vehicles of infection widely distributed for consumption in the home.

The number of outbreaks in which the vehicle of infection was proved was small, and one reason for this may have been delay in reporting outbreaks to the health authorities with the result that foods consumed were disposed of before the investigation began. It is often possible to identify a vehicle of infection, however, simply by comparing food histories of ill and well people at functions. This approach is especially rewarding when large groups are concerned, such as at schools, institutions, and receptions, and where a choice of foods is available. A questionnaire containing a list of foods available and symptoms of illness can be designed and distributed easily and quickly. The Communicable Disease Surveillance Centre would be glad to assist in designing such surveys and in analysing results.

Several incidents occurred in 1982 which show the success and importance of national surveillance and the benefits of an epidemiological approach to investigation. For example, 32 reports of *Salmonella napoli* infection, mostly in children in the south of England, were received at the Communicable Disease Surveillance Centre between May and June 1982. As a common source of infection seemed likely an epidemiological investigation was undertaken by the Communicable Disease Surveillance Centre together with local laboratories and environmental health departments.[2] Case control studies showed a strong association between illness and consumption of two types of imported chocolate covered bars; and the association was confirmed by isolation of *S napoli* from samples of products. The outbreak quickly came to an end after a public health warning issued by the Department of Health and Social Security on 23 July and withdrawal of the chocolate bars from sale. Altogether 245 cases were reported, including 51 people who were admitted to hospital. Only 20% of available stocks had been sold when the cause of the outbreak was identified and it is probable that about 200 hospital admissions and many thousands of cases were prevented by early detection of the outbreak and withdrawal of the remaining 80% of chocolate bars from the market. In a second example an unusual increase in reports of *S oranienberg* to the Communicable Disease Surveillance Centre was noted during the autumn. Telephone inquiries showed that in 22 cases, 18 from England and Wales and four from Scotland, the sufferers had stayed at the same hotel in Ibiza in the period mid August to mid September. Spanish health authorities were informed of these findings. Recording of recent travel on the Communicable Disease Surveillance Centre report forms is particularly helpful in detecting this sort of problem.

### References


1 McCoy JH. Trends in salmonella food poisoning in England and Wales 1941-72. *J Hyg Camb* 1975;**74**:271-82.

2 Gill ON, Sockett PN, Bartlett CLR, *et al.* Outbreak of *Salmonella napoli* infection caused by contaminated chocolate bars. *Lancet* 1983;i:574-7.


# *The State of the Prisons*

# The mental health of prisoners

## I—How many mentally abnormal prisoners?

RICHARD SMITH

The problem of managing effectively the mentally abnormal who offend against the law seems to be one of those chronic problems that our society and many others cannot solve.[1-5] Maybe there was a golden age when those people who were crazy or simply odd and unable to cope with life without becoming aggressive or antisocial were able to live in the warmth of a tolerant society, but almost certainly there wasn't. For as long as history has noticed such people they have drifted from prisons to hospitals to asylums to hostels, and usually those institutions have been anxious to be rid of them. Dr Jim Orr, a recent director of the prison medical service, was adamant that the mentally ill did not belong in prison,[2] and the then director of the prison department,[6] the May inquiry into the prison services,[7] and the Parliamentary All-Party Penal Affairs Group[8] have all agreed with him. But NHS hospitals are often unwilling to take even those who are defined as mentally ill within the terms of the Mental Health Act, and certainly want nothing to do with the mentally abnormal who cannot be defined as mentally disordered within the Act. The special hospitals, too, are willing to take only those who fall within the Act and who are thought to be treatable, and many fulfil neither condition.[8 9]

In 1975 the Butler Committee on Mentally Abnormal Offenders called optimistically for all aspects of the problem of mentally abnormal prisoners to be "tackled with urgency, determination, and a massive injection of money."[4] Nine years later urgency, determination, and money are still in short supply but the problems remain and must be confronted. In this article and the next I consider the problems mainly from the perspective of prisons: how many mentally abnormal people are there in prison; what is the effect of prison on mental health; what happens to mentally abnormal prisoners and how might their problems be better managed?

