The Healthcare Challenges of Older People in Prisons – a briefing paper.

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Summary

This briefing paper reviews published research and government literature regarding the health and healthcare of older prisoners in the United Kingdom and across the world.

Demography

An increasingly high proportion of prisoners are older, and this includes a rise in the number of female prisoners also. While these changes may reflect wider population demography, they may also reflect changes in sentencing policy.

Health

As compared with their contemporaries outside prison, older prisoners have a higher prevalence of disease, particularly chronic conditions such as alcohol and smoking related problems, cerebrovascular and vascular disease, respiratory problems, infectious diseases and substance abuse to name a few. As with other prisoners this higher burden of ill health is often the outcome of: poverty; risky lifestyle choices (e.g. drug and alcohol misuse); and poor continuity of care outside prison.
There is insufficient information about the incidence of diseases commonly associated with old age (e.g. cancer, dementia) and the health and healthcare problems experienced by older people on discharge from prison.

Health care

Prisons are designed for a young population with little or no attention to the particular needs of older people; for example, poor arrangements for people with limited mobility.
It is apparent that health care is not adequately tailored to the specific needs of older people, particularly older women. Specific areas that seem to require greater attention are: health assessment of the older prisoner; health education and disease prevention; and the provision of specialist geriatric services. Areas such as palliative care, alcohol and drug addiction services and infectious disease are also neglected and need to be addressed.

Conclusions

Prison services need to give more attention to the health needs of older prisoners and how these can best be met. Existing knowledge, while incomplete, offers useful insights to guide service development.
Particular areas that require more research include: care and health needs of older female prisoners, the place of a complete geriatric assessment for prisoners over 55 or 60 years, cancer and increased risk in the older prisoner, specialist nurses for the older person in the prison setting and several more areas discussed in more detail in this paper.

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Introduction

The number of older prisoners is increasing both across the UK and globally. In 1989 there were 345 people aged 60 in English and Welsh prisons. This figure increased rapidly over the next fifteen years to 1700 (HMIP, 2004; Katz, 2001). The Australian Institute of Criminology produced a paper in 1999 (Grant, 1999), looking at issues associated with an aging prison population. The paper described a trebling in figures over the decade from 1987 to 1997. Studies done in the USA have suggested that there has been an increase in the number of older people arrested and who are therefore at risk of a prison sentence (Feinberg, 1984).

A number of reasons have been given for the increase in the number of older prisoners in the UK. One suggestion includes a general change in UK population demographics i.e. that there are simply more people aged over 60 in the community and this is reflected in the prison population. Another argument, supported by the Prison Reform Trust, suggests that tougher UK sentencing policy is behind the rise in elderly prisoners. Between 1989 and 1999 the percentage of sentences greater than 4 years had risen from 37% to 45% (Tarbuck, 2001). In other words either more elderly people are being sentenced to prison or longer sentences means that people are growing old in prison.

Either way, this increase in the number of older prisoners has implications for the prison system and the health needs of this changing population. Concern has been expressed about the level of prison healthcare available to the whole range of prisoners (from young to old, and from mental health to physical health) for a number of years (Smith,1999).

Since April 2006 all healthcare within public sector Prisons in the UK has been commissioned by the NHS through Primary Care Trusts (Health Advisory Committee for the Prison Service, 1997; HM Prison Service & NHS Executive, 1999). The aim is:

> 'To give prisoners access to the same quality and range of health care services as the general public receives from the National Health Service.' (HM Prison Service, 1994)

There is general optimism about the broad benefits likely to accrue from this "mainstreaming" of Prison Healthcare. However there remains a pressing need to establish what the specific health needs of older prisoners are and where services could be improved in order to meet them.

A) Methodology

This briefing paper presents information from a variety of sources including:

- a comprehensive literature search using Medline, EMBASE, Proquest, Google Scholar, and relevant academic journals;
- a review of official literature from the Department of Health and Her Majesty's Inspector of Prisons (HMIP);
- a review of official literature from foreign government sources;
- interviews and written material from three experienced doctors working within the prison system.

B) How old is an 'old prisoner'?

How old is an old prisoner? This is a contentious issue and there is a lack of consistency within the literature. The age range varies from 50 to 60 years: in the UK the official age used by HM Inspectorate of Prisons and the Department of Health is 60 years, some correctional institutions in the USA use 50 as the baseline. Academics are equally unclear: Fazel et al (2001, 2004) use 60 years, Kuhlmann and Ruddell (2005) suggest 55 years, and Brown et al (2003), Aday (2003), and Morton (1992) propose 50 years.

