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Mental disorder and violence

A special (high security) hospital study

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Background From a first clinical description of a complete resident sample of special (high security) hospital patients, we examined the association between mental disorder and violence.

Method A record survey of all 1740 patients resident at any time between 1 January and 30 June 1993, inclusive, and, for most, the official criminal record.

Results 1015 patients (58%) had functional psychosis, one-quarter of whom also had an independent personality disorder; 461 (26%) had personality disorders uncomplicated by psychosis, and 264 (16%) had learning disabilities. Pre-admission substance misuse, which was probably under-recorded, had been most common among those with psychosis and an independent personality disorder. Less than 10% had never been convicted of a criminal offence, although 25% had been admitted directly from other hospitals. Direct personal violence was more common among men, and fire-setting among women. Schizophrenia was most strongly associated with personal violence. More than 75% of those with a psychosis were recorded as being driven to offend by their delusions. In the absence of delusions, hallucinations had no such effect.

Conclusions For people with personality disorder better clinical descriptions seem essential. For people with a pure psychosis, as symptoms were usually a factor driving the index offence, treatment appears as important for public safety as for personal health.

Epidemiological studies of the 1990s have confirmed a greater than chance relationship between psychosis (mainly schizophrenia) and violence (Swanson *et al*, 1990; Hodgins, 1992). Occasional, exceptionally serious violence by someone with a mental disorder arouses public fears (Peay, 1996). Comparisons of the times of onset of psychosis and violence suggest that the disorder almost invariably comes first (Taylor & Hodgins, 1994). This is more difficult to test in relation to personality disorder, because definitions of some of the most relevant disorders incorporate repeated antisocial or violent behaviour as criteria. Neurotic disorders do not appear to raise the risk of violence to others, but alcohol and illicit drug misuse do, both among people with and without other psychiatric disorders (Swanson *et al*, 1990).

Ashworth, Broadmoor and Rampton hospitals are the special hospitals in England. They provide treatment and special security for people who have mental disorders and are subject to compulsory detention. These people are judged to need such conditions ". . . on account of their dangerous, violent or criminal propensities" (National Health Service (NHS) Act 1977). There are accounts of the development of this service (Taylor *et al*, 1993) and a few accounts of the clinical characteristics of subsamples of the patients (Dell & Robertson, 1988; Maden *et al*, 1993). Because the concentration of unequivocal and serious violence among people in special hospitals is not seen in other psychiatric samples, these people are central to the exercise of trying to improve knowledge about the relationships between mental disorder and violence.

The present study seeks to present a clinical picture of a complete resident population of patients in special hospitals and to determine what elements of the mental disorders seem most likely to have led to dangerous behaviour.

METHOD

Records for all people resident in the special hospitals from 1 January 1993 to 30 June 1993 inclusive were scrutinised by the two principal researchers (R.D. and D.W.). Each record generally included a number of pre-admission assessment reports provided by psychiatrists (forensic and non-forensic specialists) and other clinicians. The majority of the patients (1564, 90%) had already been resident in special hospital for more than 12 months, and reports from multi-disciplinary case conferences or mental health review tribunal (MHRT) hearings were included. Home Office commentaries, including the official criminal record, were available for the patients (about two-thirds of the sample) on restricted hospital orders (section 37(41) of the Mental Health Act 1983).

Researchers used a coded data sheet which included legal status, socio-demographic, psychiatric, other medical and criminological data. The diagnosis in each case was made by the researchers according to ICD–10 guidelines (World Health Organization, 1992, 1994) on the basis of the best information available, taking the whole record into account. For a small number of cases where no diagnosis could be made on purely documentary evidence, the individual's consultant psychiatrist was contacted for clarification. In 14 cases, resident for less than a week, no diagnosis was possible.

The researchers presented 10 random cases for validation to a panel of experienced forensic psychiatrists. They also presented all cases with diagnostic difficulties, including changing diagnosis, multiple diagnoses or cases where a researcher believed the recorded clinical data did not fit with the record diagnosis. A decision was taken that a diagnosis of personality disorder could be made even in the presence of psychosis (an independent psychiatric disorder) providing that there had been evidence of long-standing emotional or conduct disorder prior to the onset of psychosis, and continuously with a disorder that otherwise fitted the criteria for personality disorder.