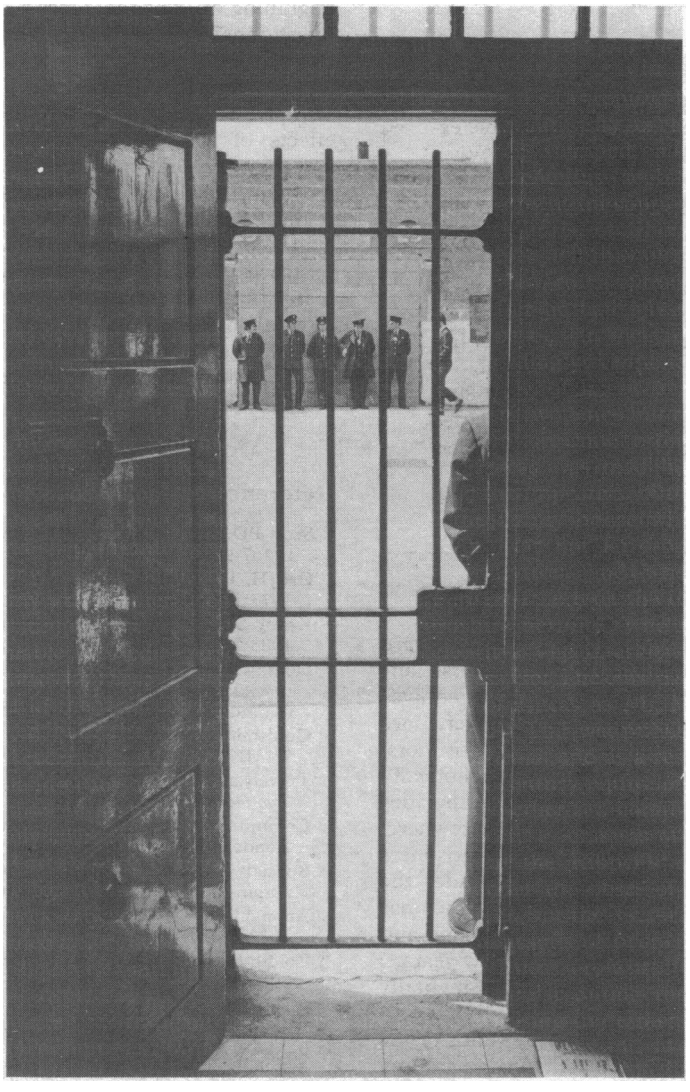
### How many mental abnormal prisoners?

Asking how many mentally abnormal people there are in prison is similar to asking how many people there are with drink problems in the community or how many people on a general practitioner's list are psychiatrically unwell: by varying the de-

**British Medical Journal, London WC1H 9JR**
RICHARD SMITH, MB, CHB, assistant editor

finitions, the group among whom you do your study, and your methods of detection you can come up with figures that vary tenfold or more. Indeed, the problems of measurement are greater in prison than they are in the community, for some prisoners will tell you what they think you want to hear if they think it will get them out of prison more quickly, while others are unwilling to cooperate in any way, particularly if there is a suggestion that they might fall into the hands of psychiatrists.

Yet several researchers have attempted to determine the numbers of mentally abnormal prisoners; in fact this aspect of prisons has been studied more than almost any other, which is not saying much. Coid has recently reviewed the 11 best studies carried out this century and attempted to put figures on the number of mentally abnormal people in prison.[10] Five of the studies are American; one is from 1918 and one from the 1950s; and five are on fewer than 200 prisoners. They all used different definitions; all were on different categories of prisoners and used different methods and so cannot be easily compared with each other; and none had control groups from outside prison. Coid makes clear all these limitations and suggests that the answer to how many mentally abnormal prisoners there are cannot be answered with any confidence.



He does conclude from his review, however, that major psychosis is no more common among prisoners than among the general population. The range for the prevalence of psychosis varied from 1% to about 6%, but the higher figures were all in American prisons and may tell us more about how the Americans diagnose schizophrenia than about how many prisoners are psychotic. Dr Coid's conclusion on the prevalence of psychosis might, I suspect, come as something of a surprise to prison doctors who work in local and remand prisons: they feel that they are managing more psychotics than general practitioners outside the walls. It is true that prisoners who are acutely psychotic are easier to get into hospitals than most other categories of mentally abnormal offender and so may be whisked away from the prisons, but the chronically psychotic, the "burnt out cases," are left coming in and out of prison on short sentences—as Dr R A H Washbrook, a prison doctor from Birmingham, made clear in an article in the *Lancet* in 1977.[11] Indeed, a recently completed survey of prisoners at Brixton has shown that almost 9% of the prisoners were psychotic (P Taylor, J Gunn, personal communication, 1984). Brixton is, however, almost exclusively a remand prison, and most of these psychotic prisoners are probably not eventually sentenced to prison.

