# The Impact of Brief Planned Admissions on Inpatient Mental Health Unit Utilisation for People with a Diagnosis of Borderline Personality Disorder

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People with a diagnosis of Borderline Personality Disorder (BPD) are high users of inpatient mental health facility resources, often having both frequent and lengthy admissions. However, lengthy admissions are often regarded as sub-optimal and may be contra-indicated. This study assessed the impact of a Brief Planned Admission (BPA) approach on inpatient mental health resource use by people with a diagnosis of BPD. Inpatient service use (admissions per year and inpatient days per year) before and after introduction of BPA approach was determined for clients with a diagnosis of BPD for whom the BPA approach was used in one inpatient unit. These results were compared to a matched sample of clients of a similar inpatient unit in which BPAs were not used. The BPA group showed a dramatic decrease in days of hospitalisation per year after the introduction of BPAs compared to the control group. Both groups showed a small decrease in the number of post-BPA admissions per year, with no significant difference between the two. While relatively little outcome information is available, some data suggests that use of BPAs did not diminish the outcome or engender client dissatisfaction. These results suggest that use of BPAs may be an effective strategy for reducing sub-optimal use of inpatient resources by people with BPD, and is acceptable to both clients and staff.

Clients diagnosed with borderline personality disorder (BPD) are frequent consumers of mental health services (Surber, et al., 1987), and have been found to be high users of inpatient facilities (Kent, Fogarty, & Yellowlees, 1995; Williams et al., 1998). Clients with BPD account for approximately 15% of acute admissions to psychiatric units and have higher rates of mental health utilisation compared with most other mental health consumers (Swartz, et al., 1990). Clients with a diagnosis of BPD are likely to have longer hospital admissions than most other groups (Williams et al., 1998). Krawitz and Watson (2000) described a group of "high service using" BPD clients who had an average annual hospitalisation 139.2 days/client year. Perry (1997) reported a sample of BPD clients with an average hospitalisation of 56.6days/client per year. BPD clients are also less likely to successfully remain in the community for an extended period after discharge (i.e., experience the "revolving door" phenomenon) (Williams et al., 1998).

Despite their high rate of hospitalisation, studies have found that for those diagnosed with BPD, extended hospitalisation may be iatrogenic (Krawitz & Watson, 2000), and is associated with a number of risks (Miller, 1989; Nehls, 1994). These includes an increase in self-harm behaviour, power struggles with staff, increased dependency on mental health services, reduction of taking responsibility for own behaviour, and the "revolving door" problem. The focus on crisis management that frequently is the strength of inpatient facilities can reinforce maladaptive and recovery-inhibiting behaviours rather than promoting an effective outcome (Krawitz & Watson, 2000). To avoid such difficulties, Williams (1998), in her personal account of having BPD, strongly recommended that hospitalisation be for no more than 48 hours, and focus on reducing symptoms related to a current crisis. Thus, while short hospital stays may be a valuable management strategy in conjunction with comprehensive community outpatient management services, extended stays are frequently counterproductive.

One approach consistent with the research above and which provides an alternative to long stay care is the use of Brief Planned Admissions (BPAs) (Bryson et al., 1998; Nehls, 1994; Silk et al., 1994). The underlying philosophy is for the client to view hospitalisation as a partnership between the client and the staff, aimed at a quick return to the community. BPAs aim to empower clients to be in

charge of their treatment, avoid power struggles with clinicians, and for hospitalisations to be a form of intensive respite and time-out, as opposed to a place of 'treatment'. They include preadmission contracts, goal-oriented inpatient behavioural treatment contracts, a focus on reducing symptoms related to the current admission, a discharge date set early in hospitalisation, and goal-oriented criteria for readmission.

To date there have been few outcome studies of the impact of the use of BPA approaches. One small study conducted by Nehls (1994) on five clients who were in charge of their brief planned admission (48-72 hours) showed a 47% decrease in the number of hospital days (25.8-13.8/client for the year). No other published studies on outcome of BPAs have been found and there appears to be a need for more research on the utility of BPA. In particular, studies utilising control groups are needed to ensure that the reduction in hospitalisation is in fact due to BPA and not other factors such as changing medication or other treatments factors, client factors, or systemic issues such as increased family support. Consequently, the present study aimed to assess the impact of the use of a BPA approach on inpatient service utilisation by clients with a diagnosis of BPD, compared to a control condition. The hypothesis was that the use of BPAs would reduce hospitalisation without reducing the acceptability of hospitalisation as a management strategy for clients or staff.