For many of the analyses a simplified classification was used. Anyone with severe learning disabilities or with a learning disability as their only psychiatric diagnosis was placed in the learning disability group; pure psychosis included all the people with psychoses but no separately determined personality disorders; the psychosis and independent personality disorder group included people for whom an independent

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personality disorder could also be identified; pure personality disorder meant that no psychosis had ever been recorded; a small miscellaneous group of 43 people with neurotic or organic disorders only were excluded from most analyses.

RESULTS

Demographic characteristics

There were 1746 patients resident for all or part of the study period. Central records could not be traced for six people, so data analyses are based on 1740 cases. Demographic characteristics were very similar to those recorded in annual statistics over the past 10 years, confirming in these respects a typical special hospital population. Most patients were men (1454, 83%; 286, 17% women). Eighty-one per cent of the men and 90% of the women were White, with British Afro-Caribbean people accounting for the only sizeable ethnic minority group, 158 (11%) of the men and 19 (6.6%) of the women. Indian, Pakistani and Black African groups each constituted 1% of the population; there were only two or three people from other ethnic groups, including Chinese and Bangladeshi. Ethnic minority groups were over-represented in the psychosis groups and under-represented in all others.

The patients were between 17 and 88 years of age, with 82% (1427) between 20 and 50. The mean age for men was 39.4 years (s.d. 11.7) and for women 37.2 years (s.d. 11.8). For the men only, the British Afro-Caribbean group was significantly younger at the time of admission and as a resident group than the others (resident White male age range 17–88 years, mean 39.7, s.d. 11.9; resident Afro-Caribbean male age range 20–68 years, mean 36.5, s.d. 9.8; $Z=3.24$, $P=0.001$).

Diagnostic picture

A wide range of adult psychiatric disorders listed in ICD–10 were present, with a total of 2416 diagnoses being assigned to the 1740 people. The most common disorder was schizophrenia (818 cases), most usually in paranoid form. In addition 52 people suffered from delusional disorders and 53 people with schizoaffective disorder. Neurotic disorders were rare (62 cases). Disorders due to psychoactive substance misuse, made strictly according to ICD–10 criteria, do not indicate the extent of practical problems in this area. There was at least one individual who had extensively misused drugs in each group, but alcohol (94), cannabis (39) and multiple drug use disorders (34) were the most common. Twenty-three people had overt adult-acquired brain damage and 272 had learning disabilities. Personality disorders were identified in 713 people.

Except between psychoses, diagnoses were not mutually exclusive. One-third (437) of the patients had two or more disorders, including 116 with three and nine patients with four disorders.

Tables 1a and 1b show the associate diagnoses for the two principal primary diagnostic groups. One hundred and twenty people had a diagnosis both of schizophrenia and independent personality disorder. Independent personality disorder was thus significantly less likely to complicate schizophrenia (120/818, 15%) than the other psychoses (87/197, 44%) ($\chi^2_1=85.1$, $P<0.001$). Nine per cent (61) of the patients with pure schizophrenia had further diagnoses, compared with one-third (38) of those with schizophrenia and an independent personality disorder, and half (297) of those with pure personality disorder. The variation between these three groups was significant at $P<0.001$ ($\chi^2_2=171.3$).

These additional diagnoses were almost exclusively from substance misuse categories. We noted a likely problem of under-recording of substance misuse when relying on ICD–10 diagnostic criteria in a records survey, but we would expect any such error to affect all primary diagnostic groups proportionately. Comparing the three principal groups on this measure (excluding learning disability), while disregarding the distribution of any further complicating diagnoses, the schizophrenia with independent personality disorder group appeared most vulnerable to substance misuse (27/114, 24%; compared with pure personality disorder group 65/461, 14%; and the pure schizophrenia group 50/665, 7.5%) ($\chi^2_2=30.15$, $P<0.001$). The same pattern was found when the other functional psychoses were restored to the calculation.

