic injury when intoxicated. Relapse to previous levels of drinking occurred in 11 patients (27.5%); five (12.5%) were lost to follow-up; 13 (32.5%) were abstinent and seven (17.5%) continued to drink alcohol but at a reduced amount and frequency.

Of the 13 abstinent patients, 10 were living independently in the community; three were abstinent by virtue of involuntary hospitalization (two under the Mental Health Act and one under a further IDAT order). The seven improved patients reported a mean daily consumption of 25.86 standard drinks in the month pre-IDAT and a mean of 13.47 standard drinks at 6 months follow-up (t = -2.393734; P = 0.027); number of drinking days was a mean of 28 out of 28 per month pre-IDAT and a mean of 12.86 at 6 months follow-up (t = -3.625124; P = 0.0056).

**Severity of dependence**

The SDS questionnaire was completed by 37 patients (92.5%) with a mean total score of 9.32 (range 0–15), representing severe alcohol dependence; 11 of the 13 patients who were abstinent at 6 months completed the SDS in the first week of admission and 3–6 months post-IDAT and showed mean SDS scores of 10.1 at admission and 1.37 in the 3–6 months after discharge (t = -5.906155; P ≤ 0.01).

**Engagement with drug and alcohol services**

For the 17 community-based patients who were abstinent or improved at 6 months follow-up, 14 patients (82%) were actively engaged with the ACT team, 2 were receiving other forms of assertive drug and alcohol treatment and 1 continued to take disulfiram through her general practitioner.

Five patients were lost to follow-up. Of the 11 patients who were known to have relapsed, 5 were engaged with drug and alcohol treatment at 3–6 months, 4 had disengaged from the ACT team and 2 had disengaged from other drug and alcohol treatment. All four of the deceased patients were actively engaged with drug and alcohol treatment prior to their deaths.

**Health service utilization (HSU)**

A complete data set was available for 15 of the 17 abstinent or improved patients living in the community 6 months after discharge. Mean number of admissions was 6.8 in the 6 months pre-IDAT and 3.33 in the 6 months post-IDAT (t = -2.353241; P = 0.017), a reduction of 51%. Mean number of admission days was 25.1 in the 6 months pre-IDAT and 13.7 in the 6 months post-IDAT (t = -2.107218; P = 0.027), a reduction of 45%.

**Client satisfaction questionnaire (CSQ)**

CSQ’s were completed after discharge by 29 patients (72.5%). In total, 26 of the 29 patients (89.7%) felt the services they received had either helped a great deal or helped somewhat; 22 of the 29 patients (75.9%) felt that all or most of their needs had been met; 26 patients (89.7%) reported they were mostly satisfied or very satisfied with the service they received; 27 patients (93%) indicated they would generally or definitely recommend the program to a friend in need of similar help.

**DISCUSSION**

This is one of few studies in the international literature to prospectively examine the clinical outcomes of a group of patients admitted for involuntary alcohol treatment. Lindahl et al. (2010) provided data from a 2-year follow-up of 106 cases in Sweden with substance abuse. No significant difference in global outcomes (substance use, housing, employment) was found for the patients with more or less involuntary treatment. A Swiss case series of 15 committed alcohol-dependent patients (Bourquin-Tische et al., 2001) reported a median follow-up time of 71 weeks. After this time one patient was deceased and four were lost to follow-up. Of the 10 remaining patients, 8 were abstinent and 2 were drinking at less severe levels. However, most (6 out of the 10) were still committed to a residential institution. Steiner et al. (1995) retrospectively examined the medical records and death certificates of 99 alcohol dependent non-offenders who were court-ordered to attend an inpatient detoxification unit. Of the 66 patients followed up, only 2 were sober at 6 months follow-up. No improvements in health service utilization were found. As in our IDAT group, Steiner’s study had a high mortality rate (12% in two years), felt to reflect the severity of the patients’ illness. Unlike the IDAT group, there was no assertive follow-up in Steiner’s study of patients who discontinued treatment after discharge.

