A NEW QUALITY INDICATOR FOR MENTAL HEALTH CARE AND PARTIAL HOSPITALIZATION: THE CARE FLOW DIRECTION INDEX

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Summery

Partial hospitalisation within a day hospital provides an intermediate tier of care between outpatient attendance and full inpatient hospitalisation. The Care Flow Direction Index (CFDI) is a newly developed tool to assess the effectiveness of a day hospital. In measuring the GAF scores for patients moving up or down the care pathway one can calculate the CFDI. A score greater than 1 shows that the day hospital is providing effective treatment.

Planning appropriate mental health care resources requires instruments and indicators to evaluate such concepts such as effectiveness, efficiency and utility. The integration of clinical treatment and rehabilitative services and the coordination between in-patient settings and outpatient treatment, has received increasing attention throughout the last decade (Meise &Fleischacker 1996). Attempts have thus been made to define the concept of continuity of care in patients with chronic psychotic disorders (Bachrach 1981, Bachrach 1992). These concepts are applicable to a wide range of mental disorders and can also help evaluate the appropriate sequence for somatic, psychological, and social treatments. If the different treatment settings are not well coordinated, patient will receive fragmented care.

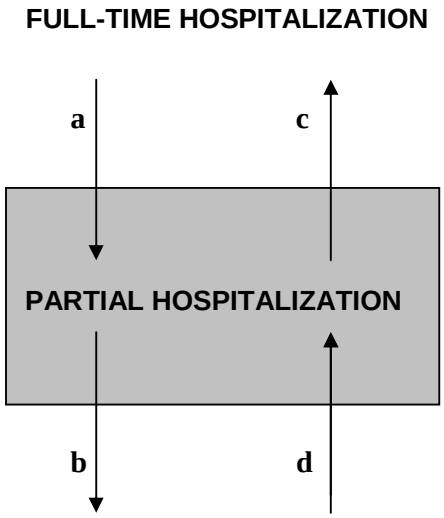
To achieve effective continuity of care the proper sequencing of interventions and resources is required. There are few parameters to measure the extent to which the day hospital fulfils this task of promoting rehabilitation, improving the individual's autonomy and decreasing the need for care. The purpose of this study is to develop an index to measure this progress within psychiatric care and an indicator of the extent to which the day hospital succeeds in its rehabilitative function and in the provision of adequate continuity of care.

Methods

The sample studied consists of the patients treated in a partial hospitalisation unit with 10 beds. This unit is integrated into a mental health service which includes a full-time hospitalisation unit, day centre, resources for psychiatric emergencies and ambulatory services for child and adolescents, adults, substance abuse disorders. We regard partial hospitalisation as an intermediate intervention between high restraint care settings ie. full-time hospitalisation and other kinds of treatments such as outpatient care where patients are able to function at a higher level. The day hospital would regulate the care flow in either an "ascending" or a "descending" direction. Patients may be referred to full-time hospitalisation in the former and discharged to ambulatory treatment in the latter. The main roles are to provide an alternative to hospitalisation, a transition for

those discharged from the in-patient setting and to optimise outpatient treatment and rehabilitation (Schene et al 1988, Pang 1985, Rosie 1987, Sledge et al 1996, Gudeman et al 1985). It improves integration and interdisciplinary approach to health care.

Figure 1. The Care Flow Direction Index



(a) Patients referred from full-time hospitalisation to day hospital. N=15. GAF=48.67.

(b) Patients referred from day hospital to ambulatory care. N=53. GAF=57.64

(c) Patients referred from day hospital to full-time hospitalisation. N= 11. GAF= 36.36.

(d) Patients referred from ambulatory care to day hospital. N=49. GAF=36.67.

"Care Flow Direction Index" (CFDI) = a x b / c x d = 15 x 53 /11 x 49 = 1.47

The Care Flow Direction Index (CFDI) is a model which measures the effectiveness of this care (Figure 1). The numerator of the equation stands for the discharges that reflect a "descending" direction of the care flow from higher to lower restraint: the patients referred either from full-time hospitalisation to day hospital, or from day hospital to ambulatory treatment. On the other hand, the denominator stands for the patients in the "ascending" direction of the care flow. In other words, the quotient between the net referrals from day hospital to ambulatory treatment (b/d) and the net referrals from day hospital to full-time hospitalisation (c/a) indicates the prevailing direction of the care flow mediated by the day hospital.

Thus, the CFDI would be equal to $\frac{b / d}{c / a} = a \times b / c \times d$

An index equal to 1 implies a balance between both health care poles. In that case, we would be dealing with a day hospital with limited achievement. An index lower than 1 would imply a failure in terms of the reintegrating and rehabilitation role, for there is a net "ascending" flow towards full hospitalisation. This means that the day hospital is failing to help patients. Obviously, a coefficient higher than 1 would indicate a predominance of the "descending" flow ie. patients referred to ambulatory care. This is the desired outcome and reflects an effective functioning day hospital, achieving both clinical and psychosocial objectives.

The Global Assessment of Functioning Scale (GAF) is a standardised instrument (Dufton & Siddique 1992) which reflects a clinical judgement on the patients overall level of functioning. A high score represents a good level of functioning. In order to assess the validity of the Care Flow Direction Index the following hypothesis has been made: GAF scores for patients in the numerator will be higher than those of the patients in the denominator. This predicts a better level of functioning for patients referred to ambulatory care than in the case of patients referred to in-patient treatment. When admitted to a day hospital, the GAF scores of patients referred from full-time hospitalisation would be higher than the scores of the patients who have deteriorated in the outpatient treatment setting. Differences in the scores between both groups were assessed by Mann-Whitney test.

Results

Figure 1 shows the number of subjects in each of the above-mentioned categories (type of services of origin at the moment of admission and referral at the moment of discharge), as well as the GAF scores and the score of the CFDI. The distribution of the mean scores on the GAF scale at discharge from day hospital to full-time hospitalisation was compared with the distribution of the scores of the patients referred to outpatient treatment(Table 1). Patients discharged from day hospital to ambulatory care showed, at the moment of discharge, better functioning than those referred to in-patient treatment ($p<0.0001$, Mann-Whitney test).

Table 1. Mean GAF score at discharge from day hospital ($p < 0.0001$)

	N	Mean GAF score at discharge from day hospital	SD	Range
Patients referred to full-time hospitalisation	11	36.36	11.64	20-60
Patients referred to ambulatory care	53	57.64	11.42	30-85

Table 2. Mean GAF score at admission to day hospital (p < 0.001)

	N	Mean GAF score at admission to day hospital	SD	Range
Patients referred from full-time hospitalisation	15	48.67	10.43	20-60
Patients referred from ambulatory care	49	36.67	10.14	20-55

At the time of admission to the day hospital (Table 2), patients referred from full-time hospitalisation showed higher scores on GAF scale than those referred from outpatient care ($p<0.001$, Mann-Whitney test). The subjects in the numerator of the CFDI, ie. patients referred from day hospital to ambulatory care and patients referred from full-time hospitalisation to day hospital, had higher scores on GAF scale than those in the denominator.

Conclusions

This study confirms that the day hospital is not simply a resource with a higher or lower level of restraint but also acts as a unique therapeutic tool. The CFDI provides a useful tool to measure the effective integration of the day hospital within the health care system. The CFDI of the particular day hospital assessed was equal to 1.47. Coefficients higher than 1 reflect an overall "descending" care flow and net discharges to ambulatory resources. Moreover, it demonstrates an appropriate coordination between the day hospital and all the resources of the mental health network and appropriate targeting of patients. It not only shows the cost savings within the health economy but also reflects the improvement in patient functioning.

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