One condition that Coid concluded was much commoner among prisoners than among the general population is mental handicap. A study of 1100 prisoners at Wakefield in the early 1950s categorised as many as 45% as being subnormal[12 13]; a more recent study from Perth found 14% to be subnormal.[14] Dr Washbrook in his study pointed out that as many as six prisoners a year might come to Birmingham prison because they could not be controlled in mental subnormality hospitals.[11] Certainly, as Dr Graham Robertson has shown,[15] fewer and fewer mentally handicapped prisoners are going the other way from prison to hospital. More mentally handicapped offenders may be managing to get by on probation orders in the community, but the suspicion must be that there are increasing numbers of mentally handicapped prisoners in British prisons.

The largest group of mentally abnormal offenders in prisons are, not surprisingly, those with personality disorders—the sociopaths, the psychopaths, call them what you will. Faulk in his study of 72 prisoners being released from Winchester prison estimated that 75% were alcoholic or had a personality disorder.[16] A study of parolees in Missouri suggested that 78% of the men and 68% of the women were sociopaths.[17] But in the study of Wakefield prisoners only 8% were labelled psychopathic.[12 13] This is undoubtedly a category where the figures are at their most meaningless: psychiatry is not very sure how to diagnose these people or how to manage them, and the fashion seems to be increasingly for psychiatrists, and especially prison psychiatrists, to leave them alone.

A final category that some of the studies have looked at is neurosis. The study of Missouri parolees classified 12% of the men and 11% of the women as suffering from anxiety neurosis.[17] Professor John Gunn and colleagues found in their detailed study of a random sample of sentenced prisoners in the south east of England that 9% could be classed as neurotic, and they found, too, that prisoners tended to score higher on a neurotic scale at the beginning of their sentences.[18]

## How many need treatment?

This study of prisoners from the south east is one of the most detailed of the studies and also one of the most recent and relevant.[18] It attempted to get round the problem of categorising the large number of prisoners who are neither completely mad nor obviously normal by determining how many of them psychiatrists would regard as cases. Their conclusion was that as many as a third could be regarded as cases suitable for treatment, and they also found that about a third of prisoners would like some form of psychiatric help. Some of these prisoners, however, like some

of the judges who sentenced them, had inflated ideas about what psychiatry might achieve. Dr Washbrook in his bald study, which gives little information on methods, was also concerned primarily with the question of how many prisoners needed psychiatric help: his three surveys—each of 600 prisoners—suggested that an average of about 9% of prisoners needed psychiatric care.[11] The main point of his article was, in accord with the philosophy of the then director of the prison medical service, that psychiatric care could best be provided outside prison.[2]

> Prisons, hospitals and reception centres for vagrants and the homeless are basically asylums which to a considerable extent share a stage army of handicapped persons. When mental hospitals are full, prisons are relatively empty, and the present day scene suggests that the converse is equally true. Of vagrants, 21% are mentally or physically handicapped and 60% have been in prison. Of homeless patients admitted to hospital, 50% have criminal records and about 75% have previously been in a mental hospital. Reception centre inmates have frequently been in prison (59%) or in a mental hospital other than for alcoholism (24%). Of habitual prisoners one third have a severe mental disorder and 88% have severely deviant personalities, and even those admitted to prisons for the first time have been found to be considerably handicapped.
>
> Peter Scott[22]

From these studies we can conclude that many prisoners are anxious and depressed, many of them have abnormal personalities, and more of them are mentally subnormal than in an equivalent group in the community. Acute psychosis, however, does not seem to be much commoner among sentenced prisoners, but there are still at any one time a number of psychotically disturbed people in our prisons, whom the prison authorities and many others think could best be managed elsewhere. The prison department keeps figures on the numbers of prisoners whom it has been agreed merit hospital treatment under the terms of the Mental Health Act and yet for whom a place has not yet been found. At the last count it was 316 in England and Wales and the figure has in fact fallen over the past few years.[19] This figure does not by any means represent all the mentally disordered people in prison, and it probably does not even represent all those who might merit treatment under the terms of the Act. Prison doctors have experienced such difficulty in finding places for mentally disordered prisoners that they often do not even try. Furthermore, some of the psychiatrists to whom I spoke suggested that some prisoners who are mentally disordered but who do not present problems of management are just left alone in the prisons—maybe even unnoticed. Dr Ingrey-Senn, acting director of the prison medical service until October 1983, resented this suggestion.