Legal classification and diagnosis compared

Mental Health Act 1983 classification of 'mental illness', 'psychopathic disorder', 'mental impairment' and 'severe mental impairment' has generally been used alone in other studies of special hospital populations. The overlap between the legal and diagnostic categories was 89%, the corresponding κ coefficient was 0.8, confirming a substantial agreement. All the people with severe learning disabilities were detained under severe mental impairment, and just 12% of those with mild to moderate learning disabilities fell outside the mental impairment category. Psychopathic disorder was generally accounted for by pure personality disorder. Mental illness is not specifically defined in the Act, but even so, 88% of the diagnoses within this category

Table Ia Patients with schizophrenia and additional diagnoses

Diagnoses	*n* (%)
Schizophrenia alone	605 (74)
and personality disorder	82 (10)
and other illness	0
and learning disability	30 (4)
and substance misuse	50 (6)
and sexual deviation	7 (1)
and personality disorder with substance misuse	26 (3)
other[1]	18 (2)
Total with schizophrenia	818 (100)

1. Acquired brain damage ($n=3$); learning disability and substance misuse (1); learning disability and sexual deviation (1); personality disorder and learning disability (6); personality disorder and sexual deviation (4); personality disorder with affective neurosis (1); with substance misuse (2).

Table Ib Patients with personality disorder and additional diagnoses

Diagnoses	*n* (%)
Personality disorder alone	295 (41)
and schizophrenia	82 (11)
and other illnesses	85 (12)
and learning disability	33 (5)
and substance misuse	51 (7)
and sexual deviation	64 (9)
and acquired brain damage	13 (2)
and schizophrenia and substance misuse	26 (4)
others with two or more additional diagnoses[1]	64 (9)
Total with personality disorder	713 (100)

1. Schizophrenia and learning disability (6); schizophrenia and sexual deviation (4); schizophrenia and affective neurosis (1), and substance misuse also (1); other mental illness and learning disability (2); other mental illness, learning disability and sexual deviation (4); other mental illness and substance misuse (29); acquired brain damage (1); learning disability and sexual deviation (8); learning disability and acquired brain damage (1); substance misuse and sexual deviation (5); acquired brain damage and substance misuse (2).

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(965/1095) were reflective of an illness, 85% of a functional psychosis. Less than 3% of the people with a psychotic illness did not have a mental illness classification, but 16% of those with a pure personality disorder diagnosis were classified as having mental illness, not psychopathic disorder. This is perhaps an indication of constructive flexibility in English legislation.

Previous psychiatric treatment

Overall, 93% of the people entering special hospitals had had previous treatment (not merely assessment) in psychiatric services. (For these purposes work in any other context, for example sessions through the school system with an educational psychologist, was excluded.) The majority (68%) of people with learning disabilities had first entered treatment as a child, and only eight were new to treatment on arrival in special hospital. For those with pure psychosis childhood treatment was unusual (10%) and adult entry into treatment prior to special hospital was normal (85%). Evidence of personality disorder, with or without psychosis, tended to lead to earlier first treatment (24 and 32% in childhood, respectively). Comparing the proportions of people presenting as a child with those presenting as an adult in the three psychosis and personality disorder groups, there is a significant linear trend ($\chi^2_1=98.8$; $P<0.001$), reflecting the intermediate position of the mixed diagnostic group in relation to the pure groups.

Behaviour precipitating admission

Most people admitted to a special hospital have been convicted of a serious criminal offence, but a small group of the men (190; 13%) and a larger proportion of the women (89; 31%) had, effectively, been diverted from the criminal justice system. The women, having committed a dangerous act or acts, had more often been transferred, because they were 'out of control', from another, often secure NHS facility, without involving the criminal justice system.

Table 2 shows the full range of problems which, in conjunction with a mental disorder, led to special hospitalisation. Slightly less than half of the patients (842)

Table 2 The range of behaviours which, in conjunction with a mental disorder, led to a special hospital admission