This inconsistency causes some difficulty in establishing the number of 'older' prisoners, and makes comparisons between studies problematic. Authors do not generally explain why they use different ages to describe the start of old age. However Fazel et al (2001), in a study comparing the health of the elderly male in prison with the younger prisoner and the general population, suggest that physiological age is more important than chronological age. Kratcoski and Pownall (1989) suggest there is a 10 year difference between the overall health of inmates and the general population. This relates to former lifestyles including drugs, poor diet, stressful lives, smoking and alcohol excess. As Katz (2001) observed:

> "The average age of prisoners on E wing is 65, but most look older than that...'People age quicker in prison,' says Gill Ripiner, the senior nurse who runs the prison dispensary. 'A 55-year-old inside would be more like a 65-year-old outside. The stress levels are high, they can't do things to relieve the stress and they can't do as much exercise.'"

The question is therefore should we refer to older prisoners or those with multiple medical problems? Ageing is affected by physical, emotional, social and economic changes in communities (Morton 1992). Aging happens at different rates and affects people in different ways. 'Normal' aging happens to everyone and involves a change in the tissue, senses, physical and mental functioning of the body. This is universal. However the added stressors of imprisonment alongside the physical problems that are often experienced by the prison population due to lifestyle and life experiences make the aging prison population unique.

C) Health problems in older inmates.

In a UK study Fazel et al (2001) compared the health of elderly prisoners, younger prisoners and older people in the community. Prior to this, research results appeared contradictory as follows:

- as prisoners got older their health care demands reduced (Twaddle, 1976 in Fazel);
- with age there was increased utilization of health services, (Lindquist et al., 1999 in Fazel).

Fazel studied 203 men from 15 prisons which held at least 10 older prisoners (over 60 years of age) and were within 100 miles of Oxford. Data was collected using semi structured interviews and medical health records. Information was also collected describing younger prisoners and older people in the community for comparison. The results were as follows:

- 83% of elderly prisoners reported long standing illness or disability, 19% had a new illness that had started in the previous 3 months and 85% had a major illness or

disability recorded in their medical notes. The sample of younger prisoners and older people in the community showed much reduced numbers.

- 10% of older prisoners interviewed suggested they were functionally disabled in 'Activities of Daily Living', important in creating an appropriate living environment and ensuring extra help if needed.

- The illnesses recorded were varied including: psychiatric 92%, cardiovascular 71%, musculoskeletal 48%, respiratory 31% and genito-urinary 20%, endocrine 20%, and gastroenterological 20%. The level of self reported illness was similar, with the exception that only 18% considered they had a psychiatric illness and 88% thought they had musculoskeletal illness.

- Self reported illness in the younger prisoners (aged 18-49 years) consisted mainly of musculoskeletal and respiratory illness.

- With regard to smoking, 54% of elderly prisoners smoked, compared with 80% of younger prisoners (Prior, 1998). Health problems reported included high scores for cardiovascular disease and respiratory disease in the older group. Respiratory problems featured in 15% of the younger group. Only 19% of the older community population smoked and therefore reported less smoking related problems.

Chart 1 describes the results in more detail:

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

	No. (and %) of people			
		Self-reported chronic illnesses		
	Major illnesses recorded among prisoners aged ⩾60 years	Prisoners		
System		⩾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

[a]Survey of the Physical Health of Prisoners, 1994 [10].

Fazel et al (2001), p.405

Fazel's study demonstrates a marked difference in the health of older versus younger prisoners, and older prisoners versus older community residents. Older prisoners were much more likely to suffer illness or disability, with the exception of smoking related problems, although as younger prisoners age this will become an older prisoner problem.

Tarbuck (2001) and Lemieux et al (2002) reviewed research on the health needs of older prisoners undertaken from 1977 to 2001. Chronic alcohol misuse, smoking and chronic disease featured as major problems. Chronic diseases included arthritis, hypertension, sexually transmitted infections, ulcers, genitor urinary problems, ischaemic heart disease and respiratory disease. Other problems described included sensory impairment, flexibility

impairment and physical disablement. According to Aday (2003), this list should also include dementia, cancer, stroke and renal problems.

