

Health of elderly male prisoners: worse than the general population, worse than younger prisoners

SEENA FAZEL, TONY HOPE¹, IAN O'DONNELL², MARY PIPER³, ROBIN JACOBY

University of Oxford Department of Psychiatry, Warneford Hospital, Oxford OX3 7JX, UK

¹Department of Public Health and Primary Care, Institute of Health Sciences, University of Oxford, Oxford, UK

²Institute of Criminology, Faculty of Law, University College Dublin, Ireland

³Prison Health Policy Unit, National Health Service Executive, London, UK

Address correspondence to: S. Fazel. Fax: (+44) 1865 249253. Email: seena.fazel@psych.ox.ac.uk

Abstract

Background: assessment of the health of men aged 60 and over in English and Welsh prisons.

Methods: 203 men were interviewed from 15 prisons, comprising one-fifth of all sentenced men in this age group in England and Wales. Assessment included semi-structured interviews covering chronic and acute health problems, and recording of major illnesses from the medical notes and prison reception health screen.

Results: 85% of the elderly prisoners had one or more major illnesses reported in their medical records, and 83% reported at least one chronic illness on interview. The most common illnesses were psychiatric, cardiovascular, musculoskeletal and respiratory.

Conclusion: the rates of illness in elderly prisoners are higher than those reported in other studies of younger prisoners and surveys of the general population of a similar age. The increasing number of elderly people in prison poses specific health challenges for prison health-care services.

Keywords: *Barthel index, health services, prisoners, prisons, smoking*

Introduction

The number of elderly prisoners has been increasing. In England and Wales, the number of people aged 60 and over in prison has more than trebled in the last decade, and there are over 1000 elderly men in prison (statistics from the Prison Research and Statistics Group, Research, Development and Statistics Directorate, Home Office, London, December 1998).

Although they make up <2% of the prison population, little is known about the health needs of these prisoners and what services they require. The number of elderly prisoners is projected to increase further because of changes in sentencing and demographic shifts in the population [1]. Information on their health problems and needs is necessary so that prison and health service managers can plan to provide a standard of care equivalent to that available in the community.

Younger adults in prison suffer high rates of infectious disease, chronic illness, drug abuse and psychiatric morbidity [2, 3]. However, research on the physical health of elderly prisoners has been inconclusive. One

study found that the use of medical services declines with age [4], while another found increased levels of health-care use in elderly subjects [5]. A study of 119 men aged 50 and over in a prison in Iowa, USA, found high rates of hypertension, arthritis and previous myocardial infarction [6]. We are not aware of any similar research on elderly prisoners in the UK.

Here, we report an interview- and case-note-based survey of the health problems of a sample of elderly men who were sentenced prisoners in England and Wales.

Methods

Prisons and prisoners

Men 60 years and older are scattered widely across over 90 penal institutions in England and Wales. We selected prisons that were within 100 miles of Oxford and held at least 10 older prisoners: 15 prisons met the criteria. We obtained information on all elderly prisoners to

investigate whether our sample was representative in terms of time served, offence category and type of prison.

All sentenced inmates in these prisons aged 60 and over were approached, and informed that the survey was confidential and voluntary. Written consent was obtained before interview. Interviews were conducted in private within the prison between April 1999 and March 2000 by a specialist registrar (S.F.). The project was approved by the Prison Health Service research ethics committee.

Data collection

We collected demographic information from each man using a semi-structured interview. Data on self-reported health problems were collected using the scheme described by Burvill *et al.*, which enquires about problems in various body systems [7]. We studied each subject's medical records and reception health screen for past or present major illnesses and current medication. We read all written entries and letters in the records to gather this information. Criminological information was gathered from the local prison database. Barthel scores were calculated for each subject. Social class was calculated using the allocations found in standard British government sources for present occupation or last main occupation [8]. Psychiatric morbidity was further assessed by semi-structured standardized interviews and is reported elsewhere [9].