Location from which admitted	Reason	Homicide	Violence	Sex offences	Arson/property	Other crime	No crime	Total
Total	Offence[1]	483	605	163	182	28	279	1740
Court	Offence[1]	253	338	89	131	17	14[3]	842
Medium secure units	Offence[1]	15	65	18	10	3	73	184
	Behaviour[2]							
	Violence[2]	5	52	9	6	1	55	128
	Sexual[2]			7			3	10
	Property[2]		1		2	1	2	6
	Other[2]	3		1			3	15
	Suicidal[2]	3			1	1	6	11
	Illness[2]	1			1		4	8
	Not known[2]	3	1	1				6
General NHS hospitals	Offence[1]	16	53	4	12	2	172	259
	Behaviour[2]							
	Violence[2]	9	28	1	4	1	105	148
	Sexual[2]		1	1			7	9
	Property[2]	1	3		4		3	11
	Other[2]	2	8	1		1	5	17
	Suicidal[2]	1			2		3	6
	Illness[2]		1	1	1		3	6
	Not known[2]	3	12		1		45	61
Prison	Offence[1]	190	132	46	24	5	5[4]	402
	Behaviour[2]							
	Violence[2]	53	56	6	7	1	2	125
	Sexual[2]	1	5	6	2			14
	Property[2]	3	3		6			13
	Other[2]	33	20	16	2	3	1	74
	Suicidal[2]	22	19	6	2			49
	Illness[2]	69	20	11	3	1		104
	Not known[2]	9	9	1	2		2	23
Other	Offence[1]	9	17	6	5	1	15	53

1. Numbers for whom a criminal conviction was at least part of the precipitant of admission.
2. Behaviour not leading to criminal conviction that influenced the admission decision, in some cases in addition to the crime.
3. Found not guilty in court, but risk assessment lead to detention under Section 3 in a special hospital.
4. Remand cases still to be resolved at end of study.

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were admitted in direct consequence of an index offence. The majority of the rest (619/898, 69%) had been convicted of an offence pertinent to the admission but it was generally only as other disruptive or dangerous behaviours emerged in other settings that transfer to special hospital was effected. Occasionally, a transfer from prison, for treatment of a mental disorder, reflected the seriousness of an offence years earlier rather than any renewed violence. Of those 279 people not convicted of an immediate pertinent crime, 167 (60%) had never sustained a criminal conviction, but only 16 had never threatened the safety of others. Table 2 reflects the complexity of these relationships between criminal conviction and non-criminalised but dangerous acts and special hospital admission. Subsequent analyses disregard the distinction between technical offending (a criminal conviction) and other serious antisocial behaviour. Where a person had committed more than one major antisocial act, only the most serious was rated.

As shown in Table 3, violence against another person (including homicide) was by far the most common precipitant of admission overall (1324, 76%), although homicide was unusual in the group with learning disabilities. Sexual offences and arson or criminal damage (usually by fire) were most common in the personality disorder group. The differences in patterns of offending between diagnostic groups was statistically significant ($\chi^2_9=98.2$; $P<0.001$).

Nature of the relationship between mental state and offending

For most people in special hospital, given the nature of their disorder, the diagnosis is likely to remain constant. Details of mental state, however, may show considerable variation over time, and the criminal justice system takes account of this. In order to examine the relationship between aspects of mental state and dangerous behaviour, only individuals who had sustained a criminal conviction pertinent to referral were studied further; they generally had multiple independent reports pertaining to this discrete episode (the index offence), which allowed some reliability check. Civil patients were excluded because reports of symptoms relating to specific incidents were inconsistently present.

In only 45 cases no specific symptoms were noted for the time of the index offence: less than 3% of the violent cases (homicide 15, other violence 17), just one of the property offences, and 12 of the sex offences. For delusions, hallucinations, negative symptoms and affective symptoms, negative as well as positive findings appeared to be well recorded. A clear statement of absence is important, as the absence of recording does not equate with absence of a feature (Taylor & Gunn, 1984).

Ignoring the distinction between people with and without psychosis, Table 4 shows that delusions and affective symptoms, and to a lesser extent hallucinations, were common at the time of the index offence, but particularly when the offence had been violent. Specifically, the proportion of people with hallucinations was higher among those who had committed violent offences (including homicide) than among those who had committed other offences (33 *v.* 22%, $\chi^2_1=14.2$, $P<0.001$). For delusions and affective symptoms this effect was more marked (52 *v.* 27%; $\chi^2_1=70.5$, $P<0.001$ for delusions; 58 *v.* 39%, $\chi^2_1=37.2$; $P<0.001$ for affective symptoms). Almost invariably the delusions rated were persecutory and the hallucinations auditory. The proportions with negative symptoms in the two broad offence groups were similar (18 and 15%, respectively).