Lemieux et al (2002) also found that older prisoners were more likely to be loners, making them more vulnerable in a prison environment especially from bullying and violence.

Stressors in a prison environment are a real problem for the elderly inmate. Stress worsens both physical and psychological health. First time older offenders are often worst affected, (Aday 1994). Those with poor mobility, those being bullied, inability to use the bathroom or have a shower for example can all increase a person's stress levels and help to worsen anxiety.

According to Smyer et al (1997) violence also has an impact on the health of the older prisoner. Violence can be from staff or other prisoners. The authors argue that a chronic stressor is detrimental to the health of someone, especially an older inmate, who already has a chronic disease.

D) Prison healthcare for older inmates.

In the UK the Prison Reform Trust produced a review in 2003, Growing Old in Prison. The report states that older prisoners are not suited to the prison environment if they are suffering from any level of disability. It suggests that programmes and services provided by the prison are poorly adapted to the needs of older, infirm prisoners. The report supports the findings that there is a large proportion of older prisoners with chronic disease and mental illness. The main aim of this report was to highlight the need for more to be done for older prisoners and that essentially a lack of basic care and access to appropriate skilled staff was the main problem.

> A quote by B. Harding from Help the Aged, "A one size fits all approach to diet, exercise, rehabilitation and medical treatment is outmoded and is effectively a form of age discrimination".

A paper published in the Journal of Contemporary Criminal Justice (Crawley 2005) looks at individual experiences of some over 65 year old prisoners in England and Wales. The report highlights the feeling that there is institutional thoughtlessness in the way that prison regimes, rules, and timetables are made with no thought for the elderly. The article looks at the impact this thoughtlessness has on the health and wellbeing of older men.

Following on from their earlier paper, Fazel et al (2004) carried out a primary care survey exploring the unmet treatment needs of older prisoners. The study showed that 77% were prescribed medication for cardiovascular, musculoskeletal, gastrointestinal, and endocrine disease, as well as others in descending proportions. The largest discrepancy again was for mental illness. Fazel reported that not all prescribing correlated with the documented illnesses. The study concluded that very little was known about the treatment needs of the older prison population and to what extent they were being met.

Tarbuck (2001) describes the poor quality of healthcare in the prison environment for the older prisoner, highlighting the lack of provision for terminal care.

In the USA, Lemieux et al (2002) examined the provision of facilities for the older population and found this to be generally poor. They found that some prisons had some appropriate facilities although smaller institutions found it harder to provide special facilities if there were only one or two older prisoners. Some of the larger institutions in America had separate wings.

Public health is discussed in a paper by Kulmann and Ruddel (2005). This paper talks about the problem caused by prisoners taking their health problems back into the community with them when they are released. This can range from communicable diseases to unaddressed chronic health needs that have got out of control due to a lack of appropriate care in the prison. As cited in this paper the Centres for Communicable Disease Control (2001), recognised that a real problem was from prisoners moving back and forth from prison to the community bringing their health problems and diseases from risky behaviour in prison back into the community.

E) H.M. Inspectorate of Prisons (2004)

The HM Inspectorate of Prisons Report, September 2004, is a comprehensive report based upon 15 men's prisons and 3 women's prisons in the UK. It is based on an observational study, fieldwork at the prisons and discussion with older prisoners. It concentrates on the needs of the older prison population (aged 60 years and over). It is one of the only pieces of research to include the needs of older female prisoners (aged 50 years and over). Older female prisoners are a growing problem, however because of small numbers they have not been included in other studies.

The report has a specific section on the healthcare of the older prisoner and makes specific reference to the National Service Framework for Older People (NSF, Department of Health, 2001) which describes the need for a 'wide range of health and social care need, both while in prison and on release'.

The report asked a number of questions specific to the NSF including:

- Are the following available in the prison; smoking cessation services, chronic disease management clinics especially blood pressure management, flu vaccination campaign for appropriate groups including the over 65 group?

- Does the prison have access to a consultant in older peoples' medicine, or a health visitor?

Staff in three of the 18 prisons were unaware of the NSF for Older People and only five healthcare managers were seen to be implementing it. In most prisons there was no lead healthcare professional for older prisoners and staff were unaware of the healthcare needs of the older convict.