Results

Two hundred and thirty-three men were approached, of whom 203 were interviewed, representing 19.2% of the English and Welsh sentenced population of men aged 60 and over. The 30 men (14.8%) who refused consent did not differ significantly from those who gave consent with regard to age (65.6 *versus* 65.5) but had been in prison longer (median length of time 59 months *versus* 16 months; $\chi^2=3.40$, $P<0.001$). The mean age of the subjects interviewed was 65.5 years (range 60–88, SD 4.8) compared with a mean age of 64.9 years (SD 4.8) for the total population of sentenced men aged 60 and over in England and Wales. Twenty-eight men were aged 70 and over, and four were in their 80s.

The characteristics of the sampled population were not significantly different from those of the total population of sentenced men aged 60 and over in prison in terms of time served, category of offence, type of prison and ethnic origin [9]. Various demographic measures are presented in Table 1.

Prisoners rated their general health, and 36% reported it to be good or very good (Table 2). However, 83% of elderly prisoners reported a long-standing illness or disability. The proportion with acute sickness—illnesses which had started in the previous 3 months—was 19%.

Table 1. Demographic information on male prisoners aged 60 and over

	No. (and %) of prisoners
Marital status	
Divorced/separated	86 (42)
Married	63 (31)
Single	31 (15)
Widowed	23 (11)
Occupation at time of offence	
Employed	82 (40)
Unemployed	29 (14)
Retired	61 (30)
On long-term sickness benefit	29 (14)
Social class	
1 (professional and managerial)	11 (5)
2 (intermediate)	23 (11)
3.1 (skilled manual)	12 (6)
3.2 (skilled non-manual)	91 (45)
4 (semi-skilled)	39 (19)
5 (unskilled)	26 (13)
Unknown	1 (0.5)
Educational attainment	
No qualifications	134 (66)
CSE, O level or equivalent	11 (5)
Vocational	37 (18)
A level or above	19 (9)
Unknown	2 (1)
Accommodation	
Privately owned	66 (32)
Rented	129 (64)
Hostel/temporary	3 (1)
Other	4 (2)
Unknown	1 (0.5)

Table 2. Self-reported general health of elderly prisoners, younger prisoners and community-dwelling men aged 65–74 years

	% of subjects		
	Prisoners ≥60 years	18–49 years ^a	Community-based elderly men ^b
Health status			
Very good	11	20	25
Good	25	41	37
Fair	36	32	28
Bad	17	2	8
Very bad	11	1	2
Taking prescribed medication			
With long-standing illness or disability	83	46	65
With acute sickness	19	19	18

^aSurvey of the Physical Health of Prisoners, 1994 [10].

^bHealth Survey for England, 1996 [11].

Major illnesses recorded in the notes and self-reported chronic illnesses are summarized in Table 3. The findings in Tables 2 and 3 are compared with those of two previous studies of comparable groups: 992 male

Table 3. Major illnesses recorded in the medical notes and self-reported chronic illnesses of the elderly prisoners interviewed compared with younger prisoners and community-dwelling men aged 65–74 years

System	No. (and %) of people			
	Major illnesses recorded among prisoners aged ≥60 years	Self-reported chronic illnesses		
		Prisoners ≥60 years	18–49 years ^a	Community-based elderly men ^b
Psychiatric	92 (45)	18 (9)	NA	1
Cardiovascular	71 (35)	72 (36)	3	29
Musculoskeletal	48 (24)	88 (43)	16	25
Respiratory	31 (15)	43 (21)	15	12
Genitourinary	26 (13)	34 (17)	1	4
Endocrine	21 (10)	18 (9)	2	9
Gastrointestinal	21 (10)	32 (16)	5	8
Neurological	18 (9)	20 (10)	5	4
Dermatological	12 (6)	16 (8)	3	2
Hearing/eyesight	12 (6)	30 (15)	4	NA
Haematological	6 (3)	2 (1)	0	1
Other	13 (6)	14 (7)	0	4
No illness	31 (15)	34 (17)	NA	NA

^aSurvey of the Physical Health of Prisoners, 1994 [10].

sentenced general prisoners interviewed in 1994 in England and Wales aged 18–49, who were studied for self-reported physical morbidity and use of health-care services [10]; and 895 community-dwelling elderly men aged 65–74 in whom a variety of self-reported health measures were assessed as part of the Department of Health’s 1996 Health Survey of 16 000 men and women in England [11].