## Method

### *Participants*

Participants in the BPA group were clients of an inpatient mental health facility (Unit A) who had a DSM-4 (American Psychiatric Association, 1994) diagnosis of Borderline Personality Disorder, who exhibited at least five of the common criteria for BPD, and for whom a BPA was implemented as part of their inpatient care. Potential participants were excluded from the study if they had a diagnosis a psychotic disorder. Participants in the control group were clients of a similar inpatient mental health facility (Unit B) who were matched by gender, age, and diagnosis to participants in the BPA group. Demographic and clinical characteristics of the participants are presented in Table 1. All participants were female. No significant difference was found for age, (M = 30 years, sd = 7), $t(19) = 0.8$ ns, ethnicity (n =21), $\chi^2(1) = 2.0$, ns), highest education level, $\chi^2(1) = 0.9$, ns), employment status, $\chi^2(1) = 0.4$, ns, marital status, $\chi^2(1) = 0.38$, ns, living arrangement, $\chi^2(1) = 0.4$, ns, and level of social support, $\chi^2(1) = 0.4$, ns. All participants reported a history of physical and/or sexual abuse as children. Similar proportions of participants in the two groups had a history of substance abuse, $\chi^2(1) = 0.01$, ns. All participants reported a history of self-harm behaviours. No significant between-group differences were found in the time in the service prior to BPA, M = 24 months, sd = 16, $t(19) = 0.1$, ns, days of hospitalisation per year prior to BPA, M = 76, sd = 63, $t(19) = 1.97$, ns, or the number of admissions per year prior to BPA, M = 2.9, sd = 2.4, $t(19) = 1.6$, ns.

Table 1: Demographic and Clinical Description of Participants

| Variable/Category | BPA % | Control % |
|---|---|---|
| Ethnicity | | |
| Caucasian | 90 | 64 |
| Pacific Island | 10 | 27 |
| Other | - | 9 |
| Highest Educational Level | | |
| High School incomplete | 60 | 55 |
| High School completed | 30 | 9 |
| Tertiary education | 10 | 36 |
| Employment Status | | |
| Unemployed/Beneficiary | 40 | 55 |
| Unpaid work/study | 20 | 18 |
| Paid work | 40 | 27 |
| Marital/Relationship Status | | |
| Single | 50 | 46 |
| Married/De facto | 40 | 27 |
| Separated/Divorced | 10 | 27 |
| Living Arrangement | | |
| Living alone | 30 | 18 |
| Living with children only | 10 | 18 |
| Living with other family | 30 | 54 |
| Living with non-family | 30 | 9 |
| Substantial Current Social Support | | |
| Yes | 50 | 36 |
| No | 50 | 36 |
| Substance Abuse History | | |
| Yes | 50 | 45 |
| No | 50 | 55 |

**Notes**: BPA: n=10, Control n=11

### *Measures*

The data for this study were derived from record review. Standardised measures were not used. Demographic data were organised with categorical scales and yes/no responses that were developed for the study. The number and duration of hospital stays were obtained from a detailed record review. The duration of the client's contact with community services was determined by contact with the relevant community agency. The specific characteristics of the BPA were assessed using a check sheet, specifying whether or not the particular characteristic was evidenced in the BPA.

### *Intervention Procedure*

Generally, a brief planned admission approach was introduced for those clients who were known to the hospital staff, had a clear diagnosis of BPD, and were identified as likely to be high users of inpatient mental health services. At the time that the BPA approach was first introduced no specific or detailed protocol had been developed. However, the approach that was used included the following primary characteristics: (1) it commonly capped the length of the admission to a specified number of days/hours; (2) specified goals were negotiated prior to the admission; (3) the pathway for admission always included accessing community services and other community and family support networks

prior to being able to access hospital; (4) the BPA contract was collaboratively negotiated between the client, clinician, and the community teams; and (5) the BPA involved clear and explicit management plans. Other important aspects that were often incorporated into the BPA approach were: (6) having a clear rationale for using BPA that was discussed with all parties in advance; (7) the BPA approach encouraged timely voluntary admissions rather than legally mandated (involuntary) admissions; (8) the process clearly specified consequences for behaviour on the unit that was contradictory to the therapeutic goals; and (9) part of the inpatient admission involved assertive activation of community services and other community and support networks. Individual BPAs varied significantly and the proportion of BPAs into which each of the characteristics above were incorporated is shown in Table 2. Apart from conditions stipulated in the BPA procedure, clients received standard care through the community and inpatient services. The control group also received standard care through their community and inpatient services.