Table 4 also confirms that there were almost no psychotic symptoms in the groups without psychosis even though 51 people with learning disabilities had a psychosis as well. The adjusted odds ratios for the psychotic group controlling for offence type (violent or otherwise) were very high: 20.0 (95% CI 13.2–30.3) for hallucinations; 58.9 (95% CI 38.7–88.6) for delusions; 14.1 (95% CI 8.5–24.2) for negative symptoms and 8.1 (95% CI 6.4–10.5) for affective symptoms.

The relationship of the group with psychosis and an independent personality disorder to the pure diagnostic groups showed that the presence of delusions at the time of the index offence was ordered by group: 508 (86%), 124 (53%) and 10 (2%) of those with pure psychosis, psychosis with independent personality disorder and pure personality disorder, respectively, had these symptoms ($\chi^2_2=695$, $P<0.001$, excluding the learning disability and miscellaneous groups). For hallucinations, there were also significant differences between the three main groups ($\chi^2_2=229$; $P<0.001$), but the distinction here was between the psychotic groups with or without independent personality disorders, among whom 326 (55%) and 86 (37%), respectively, had had hallucinations compared with less than 13 (3%) of those with pure personality disorders.

The presence of symptoms at the time of an offence does not necessarily mean

Table 3 Relationship between diagnostic groups and admission-provoking behaviour

ICD–10 diagnostic cluster	Nature of offence/behaviour provoking admission[1]									
	Homicide		Other violence		Sexual offending		Arson/property damage		Totals[3]	
	n	(%)	*n*	(%)	*n*	(%)	*n*	(%)	*n*	(%)
Learning disability	36	(14)	164	(63)	26	(10)	33	(13)	259	(100)
Pure psychosis	231	(34)	352	(52)	46	(7)	48	(7)	677	(100
Psychosis with IPD[2]	78	(31)	128	(51)	24	(10)	20	(8)	250	(100)
Pure personality disorder	119	(27)	180	(40)	67	(15)	83	(18)	449	(100)
Totals	464	(28)	824	(50)	163	(10)	184	(11)	1635	(100)

1. Where two or more relevant acts occurred simultaneously the rating is for the most serious; for transferred prisoners the most serious was also rated whether index offence or immediate precipitant; for 35 cases a rating of a key act was impossible.
2. Independent personality disorder.
3. The small number (28) of 'other' offences, and of (43) miscellaneous other diagnoses were excluded on grounds of their exceptional heterogeneity and small group size. For these purposes they were treated as additional missing numbers (total 70 cases).

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Table 4 Distribution of symptoms as recorded at the time of index crime between patients with and without psychosis, according to the type of offence

Disorder	Type of offence															
	Homicide				Violence				Sex				Property			
	Hallucinations *n* (%)	Delusions *n* (%)	Negative *n* (%)	Affective *n* (%)	Hallucinations *n* (%)	Delusions *n* (%)	Negative[1] *n* (%)	Affective[1] *n* (%)	Hallucinations *n* (%)	Delusions *n* (%)	Negative *n* (%)	Affective *n* (%)	Hallucinations *n* (%)	Delusions *n* (%)	Negative *n* (%)	Affective *n* (%)
Psychosis (all)	143 (46)	232 (75)	81 (26)	230 (74)	195 (53)	304 (82)	100 (27)	272 (73)	28 (41)	35 (51)	22 (31)	49 (72)	39 (58)	49 (73)	28 (42)	55 (82)
Pure personality disorder or learning disability	5 (3)	5 (3)	3 (2)	42 (27)	15 (7)	19 (8)	11 (5)	68 (31)	1 (1)	1 (1)	1 (1)	21 (23)	6 (5)	3 (3)	2 (2)	28 (24)
Total in offence group with symptoms	148 (32)	237 (51)	84 (18)	272 (59)	210 (35)	323 (54)	111 (19)	340 (57)	29 (18)	36 (23)	23 (15)	70 (44)	45 (25)	52 (29)	30 (16)	83 (46)
Totals (1397)		464				593				158				182		

Each person is counted only once within each symptom/sign category, but may appear in more than one category (e.g. having hallucinations *and* delusions). The 28 miscellaneous offences are excluded from this table.
1. 1 case missing.