The most common major illnesses recorded in the medical records of these prisoners were psychiatric, cardiovascular, musculoskeletal and respiratory. The discrepancy between a past or present history of psychiatric illness recorded in the prison medical notes and that reported on interview was highly significant ($\chi^2=8.28, P<0.001$). The difference between musculoskeletal problems mentioned on interview and reported in prison medical records was also significant ($\chi^2=3.94, P<0.001$), as was the difference for hearing or eyesight problems ($\chi^2=2.96, P<0.01$).

The most common diagnoses recorded in the prison medical notes were angina or ischaemic heart disease (in 40 men; 19.7%), osteoarthritis (in 27; 13.3%), hypertension (in 27; 13.3%), diabetes mellitus (in 17; 8.4%), chronic obstructive pulmonary disease (in 14; 6.9%), and asthma (in 11; 5.4%). On self-report, 68 (33.5%) reported a past head injury with loss of consciousness, 11 (3.5%) reported a past history of intra-cranial bleed, seven (3.4%) said they had epilepsy and three (1.5%) reported a history of meningitis.

Ninety-three subjects (45.8%) did not smoke. Current smokers consumed an average of 15.5 (SD 10.3) cigarettes per day. Information was not gathered on the quantity of alcohol consumed before prison entry.

Table 4. Barthel scores (maximum 20) of 203 prisoners aged 60 and over

Barthel score	No. (and %) of prisoners
16	1 (0.5)
17	2 (1)
18	3 (1)
19	13 (6)
20	184 (91)

The degree of functional disability was measured using the Barthel index (Table 4). Nineteen (9.4%) had Barthel scores of <20, most of whom were unable to climb stairs. The six prisoners with scores of ≤18 had additional disabilities, such as the inability to wash themselves independently.

Discussion

This study describes the health problems of 203 sentenced men aged 60 and over in 15 prisons in England and Wales. Two main conclusions can be drawn. First, there are high rates of morbidity in various measures of general health—including major illnesses—recorded in the medical notes, and chronic illnesses reported at interview. Secondly, there seem to be important differences between the health problems of this sample and those of younger prisoners and elderly people at home reported in other studies. This implies that the health-care planning of elderly prisoners cannot be made on estimates of morbidity in younger inmates or community-based elderly people.

A limitation of this study is that prisoners' health was assessed exclusively by self-report and reviewing the medical notes. Including a physical examination may result in higher morbidity rates, as prison medical records underdetect the morbidity of prisoners [12].

Most illnesses reported by elderly prisoners were psychiatric or affected the cardiovascular, musculoskeletal or respiratory systems. There are similarities between these findings and those in North American prisons. A survey of 119 men aged 50 and over in a prison in Iowa found that the main illnesses reported were musculoskeletal (arthritis) and cardiovascular (hypertension and previous myocardial infarction) [6]. A notable difference is that 22% of the Iowan sample had a venereal disease while only two cases (1%) were reported in this sample. Another survey of 48 Canadian inmates aged over 44 found high rates of self-reported musculoskeletal and circulatory disorders, but also 58% with visual or hearing disorders—higher than the 15% reported in this sample [13].

Although we found higher levels of morbidity than that reported in younger prisoners and older people at home, the rates of self-reported chronic illness in this study (83%) are similar to a study of 103 elderly patients with depressive illness, 96 of whom were inpatients, and 80% of whom reported chronic illness [7]. The prevalence of problems in the musculoskeletal (37%), cardiovascular (40%) and respiratory systems (13%) in that study are comparable to rates in the present one. We found that about 10% of prisoners aged 60 and over were functionally disabled in activities of daily living. With projected increases in the population of elderly prisoners, prisons may have to consider the modification of their physical environments to accommodate these needs.

We found differences between the rates of psychiatric and musculoskeletal illness recorded in the medical notes and those reported on interview. One explanation of these findings is that older men may minimize their psychiatric symptoms, but the two methods of estimating psychiatric morbidity are not strictly comparable. Medical records note serious illnesses in the past, such as deliberate self-harm or alcohol abuse, which prisoners are unlikely to report as chronic psychiatric illnesses. In contrast, the rate of musculoskeletal illness was higher on self-report than in the medical notes. It may be that some prisoners somatize mental disorders (such as depression and anxiety) in terms of musculoskeletal illness (non-specific 'aches and pains').

