

fellows and honorary fellows are formally welcomed and new presidents installed. Success or failure will clearly hinge on persuading the six smaller faculties that this is their conference too, and not just for general psychiatrists and College politicians.

Finally, it is reassuring to learn that a high proportion of members and fellows regard the work of the Research Unit and the College's public education activities as important and worthwhile, and that they are happy to see 4% or so of their annual subscriptions devoted to each of these activities. In fact, the formal aims of the College commit us to "promote study and research work in psychiatry and related subjects" and to "improve public knowledge of psychiatry and the work of psychiatrists". At a time when there is clearly going to be increasing emphasis on the efficacy and cost-effectiveness of all clinical services, and when the public are increasingly knowledgeable about the strengths

and weaknesses of the National Health Service and increasingly critical of doctors, the need for well organised research and effective public education requires no emphasis. There will be important opportunities in both fields if we are sufficiently astute to recognise and exploit them.

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# The supervision register: 19 months after its introduction

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**Aims and method** To examine whether, 19 months after its introduction, the goals of the supervision register have been met. A matched case-control study of patients on the supervision register and Care Programme Approach was conducted.

**Results** Cases and controls demonstrated similar socio-demographic characteristics, primary diagnoses and community psychiatric care. The supervision register group were more likely to use concurrent alcohol and/or illicit drugs ( $P=0.001$ ) or suffer with an accompanying personality disorder ( $P=0.0001$ ), and were less likely to have experience of a long-term relationship ( $P=0.003$ ). Nineteen months after registration, the supervision register group were more likely to be violent to others ( $P=0.002$ ) or involved in serious threatening behaviour to others ( $P=0.0007$ ). Relapse of mental illness was the only significant predictor of future violence in the supervision register group ( $P<0.01$ ).

**Clinical implications** Patients with a history of violence to others were found to be appropriately placed on the supervision register but continued to demonstrate aggressive behaviour after registration, indicating that the goal of the supervision register to prioritise most appropriate care and treatment for this group of patients has not been met.

Supervision registers are an integral part of the Care Programme Approach (Department of Health, 1990) and represent a mechanism to identify those patients most at risk of harming themselves or others, who should then be given the highest priority for care and treatment and thereby protect this vulnerable group of patients and the wider public (Bottomley, 1994). Three mental health trusts in south-east London agreed with their purchaser that the Care Programme Approach and supervision register

could only be implemented in a modified form, given the typical problems of inner London psychiatry and under-resourcing (McCarthy *et al.*, 1995). Hence, to be included on the supervision register (equivalent to the uppermost level three of the Care Programme Approach), patients would have a history of serious violence or be seriously dangerous to others (McCarthy *et al.*, 1995), rather than as the guidelines suggested (Bottomley, 1994), also including those who were at significant risk of suicide or severe self-neglect. The latter patients were registered on the Care Programme Approach register at level two. Patients on level two were incorporated into the case management service involving the allocation of a keyworker and high level of service input in the community, similar to the community service received by patients on the supervision register at level three. All other patients accepted into the secondary mental health service were placed on level one of the Care Programme Approach, but not on the Care Programme Approach register.

Nineteen months after full implementation of the supervision register, patients on the Care Programme Approach register of one of the south-east London mental health trusts were (a) assessed to determine the demographic characteristics and number of patients selected for inclusion on the supervision register; (b) compared to a matched group of patients on the Care Programme Approach register (level two), to assess which demographic, psychiatric or violence variables contributed to placement on the supervision register; (c) evaluated for differences in the community care received by the supervision register and Care Programme Approach register groups; (d) to compare outcome between the two groups as regards violence post-registration, and (e) assessed for variables which predicted future violence.

### The study

The study population comprised all patients in a south-east London mental health trust, aged between 16 and 65 years, who were registered on the Care Programme Approach register on the 29 April 1996. Seventy patients were registered on the supervision register at this time. Control cases were matched with the supervision register group for gender, as men are more likely to be violent to others than women (Coid, 1996), and length of time on the register to allow for similar periods of time to assess for violence post-registration in both groups. Seventy control cases who most closely met the criteria for matching were selected. The hospital case notes were found for the 140 patients.