that the symptoms influenced it (Taylor, 1985). Among those people with a pure psychosis, if delusions were present at all, they tended to be rated as driving the offence. A similar pattern was apparent for the people with psychosis and hallucinations. The group of people with psychosis and an independent personality disorder was different in this respect. As noted, positive symptoms of psychosis were less likely to be recorded in this group than among those with pure psychosis (χ^2_1=98.8; $P<0.001$ for presence of delusions; 22.5, $P<0.001$ for presence of hallucinations). The proportion of delusionally driven offenders among people with psychosis and an independent personality disorder (90, 39%) was lower than for those with pure psychosis (458, 77%; χ^2_1=113.2; $P<0.001$). For hallucinatory drive the respective proportions (59, 25%; and 282, 48%) were in the same direction, but less marked (χ^2_1=34.8, $P<0.001$). Thus, both hallucinatory and delusionally driven offences (especially the latter) were associated more commonly with pure psychosis than with psychosis complicated by an independent personality disorder.

Delusions were most likely to have been rated as a problem at the time of the offence, but they do not necessarily act in isolation. Table 5 shows the interaction between delusions and hallucinations and their driving influence. It confirms that, where hallucinatory drive was recorded, in the pure psychosis group this was in association with delusional drive in 92% of cases. Hallucinatory drive in isolation from delusional drive has minimal effect (3%). In the mixed group, the proportions were similar (78 and 9%, respectively). By contrast, delusional drive alone accounted for a substantial number (30%) of cases of symptomatic influence on offending in the pure psychosis group. Considering those people with hallucinations and/or delusions, a logistic regression was fitted to the presence or absence of hallucinations driving the offence as an outcome, with presence or absence of delusions driving the offence, and disorder group as two independent variables. The odds ratio for delusions driving the offence, among those where hallucinations were driving the offence (controlling for disorder group), was 2.56 (95% CI 1.6–4.0), $P<0.001$. Thus, if hallucinations drive the offence, delusions also tend to drive the offence (where the symptoms occur together). Thus, a combination of delusional and hallucinatory drive appears to have been more influential on the index offence than either alone, or where these symptoms were merely present.

DISCUSSION

Extent and severity of disorder among people in special hospitals

Too often special hospitals have been referred to as prisons, with emphasis on the crimes of the residents rather than their health care needs. There is no denying the violence or other dangerous behaviour that had preceded the admissions of this six-month cohort. Even among the subsample of 279 people who had never been convicted in court, violence to other people was apparent. It is important to emphasise the extent of mental disorder and its relationship to the dangers posed by the individuals.

Although this was a record survey, there was no difficulty in assigning ICD–10 research diagnoses. There was a range of reports of mental state over time by psychiatrists and other clinicians, and a research panel check of reliability. The severity and extent of disorder was highlighted both by the evidence of multiple diagnoses in about one-third of cases and by the extent of previous psychiatric treatment (93%). For people with a psychosis, this is consistent with the finding that serious illness is unusual as a presenting feature (Taylor & Hodgins, 1994). Given the nature both of ICD–10 research criteria and of our stringent application of them, the multiple diagnoses shown are likely to represent minimum comorbidity. This was particularly true with respect to substance misuse.

Most of the people with psychosis presented with a relatively pure form of the illness. There was also a subgroup of people with an illness indistinguishable from schizophrenia (or other functional psychoses), but histories and concurrent features consistent with a diagnosis of an independent personality disorder. The clinical importance of distinguishing such a group is that their risk factors and treatment needs are likely to differ from those of people with either pure psychosis or pure personality disorder. Direct impact of symptoms of illness on offending appears less for this group than for those with pure psychosis, and they seem to be at highest risk of any group for substance misuse.

People with personality disorders were likely to have had some earlier treatment experience (89%), and this did not include therapeutic effort outside psychiatry. We do not know how people with personality disorders are selected for special hospital beds, but there are many more such people in prison than in the special hospitals (Gunn *et al*, 1991). A demonstration of some previous treatment may have merely been a selection factor for directing such people back into treatment. It is tempting to speculate whether the fact that only a minority received treatment as children, for what must be regarded as a developmental disorder, represented a missed opportunity.