But, although the prison department produces this figure and although Dr Coid has managed to find 11 studies of the number of mentally ill prisoners, we do not really know a great deal about the mental state of the 44 000 prisoners in English and Welsh prisons in January 1984. For instance, the study of Professor Gunn and others was added on to a census carried out by the Home Office Research Unit in February 1972.[18] Many things have changed in the last 10 years, and this problem of the mental health of prisoners is another one where careful, vigorous, long term, and continuing research on the part of the Home Office might produce rich rewards.

## How does imprisonment affect mental health?

The high levels of mental abnormality seen among prisoners may be due to the mentally abnormal being more likely to commit crimes or it may be due to their being more likely to be caught and sentenced, or prison itself may produce the mental abnormality. Probably all three factors contribute. Many studies have been carried out to look at the psychological effects of imprisonment, but again few of them have been of the highest standard.

Professor Gunn and others found that prisoners at the beginning of their sentences scored highly on the general health questionnaire for tenseness, anxiety, and depression, and that this score fell significantly over the next six months when compared with the change in the scores of those well into their sentences.[18] Most of the studies carried out have looked at the effects of long term imprisonment on mental health,[11 20 21] and they find that long term prisoners develop all sorts of coping mechanisms. These mechanisms seem to be effective, for a large review of the psychological effects of imprisonment failed to find evidence of a decline in intelligence and other psychometric measures.[21] Many prisoners do, however, become extremely institutionalised, and long term imprisonment will obviously reduce a man's ability to cope in the outside world. Some of the worst effects of long term imprisonment arise not from prison itself but from the loss of relationships with people in the outside world.

## References


1 Scott PD. Punishment or treatment: prison or hospital? *Br Med J* 1970; ii:167-9.

2 Orr JH. The imprisonment of mentally disordered offenders. *Br J Psychiatry* 1978;**133**:194-9.

3 Kilroy Silk R. The abandonment of the "unfortunates." *Health Services* 1983;25 March:8.

4 Home Office. Department of Health and Social Security. *Report of the committee on mentally abnormal offenders.* London: HMSO, 1975. (Cmnd 6244.) (Butler committee.)

5 Goldsmith MF. From mental hospitals to jails: the pendulum swings. *JAMA* 1983;**250**:3017-8.

6 Trevelyan DJ. Cited in: Parliamentary All-Party Penal Affairs Group. *Too many prisoners.* Chichester: Barry Rose, 1980.

7 Committee of Inquiry into the United Kingdom Prison Services. *Report.* London: HMSO, 1979. (Cmnd 7673.) (May committee.)

8 Special Committee on the Special Hospitals. *The future of the special hospitals.* London: Royal College of Psychiatrists, 1983.

9 Anonymous. Principles for the future of the special hospitals. *Br Med J* 1983;**287**:854-5.

10 Coid J. How many psychiatric patients in prison? *Br J Psychiatry* (in press).

11 Washbrook RAH. The psychiatrically ill prisoner. *Lancet* 1977;i:1302-3.

12 Roper WF. A comparative study of the Wakefield prison population in 1948. Part 1. *British Journal of Delinquency* 1950;i:15-28.

13 Roper WF. A comparative study of the Wakefield prison population in 1948 and 1949. Part 2. *British Journal of Delinquency* 1951;i:243-70.

14 Bluglass R. MD Thesis. University of St Andrews. 1967.

15 Robertson G. The 1959 Mental Health Act of England and Wales: changes in the use of its criminal provisions. In: Gunn J, Farrington DP, eds. *Abnormal offenders, delinquency, and the criminal justice system.* Chichester: John Wiley and Sons, 1982.

16 Faulk M. A psychiatric study of men serving a sentence in Winchester prison. *Med Sci Law* 1976;**16**:244-51.

17 Guze SB. *Criminality and psychiatric disorders.* New York: Oxford University Press, 1976.

18 Gunn J, Robertson G, Dell S, Way C. *Psychiatric aspects of imprisonment.* London: Academic Press, 1978.

19 Home Office. *Prison statistics England and Wales 1982.* London: HMSO, 1983. (Cmnd 9027.)

20 Cohen S, Taylor L. *Psychological survival: the experience of long term imprisonment.* Harmondsworth: Penguin, 1972.

21 McKay HB, Jaywardene CHS, Reddie PB. *The effects of long term incarceration and a proposed strategy for future research.* Ottawa: Solicitor General of Canada, 1979.

22 Scott PD. Violence in prisoners and patients. In: Wolstenholme GEW, O'Connor M, eds. *Medical care of prisoners and detainees.* Amsterdam: Elsevier, 1973.