The hospital case notes were assessed using a schedule devised by myself which included: (a)

demographic characteristics; (b) the care provided in the community, compliance with medication, relapse of illness and hospital admissions after registration; (c) history of violence to self, others, property and self-neglect (a further category of serious threatening behaviour was added, which related to incidents where others believed themselves to be at serious risk of violence); (d) violence to self, others, property, self-neglect and serious threatening behaviour were assessed post-registration. A history of personality disorder and substance misuse as disorders in addition to the primary psychiatric diagnosis were also sought, as an increase in violent behaviour has been found among patients with a dual diagnosis of substance misuse and severe mental illness (Swanson *et al.*, 1990; MacArthur Foundation Research Network on Mental Health and the Law, 1996) and similarly for patients with personality disorder and major mental illness (Abram & Teplin, 1991; Toner *et al.*, 1991).

Data were analysed using Statview II (Feldman *et al.*, 1987). Bivariate analyses were performed using the  $\chi^2$  statistic for categorical variables and the Student's *t*-test for continuous variables. Skewed continuous data were analysed using the Wilcoxon signed-rank test. Forward stepwise regression analysis was used to determine factors predictive of future violence.

### Findings

On 29 April 1996, a total of 696 patients were registered on the Care Programme Approach register (including those on the supervision register). Hence, the 70 patients on the supervision register represented 10.1% of this population.

#### Demographic characteristics

Table 1 lists demographic details of the cases and controls. Significantly more men than women were on the supervision register. Both groups had been registered for on average 17 months at the time the case notes were studied. Age and ethnic mix were similar in both groups. Patients on the supervision register were significantly less likely to have had a previous or current relationship or to be in employment. Sixty-six patients (94.3%) on the supervision register and 62 patients (88.6%) on the Care Programme Approach were in social class V.

Schizophrenia was most commonly diagnosed. Significantly more patients on the supervision register were in addition to the primary diagnosis, also found to be recent or current misusers of alcohol and/or illicit drugs, or suffering from a personality disorder. Personality disorder together with significant substance

Table 1. Characteristics of cases and controls<sup>1</sup>

Variables	Supervision register group	Care Programme Approach register group	
Gender			
Men	62 (88.6)	62 (88.6)	$\chi^2=0, P=1$
Women	8 (11.4)	8 (11.4)	
Mean (s.d.) duration on register (days)	512.8 (172.0)	508.6 (169.0)	$t=0.15, P=0.9$
Mean (s.d.) age (years at assessment)	35.2 (7.2)	37.8 (9.9)	$t=-1.8, P=0.8$
Ethnicity			
White: UK born	23 (32.9)	25 (35.7)	$\chi^2=6.8, P=0.8$
Black: UK born	19 (27.1)	18 (25.7)	
Black: Caribbean born	17 (24.3)	13 (18.6)	
Black: African born	5 (7.1)	4 (5.7)	
White: born abroad	2 (2.9)	2 (2.9)	
Born Pakistan	1 (1.5)	0	
Born India	0	1 (1.5)	
Born Bangladesh	0	1 (1.5)	
Born China	0	1 (1.5)	
Born Ireland	0	1 (1.5)	
Mixed race: born abroad	3 (4.3)	4 (5.7)	
Previous/current long-term relationship			
Single	63 (90)	49 (70)	$\chi^2=8.8, P=0.003$
Previous/current partner	7 (10)	21 (30)	
Employment			
Employed	0	8 (11.4)	$\chi^2=8.5, P=0.004$
Unemployed	70 (100)	62 (88.6)	
Type of accommodation			
Flat	45 (64.3)	47 (67.1)	$\chi^2=6.0, P=0.3$
Hostel	21 (30)	18 (25.7)	
House	1 (1.4)	4 (5.7)	
Other	3 (4.3)	1 (1.4)	
Primary diagnosis			
Schizophrenia	46 (65.7)	44 (62.9)	$\chi^2=4.9, P=0.3$
Schizoaffective disorder	13 (18.6)	10 (14.3)	
Manic-depressive illness	9 (12.9)	15 (21.4)	
Personality disorder	2 (2.9)	0	
Substance misuse	0	1 (1.4)	
Secondary diagnosis			
Substance misuse	45 (64.3)	30 (42.9)	$\chi^2=6.5, P=0.01$
Personality disorder	26 (37.1)	6 (8.6)	$\chi^2=16.2, P=0.0001$
Personality disorder and substance misuse	21 (30)	4 (5.7)	$\chi^2=14.1, P=0.0002$