Table 5 Interaction between major symptoms recorded at the time of the offence within the groups with psychosis

Symptoms	Pure psychosis *n* (%)		Psychosis with independent personality disorder *n* (%)	
Delusional and hallucinatory drive	260	(44)	45	(19)
Delusional drive and hallucinations only	19	(3)	7	(3)
Delusional drive without hallucinations	178	(30)	38	(16)
Hallucinatory drive and delusions only	8	(1)	5	(2)
Hallucinatory drive, no delusions	14	(2)	9	(4)
Hallucinations and delusions only	23	(4)	15	(6)
Hallucinations only, no delusions	2	(<1)	5	(2)
Delusions only, no hallucinations	19	(3)	14	(6)
No hallucinations or delusions	69	(12)	98	(41)
Total	592[1]	(100)	236	(100)

1. Data for one pure psychosis case not known.

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Under-estimation of substance misuse and its importance

A problem in showing the importance of alcohol and other drug misuse in this sort of population is that in relation to offending a distinction has to be made between intermittent substance misuse, including use prior to the offence, and use to an extent resulting in mental and behavioural disorders. Here only the latter was rated. The evidence of the relevance of alcohol or other drugs to violent and other dangerous offending by people with a mental disorder has been mixed (Taylor & Monahan, 1996). Studies seem increasingly likely to find that substance misuse is a significant and important factor which increases the risk that a person with a mental disorder will be violent (Swanson *et al*, 1990; Taylor, 1993). The greater likelihood of community placement for people with serious mental disorders includes the greater proximity to alcohol and drugs. The low frequency of substance misuse diagnoses in this sample (20% maximum) might be a function of the long stay in special hospital and therefore of admission at a time when such problems were more unusual among people with a mental disorder. Alternatively, it might represent under-recording. In an interview study of 65 people in Broadmoor from a consecutive admission sample (M. Quayle & F. Clark, personal communication) it was found that, taking a cut-off point of 50 units of alcohol per week for men and 35 units per week for women, nearly 40% of the men and two-thirds of the women had been drinking to unhealthy levels prior to admission. Self-report thus suggested a higher level of problem drinking than the records did. More than 40% considered that alcohol had been pertinent to their offence.

Why should records underplay the problem? It may be something that pervades all stages of clinical practice for offenders. When Taylor & Gunn (1984) observed such under-recording in a prison remand sample, overall or at the time of the offence, the prison medical directorate's view was that, given an under-resourced service, tasks had to be prioritised. The courts, as a rule, do not take substance misuse into account in relation to most offences, as it is no defence and little mitigation. For people admitted to any hospital for treatment, pre-admission substance misuse is worthy of rigorous re-evaluation. Failure to do so could lead to serious under-estimates of treatment need and of potential risk on return to the community.

Direct impact of symptoms of mental illness on violence

A case record study such as this must be cautious about commentary on mental state, since it is wholly dependent on others for clinical descriptions. Here there was some safety in the number of accounts available from within and outside the special hospitals and the remarkable consistency between them.

For the people with psychosis, positive and negative symptoms were highly likely to be present at the time of the offence, as were affective symptoms, which were mainly of flat or incongruent affect. What might be important is the very high proportion of people for whom the positive symptoms of psychosis, principally delusions, were said to have driven the index offence. An explanation of this might be that, as the clinicians originally recording the information were doing so for reports to courts, they introduced a possible bias of seeking to provide mitigation for the individual by attributing blame to the illness. If that were the only explanation, then it would be expected that the majority of people, regardless of diagnosis or symptom type, would have symptomatology directly linked to the index offence. This was not the case. Only people with pure psychosis were more likely to have symptoms recorded as driving the offence; those whose psychosis was complicated by independent personality disorder were significantly less likely to have their symptoms rated as of direct relevance.