### *Study Procedure*

Potential participants were identified from a national database (New Zealand Health Information Service, Ministry of Health, Wellington) as people with a diagnosis of BPD who had been clients of one of the two public acute inpatient mental health facilities during the study period (1 January 1994 to 31 December 1998). These facilities (Unit A and Unit B) were operated by the same healthcare provider and were the only acute inpatient mental health units for different areas in a major city. Unit A had 24 beds and served a population of approximately 200,000. Unit B had 33 beds and served a population of 250,000. The BPA approach was only utilised in Unit A during the study period.

A protocol for brief planned admissions (BPA) was instituted with all eligible clients who were admitted to Unit A. Matched control cases were chosen from Unit B, a similar public acute mental health inpatient unit in which a BPA process had not been established. At the conclusion of the study period, clinical and demographic data were obtained retrospectively from the inpatient unit records for all clients. The number of admissions, dates of admissions, and total duration of hospitalisations during a five year period were obtained.

Table 2: Proportion of BPAs showing each desirable characteristic

| Characteristics | % including characteristic |
|---|---|
| Capped the length of the admission | 70 |
| Specific goal-oriented focus of admissions | 50 |
| Explicit community contact/support processes prior to hospitalisation | 70 |
| BPA protocol agreed on by all parties | 70 |
| Clear, explicit management plan | 70 |
| Mutually agreed rationale for BPA protocols | 80 |
| Explicitly encouraged voluntary rather than involuntary admissions | 60 |
| Specified consequences for counterproductive behavior | 60 |

### *Data Analysis*

For Unit A (which used BPAs), the duration of the clients' engagement with the community service during the study period and prior to institution of the BPA protocol was assessed. Their duration of engagement with the community service after the institution of the BPA and during the study period was also assessed. As the average duration pre- and post- BPA were approximately equal in the BPA group, the time half-way between service entry and exit was taken as the comparison time used to divide the data into the pre- and post- time period for the control group (Unit B).

The major dependent variables for this study were the number of hospital admissions per year and days in hospital per year. These were calculated by dividing the pre- and post- hospitalisation admission and duration data by the number of years the client was engaged in the community service (and therefore likely to be referred to that unit) in their pre- and post- time periods respectively. Repeated measures ANOVAs with one between factor (inpatient unit) and one within factor (pre & post) were used to analyse the major effect for this study. Chi-square analysis was also used to explore the matching of the two groups.

## Results

The major hypothesis for the current study concerned whether the use of BPAs decreased the use of inpatient mental health services by people with borderline personality disorder. Data pertaining to the number of admissions per year and hospitalisation in the pre-and post- period are presented in Table 3.

A 2x2 repeated measures ANOVA with days of hospitalisation per year as the dependent variable showed a significant unit x time interaction, $F(1,19) = 7.5$, $p<0.02$, for the yearly duration of hospitalisation. The number of days hospitalisation for the BPD group fell significantly ($p<0.005$) and substantially, while the days of hospitalisation of the control group remained relatively constant. Despite an apparent between-unit difference in the pre-intervention number of hospitalisations per year, the difference was not significantly different, $t = 1.9$, $p<0.1$.

A 2x2 repeated measures ANOVA with the number of admissions per year as the dependent variable showed no significant unit x time interaction, $F(1,19) = 0.3$, ns, for the number of admissions per year, indicating no difference in the pattern of change in admission rate for the two units over time. There was a significant effect for time, $F(1,19) = 6.2$, $p<0.03$, indicating that the overall rate of admissions declined significantly over time. The number of admissions per year in the BPA group declined faster, but the difference was not significant.

Little information on the clinical outcomes for the two units was available. The time in service after the BPA was equivalent for the two groups, M = 21 months, sd = 14, $t(19) = 0.9$. One suicide was reported from each group.