The rate of smoking in the prisoners we interviewed (54%) is lower than that reported in a survey of younger prisoners which found that 80% were currently smoking [10]. These rates are higher than those among elderly people living at home, 19% of whom are estimated to be smokers [11]. Smoking contributes to cardiovascular and respiratory disease, both found to be high in this sample, and smoking cessation programmes may therefore contribute to the better health of prisoners.

The results of this study suggest that the physical health of elderly prisoners is worse than that of elderly men in the community. As there have been no longitudinal studies of prisoners' health, the reasons for the increased morbidity of prisoners are unclear. However, as studies of younger prisoners have found high rates of risky behaviours such as smoking, drug and alcohol use, and poor diet [10, 14], one would expect that, as these younger prisoners grow old, there would be increased prevalence of diseases of cardiovascular, respiratory and other systems.

Key points

- Men in prison had high rates of morbidity: 85% had a major illness recorded in their medical notes and 83% reported a chronic illness at interview.
 - The health problems of this sample are significantly worse than those of younger prisoners and community-based elderly people reported in other studies.
 - Health-care planning for elderly prisoners cannot be made on estimates of morbidity in younger inmates or elderly people living in the community.
-

Acknowledgements

This project was funded by the Wellcome Trust. We thank David Hillier, Mike Longfield, Hassan Hassan and Chris Cullen from the Prison Service at the Home Office for practical advice and assistance. We are grateful to all the governors, medical staff and prison officers in the prisons visited for their help, and all the prisoners who took part in the study. John Danesh and Pat Yudkin gave valuable epidemiological advice. Sean Whyte assisted with some statistics. Bart Sheehan provided helpful comments on a draft of the paper. Lynda Barnes provided secretarial and administrative assistance.

References

1. Flynn E. The graying of America's prison population. *Prison J* 1992; 72: 77–98.
2. Novick L, Penna R, Schwartz M *et al.* Health status of the New York City prison population. *Med Care* 1977; 15: 205–16.
3. Fryers T, Brugha T, Grounds A, Melzer D. Severe mental illness in prisoners. *Br Med J* 1998; 317: 1025–6.
4. Twaddle A. Utilization of medical services by a captive population: an analysis of sick call in a state prison. *J Health Soc Behav* 1976; 17: 236–48.
5. Lindquist C, Lindquist C. Health behind bars: utilization and evaluation of medical care among jail inmates. *J Com Health* 1999; 24: 285–303.
6. Colsher P, Wallace R, Loeffelholz P, Sales M. Health status of older male prisoners: a comprehensive survey. *Am J Publ Health* 1992; 82: 881–4.

7. Burvill P, Mowry B, Hall W. Quantification of physical illness in psychiatric research in the elderly. *Int J Geriatr Psychiatry* 1990; 5: 161–70.
8. Rose D, O'Reilly K. The Economic and Social Research Council Review of Government Social Classifications. London: Office of National Statistics, 1998.
9. Fazel S, O'Donnell I, Hope T, Jacoby R. Hidden psychiatric morbidity in elderly prisoners. *Br J Psychiatry* 2001; in press.
10. Bridgwood A, Malbon G. Survey of the Physical Health of Prisoners. London: HMSO, 1995.
11. Prior G. Self-reported health. In Prescott-Clarke P, Primatesta P, eds. *Health Survey for England 1996. Volume 1: Findings*. London: HMSO, 1998.
12. Birmingham L, Mason D, Grubin D. Health screening at first reception into prison. *J Forensic Psychiatry* 1997; 8: 435–9.
13. Gallagher E. Emotional, social and physical health characteristics of older men in prison. *Int J Aging Human Develop* 1990; 31: 251–65.
14. Singleton N, Meltzer H, Gatward R. *Psychiatric Morbidity among Prisoners in England and Wales*. London: HMSO, 1998.

Received 21 September 2000; accepted in revised form 14 June 2001