Although there are other studies that have shown evidence of the probable importance of delusions as a risk factor for violence (Link & Stueve, 1994; Swanson *et al*, 1996) there is only one that has explicitly attempted to evaluate the impact of such symptoms on a particular act (Taylor, 1985). In that study of prisoners awaiting trial, both interviewed and rated from multiple record sources, it was shown that psychotic symptoms were reported as likely to have been present in over 90% of offenders, but symptoms (delusions only) implicated directly with the offending in only about 40%. It was also true, however, that if the men with psychosis were grouped according to the seriousness of their offence, then there was a significantly greater likelihood that delusional drive was associated with serious rather than trivial offending. Even in the presence of positive symptoms, the more trivial offences appeared more rationally motivated. In this special hospital sample, the individuals had committed very serious offences, as shown. The finding of a particularly high rate of delusional drive among such serious offenders is thus consistent with earlier work.

It has previously appeared that hallucinations are rarely associated with violence (Taylor, 1985; McNeil, 1994). There has always been a note of caution in such an assertion, in that, in a clinical setting at least, violent command hallucinations may be rendered safe only by clinical intervention (Hellerstein *et al*, 1987). McNeil (1994) noted that where significant positive associations have been shown between hallucinations and violence this has usually been in the context of other psychotic symptoms. That has proved to be the case in this present study. Swanson *et al* (1996) also found a similar interaction between delusions and hallucinations associated with a higher report of generally less-serious violence, in the American Epidemiologic Catchment Area data.

Work (including interviews) is continuing in the special hospitals with a subgroup of the people with psychosis, but another important problem for further work is the apparent absence of pertinent symptoms among the people with personality disorder. For these people, only affective symptoms were likely to be recorded present at the time of the offence. Personality disorder is as much a diagnosis of exclusion as of inclusion, and psychotic symptom exclusion is implied, if never quite explicit, in ICD–10. Clinical impression suggests that many such people have cognitive disorders that at the very least amount to over-valued ideas. Beliefs of entitlement, of superiority, and jealous or paranoid beliefs are all common among those who are said to have one of the personality disorders commonly associated with offending. The apparent absence of relevant symptoms could be an artefact of clinician mind-set having made a diagnosis which is supposed to exclude them.

Social context

An illness and its symptoms do not occur in a vacuum. The influence of previous social experience on symptoms and effect of the

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illness on capacity to make and maintain social relationships are each likely to be pertinent (Heads *et al*, 1997). After all, delusions in psychosis are far more common than violence.

Many studies of those who have been violent focus exclusively on men. Women are a minority in this population, but nevertheless the data offer an opportunity to look beyond the men, and this is particularly important as information is beginning to make it clear that, within mental disorder groups, men and women are probably equally likely to be violent (Lidz *et al*, 1993; McNeil & Binder, 1995). Perhaps there are differences in seriousness of violence, or in other aspects of presentation, which determine the preponderance of men in high-security institutions. In pure psychosis, the power of delusion is little affected by this factor. Demographic and social variables do appear, however, to have implications for both diagnoses and offence type in such a population.

Mental health care of special hospital patients

While this records survey of people in special hospitals does not detract from the view that, at least around the time of admission, almost all of the people had committed dangerous acts, it emphasises their psychiatric needs. The majority have schizophrenia and most of the individuals had already had extensive treatment before admission. Nevertheless, for this group particularly, mental state is on record as having had a significant influence on the most serious offending.

For the other disorders better descriptions of the key clinical criteria are needed. These would not only assist treatment monitoring, but could also enhance understanding of the links between mental disorder and offending and militate against rejection, particularly of people with personality disorder. With respect to substance misuse, standard diagnostic systems and residence in a closed institution may combine to create a risk of under-estimating such problems.

CLINICAL IMPLICATIONS

- When a person with schizophrenia or another psychotic illness is seriously violent delusions are likely to have been a major factor in causing the offence, so specific treatment is important.
- Alcohol and illicit drug misuse has probably become more prevalent among people with a serious mental disorder. Greater clinical recognition of the problem and more targeted management is important.
- Mental state definition among people with personality disorder needs urgent improvement.

LIMITATIONS

- The study was record dependent and therefore subject to other people's clinical biases in mental state description and diagnostic judgement.
- The population studied is of people designated by their placement as having both mental disorder and seriously dangerous propensities, but the threshold for admission is not precisely defined and the sample thus not likely to be complete in these principal dimensions.
- The population is a resident cohort, and as the average length of stay for special hospital subjects is 8.5 years, covering a very wide range of disorders, changing professional social conditions may have influenced the findings.

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