Table 3: Patterns of Hospitalisation of Clients with Borderline Personality Disorder with and without use of Brief Planned Admission

| | | Pre-Intervention | | Post-intervention | | significance of pre-post change |
|---|---|---|---|---|---|---|
| Variable | Unit | mean | (sd) | mean | (sd) | p |
| Days in Hospital per year | BPA | 106 | (85) | 27 | (33) | p<0.005 |
| | Control | 49 | (34) | 58 | (87) | ns |
| Hospital Admissions per year | BPA | 3.8 | (2.6) | 2.3 | (2.5) | ns |
| | Control | 2.1 | (2.2) | 1.1 | (0.8) | ns |

**Note:** ns = no significant difference

## Discussion

The results indicate that there was a marked decrease (of almost 75%) in the length of time per year that the clients were spending in hospital following institution of a BPA protocol and is consistent with Nehls' (1994) finding of a reduction in hospital days, although the effect in our study appears even stronger. This difference may in part be explained by our larger sample size. Given literature suggesting that extended hospital stays are not an optimal use of relatively rare health resources (Links, 1998; Stroul, 1991) and, as explained in the introduction, are often regarded as contra-indicated for borderline personality disorder clients, these results support the use of BPAs as a valuable approach to improving client care and health service utilisation. In effect, BPA appears to be an approach that can help health services to use hospital beds more effectively. No similar decrease in the yearly duration of hospitalisation for this client group was seen at the comparison unit, increasing confidence that the observed change was related to the introduction of BPA. No other significant changes in management practice have been identified that could explain this difference.

The number of admissions per year decreased slightly across both units. The decrease was small and not significantly faster in Unit A where BPAs were used. This, in conjunction with data showing no difference in the length of time in the community service following institution of BPAs, suggests that the clients and/or staff continued to find inpatient admission a viable treatment strategy as part of a comprehensive overall management plan. This supports William's (1998) view that short, focused admissions are acceptable from a client's perspective. The small reduction in number of admissions for the BPA group is notable because it indicates that shortening the admissions did not lead to premature discharge requiring rapid readmission. This shows that introduction of BPAs did not lead to a "revolving door" pattern that is a common objection to the use of brief admissions. While the small sample and limited range of outcome is a weakness of the current study, the similar suicide rates, maintenance in community service, and non-occurrence of increased admission rates, all indicate that BPA approach works at least as well as the traditional, more resource-intensive approach.

Experience with using the BPA approach in this study highlighted the need for clear specific protocols to be used in order to move from basic commonalities to a more consistent and comprehensive approach. Such an approach could include: collaborative development of clear individual management plans between the client, clinician, and community teams; ensuring that these management plans are dated and signed by all those involved in the development of the plan; a written rationale for the approach; explicitly identified steps for the client to obtain contact/support prior to using the option of hospital (including the use of crisis services and/or respite services). The protocol should also include: a specified number of hospital days (typically 48-72 hours) per admission, and, if appropriate, a capped number of admissions per year; avoiding involuntary admissions in favour of voluntary admissions with informal status being maintained if possible; clearly negotiated goals prior to admission; and specified consequences for behaviour which is contradictory to these goals (e.g., if the client self-harms).

The study has a number of limitations and suggests useful areas for further enquiry. The small sample size is a limitation, and replication with a larger sample would be useful. However, the strength of the observed effect despite the small sample size is most promising. The lack of clinical outcome measures other than suicide rate and service use maintenance is also a limitation, and additional studies that more directly assess a range of clinical outcome and client satisfaction measures would be helpful. The use of BPAs primarily with people who were already identified as high service users may represent a selection bias, with part of the effect observed being due to regression to the mean. However, the substantially lower post-BPA hospitalisation rate of the BPA group compared with the control group suggests that it is unlikely that all of the effect can be attributed to such an effect. A further study using consecutive or randomised samples would be helpful to remove this potential bias. The present study was undertaken over a period where the BPA procedure was being developed. Use of a more standardised BPA protocol in future outcome studies would provide a cleaner comparison between BPA and control.

Despite these limitations, our investigation provides an indication of the utility and value of the use of the BPA approach for people with a diagnosis of BPD who are admitted to inpatient units. The strategy facilitated reduction in hospital utilisation that was acceptable to clients and staff. The literature indicates that the sensible reduction of hospitalisation time has significant benefits for both the client and the mental health system.

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