1. Unless otherwise stated, figures are numbers (percentages) of subjects.

misuse problems occurring in the same patient, was found more frequently in the supervision register group.

#### *Previous history of violence*

Significantly more patients on the supervision register had been violent to others (Table 2) and engaged in seriously threatening behaviour.

#### *Community care*

Two patients (2.9%) in the supervision register group and one (1.4%) in the Care Programme Approach group were not receiving follow-up from mental health services (Table 2). All the remaining patients in both groups were seeing a psychiatrist, although two individuals on the

supervision register were in-patients on a medium secure unit. No significant differences were found between the two groups in terms of community care received. Data regarding prescribed medication and relapse of illness were unavailable for only one patient, on the supervision register, but who had moved out of area. Despite similar numbers of patients in both groups receiving medication, significantly more individuals on the supervision register experienced a relapse of illness. In terms of numbers of relapses in each group, 93 relapses of illness occurred among the supervision register group compared to 54 in the control group ( $Z=2.7, P=0.007$ ), and there were also more hospital admissions among the supervision register group (85 v. 51,  $Z=-2.5, P=0.01$ ).

Table 2. Number (per cent) of cases and controls with a history of violence, in receipt of community care and engaging in violence post-registration

Variables	Supervision register group	Care programme approach register group	
Previous history of violence <sup>1</sup>			
Self-harm	20 (28.6)	19 (27.1)	$\chi^2=0.036, P=0.9$
Self-neglect	14 (20)	18 (25.7)	$\chi^2=0.65, P=0.4$
Violence to property	41 (58.6)	39 (55.7)	$\chi^2=0.12, P=0.7$
Violence to others	57 (81.4)	39 (55.7)	$\chi^2=10.7, P=0.001$
Serious threatening behaviour	60 (85.7)	40 (57.1)	$\chi^2=14.0, P=0.0002$
Community care <sup>2</sup>			
Psychiatrist	66 (100)	69 (100)	$\chi^2=3.0, P=0.4$
Case manager	64 (97)	62 (90)	
Social worker	15 (23)	7 (10)	
Day hospital	7 (11)	6 (9)	
Health care assistant	3 (5)	7 (10)	
Art therapy	1 (1.5)	0	
Psychologist	1 (1.5)	1 (1.4)	
Medication <sup>3</sup>	65 (94.2)	60 (85.7)	$\chi^2=2.8, P=0.11$
Relapse of illness <sup>3</sup>	48 (69.6)	32 (45.7)	$\chi^2=8.1, P=0.004$
Violence post registration <sup>3</sup>			
Self-harm	7 (10.1)	4 (5.7)	$\chi^2=0.94, P=0.3$
Self-neglect	9 (13)	7 (10)	$\chi^2=0.32, P=0.6$
Violence to property	20 (29)	8 (11.4)	$\chi^2=6.7, P=0.01$
Violence to others	29 (41.4)	12 (17.1)	$\chi^2=10.0, P=0.002$
Serious threatening behaviour	35 (50.7)	16 (22.9)	$\chi^2=11.6, P=0.0007$

1. Supervision register group,  $n=70$ ; Care Programme Approach register group,  $n=70$ .

2. Supervision register group,  $n=66$ ; Care Programme Approach register group,  $n=70$ .

3. Supervision register group,  $n=69$ ; Care Programme Approach register group,  $n=69$ .

### Violence post-registration

Patients in the supervision register group were more likely to be involved in serious threatening behaviour to others (Table 2), to damage property or be violent to others. Assessed in terms of numbers of incidents, patients on the supervision register committed 60 episodes of violence to others compared to 18 such incidents among the control group ( $Z=3.3, P=0.001$ ). There were 41 episodes of violence to property from the supervision register group compared to nine episodes among the Care Programme Approach patients ( $Z=-3.2, P=0.001$ ).