The finding that 25% of the IDAT patients were abstinent and living in the community at 6 months and 17.5% had notably reduced alcohol use is not dissimilar to the findings for patients treated voluntarily for alcoholism. Miller et al. (2001) reviewed the outcomes for over 8000 individuals treated for alcoholism, finding that after a single treatment episode around 25% of patients remained abstinent for the first year after treatment, while around 10% reduced the quantity and frequency of drinking and remained free of alcohol-related problems.

The reduction in health service utilization for the abstinent and improved patients is an important finding. Broadstock et al. (2008) highlight the need for economic evaluations of involuntary residential treatment for non-offenders with a similar comparator group. Duong et al. (2012) retrospectively studied the impact on health service utilization for 10 alcohol-dependent patients with high recidivism committed to 30 days involuntary inpatient detoxification in Massachusetts. They found a significant reduction in the number of Emergency Department presentations and hospitalizations in the
first month after treatment. There were ongoing reductions at 3 and 6 month follow-up that were not statistically significant, suggesting that involuntary inpatient treatment was effective in the short term, but that ongoing treatment might be necessary for sustained results. The authors did not specify what (if any) ongoing care was provided after discharge. In contrast, a voluntary aftercare plan for at least 6 months was negotiated and established for each of the IDAT patients. Most drug and alcohol services do not have the resources to provide assertive outreach teams to patients, and the establishment of an ACT team based within the IDAT program was new. While it is beyond the scope of this paper to assess the many variables impacting on clinical outcomes, it is notable that for the 17 community-based patients who were abstinent or improved, 82% were actively engaged with the ACT team. While ACT has traditionally referred to a model of assertive outreach for patients in the community with severe mental illness, ACT presents a promising option for the treatment of alcohol dependence (Passetti et al., 2008; Gilburt et al., 2012; Hughes et al., 2013).

Limitations are the small number of patients, the gaps in data collection, the relatively short duration of follow-up and the lack of a control group or a comparator group. Duong et al. (2012) argue that randomizing patients requiring mandatory commitment to anything other than involuntary treatment when it is available would be ethically inappropriate. Hall et al. (2014) have suggested more rigorous trials of involuntary treatment could involve randomizing patients who meet criteria to either involuntary treatment or an alternative treatment such as ‘active outreach.’

CONCLUSIONS
McCormack et al. (2013) note that patients with severe alcohol dependence with high recidivism rates are often dismissed as ‘chronic public inebriates’, ‘drunks’ or ‘frequent flyers’. Pejorative terminology minimizes the severity and complexity of such patients, reinforces the stereotype of being unresponsive to care and often leads to ‘treat and street’. Consistent with the IDAT patients, McCormack et al. note these patients have on average six comorbidities, with an annual mortality rate of 8.6%, over 20 times their expected age-adjusted rate. The authors encourage an alternative term ‘gravely disabled by alcohol use disorders’ and call for a redesign of services to deliver ‘humane, effective and equitable care’ for this group.

Opponents of involuntary treatment claim that it violates patient autonomy, and that treatment is only likely to be effective if patients are motivated to change. This contrasts with the view that individual choice may be compromised by the neurobiological consequences of chronic alcohol use which interfere with insight, motivation, impulse control and the capacity to provide informed consent for treatment (Nace et al., 2007; Miller and Flaherty, 2000; Sullivan et al., 2008). Providing a period of stabilization may allow for sufficient improvement in cognitive function to facilitate better decision-making. An excessive focus on patient autonomy without recognition of the possible benefits of involuntary treatment may lead to gravely disabled patients ‘dying with their rights on’ rather than receiving appropriate treatment (Treffert, 1974; McCormack et al., 2013). The paradox of involuntary treatment is that sometimes it is necessary to consider ‘denying autonomy in order to create it’ (Caplan, 2008). Direct feedback from patients about the quality and value of involuntary care is also important, and the largely positive CSQ results in the IDAT group are similar to those reported by Bourquin-Tieche et al. (2001) where 80% of patients saw their involuntary treatment as moderately to totally justified and 90% felt it was useful.

Finally, while the data indicate that over 40% of patients demonstrated significant reductions in alcohol use and health service utilization, a comparator group is required to determine the contributing factors including how much improvement is related to involuntary treatment and how much to an assertive treatment approach.

REFERENCES