### Predictors of violence

Derived from the findings of the bivariate statistical analyses, the following potential independent predictors of violence were entered into a forward stepwise regression analysis: marital status, substance misuse and personality disorder (both as variables separate from the primary diagnosis), history of violence to others, history of serious threatening behaviour and relapse of illness. Assessing the supervision register group alone, relapse of illness was the only significant predictor ( $P<0.001$ ; odds ratio 2.2, 95% CI 2.1–2.4).

### Comment

Consultant psychiatrists and the multi-disciplinary teams in this mental health trust appear to be identifying effectively, for the most part, patients who require placement on the supervision register. Ironically, this finding is confirmed from those patients placed on the supervision register continuing to behave aggressively post-registration.

One in 10 of all patients on the Care Programme Approach register were regarded as being significantly violent or dangerous to warrant inclusion on the supervision register. If the guidelines on the supervision register had been strictly followed, the 10% figure would have been much higher, probably in the region of 20%.

The supervision register group was distinguished from the control group by having had fewer prior or current long-term relationships with others, or to be in employment. This probably reflects more chaotic lifestyles among the supervision register group and is a finding also described as a risk factor for harm to other people by the Royal College of Psychiatrists (1996). The cases also differed from their Care Programme Approach counterparts in terms of a two to seven times greater likelihood of having a dual or triple diagnosis and were almost three times more likely to relapse and require hospital admission post-registration.

The similarity of community psychiatric services for the case and control groups reflects on the system operating in the trust, where level two and three (supervision register) patients received almost identical community care input. Data on the frequency and intensity of the community input were unfortunately not available to allow for a comparison of quality of such care between groups. In the absence of such information, the results showed a persistence of violent behaviour among the supervision register group with similar community mental health service support for both the supervision register and Care Programme Approach groups. This may suggest that more resources are required for those patients regarded as at increased risk of violent behaviour to others, particularly as relapse of illness, which should be preventable, was the variable most closely linked to predicting violence. This is consistent with previous findings that violent behaviour was strongly associated with active symptoms of mental illness (Mulvey, 1994), particularly delusional symptoms (Link & Stueve, 1995).

Potential limitations of case-control studies include selection of the cases, which in this study was determined by a group of consultant psychiatrists in the trust, with a history of serious violence or dangerousness to others the deciding factor for placement on the supervision register. The controls were also drawn from the Care Programme Approach register, and were matched with cases. The cases and controls were found to be comparable for socio-demographic characteristics, psychiatric diagnosis and for the care both groups received in the community. Although all 140 hospital case notes were found, the number of violent incidents recorded is likely to be an underrepresentation of the true figure, as an underreporting of such events, particularly those occurring in the community, is to be expected. It is possible that some ascertainment bias may have confounded the results, as staff caring for the supervision register group may have been more alert to patients committing acts of violence against others with more recording of such incidents occurring.

## Discussion

The proposed goal of the supervision register is to prioritise patients who are at special risk so that their needs are met and they receive the most appropriate care and treatment (Bottomley, 1994). In the context of implementing the supervision register in a modified form by targeting those at greatest risk of committing serious violence to others, the results of this study indicate that such at risk patients are being identified but that the goal of appropriate care and treatment is an issue requiring further attention. It must be acknowledged that indi-

viduals on the supervision register are likely to be a group with significant morbidity and poor outcome. Perhaps, the only benefit of the supervision register at present is to monitor those outcomes. The challenge for the future is to identify which interventions in the community are likely to be the most effective in reducing the frequency of violence and relapse of illness, including the training required and the costs of implementing such a programme.

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