Social care was poor. The Disability Discrimination Act came into effect in prisons in October 2004. One prison met the requirements. However in other prisons some older prisoners were excluded form activities if they were too disabled to get from place to place. Some staff were found to be reluctant to push wheelchairs. A lot of more able prisoners helped the more disabled, but were not trained or supported. If a prisoner could not shower or bath independently it possibly meant a shower once every one or two months. An example given was that of incontinent prisoners unable to perform activities of daily living which had gone unnoticed by staff until other prisoners drew their attention to the deterioration in personal hygiene.

Poor contact was made with community based healthcare services. Aids that had been provided for the prisoners were often not used or even not allowed.

The provision of mental health services for older prisoners was poor and neglected in favour of younger prisoners. The Department of Health and Prison Service Strategy for mental health in prisons is not specific to older prisoners.

A comparative analysis of chronic physical disease is described in the report (Appendix 12, p.107). The authors compared the findings of the sample prison population with the findings of the British Heart Foundation for the general population.

The sections include heart disease, hypertension, diabetes and endocrine disease and chronic respiratory disease. the results demonstrate the enormous difference between the elderly in the community and prisoners of the same age. The results are roughly double or more for each group, the number of women over 50 with hypertension was about four times that of the national average.

The management of chronic disease was found to be very variable in the prisons studied, for example:

- There was found to be a lack of promotion of Hepatitis B vaccination.
- There was a distinct lack of medication review for those over 75 and a lack of communication from pharmacists.
- Prisoners were cold and the Government's highly publicised 'Keep well, keep warm ' campaign was ignored by most prisons.
- Women prisoners were missing out on health screening for example mammography.
- The release of terminally ill prisoners is subject to very strict criteria and there were some good examples of palliative care found.

Although some older prisoners did not progress through the prison system from high to low security categories as they should (because Category C prisons without 24 hour healthcare were reluctant to take prisoners with health needs), the otherwise frequent movement of prisoners from prison to prison undermined any care already started. However the report did find some examples of good practice, for example leg ulcer clinics in some prisons.

The report found that in general the physical prison environment is not designed to house older or disabled prisoners. There are few mentioned exceptions, Frankland, Kingston and Wymott which have special provision for the elderly following local initiatives. For example older prisoners may not be provided with basic things like a lower bunk or have a downstairs cell.

F) An international perspective

1. Older prisoners in the United States of America

There is considerably more information on older prisoners from the USA, compared with the UK. One of the concerns of the USA in terms of escalating numbers of prisoners is cost. The only people guaranteed health care in the USA are federal prisoners. According to Levine (2002)

> "Healthcare devours more than 17% of prison budgets, and it is only becoming more expensive as people become sicker and older. The trick to providing for prisoners' needs seems to be setting a standard of care for prisoners somewhere between the absolute best and the minimal threshold, while controlling costs and toeing legal lines." (p.44)
>
> and

> " 'I've got heartburn at the thought of a good heart going to an inmate.' A senior medical manager at a Texas woman's prison." (p.44)

As the country as a whole is responsible to pay for the increasing health needs of the prisoners, a reasonable amount of data has been published on the older prison population.

A Public Health Brief published in the American Journal of Public Health (Colsher et al, 1992) describes a study carried out on inmates in the state of Iowa in seven prisons. The 119 prisoners who took part were over the age of 50 years. Too few women took part to record results, a common feature of prison health research.

The survey consisted of two questionnaires. The first questionnaire covered information about demographic, health and functional status of the prisoner. The second questionnaire was concerned with substance abuse, psychobehavioural and social measures. The results were based on prisoners self reporting.

The results showed that 40% had hypertension, 19% had had a previous myocardial infarction,, 18% reported emphysema and 70% smoked. 97% had missing teeth and 42% had gross physical impairment.

Of the group questioned, despite their reporting of chronic diseases and physical problems, 65% rated their health as excellent. This represents a greater number than in Fazel's UK study where only 11% reported very good health, 25% good, 36% fair and 17% bad with 11% as very bad. (Fazel et al2001).

The physical problems reported by the group from Iowa included arthritis, hypertension, ulcers, prostate problems, myocardial infarction in that order, increased rates of incontinence, sensory impairment and physical ability. This list correlates with the broad headings used in Fazel's study (2001).

TABLE 2—Percentage of Male Inmates with Lifetime History of Specific Self-reported Physician-diagnosed Illness

	Age, y		
	50–59 (n = 82)	> 59 (n = 37)	Overall (n = 119)
Arthritis	40.2	56.8	45.4
Hypertension	36.7	45.9	39.7
Any venereal disease	21.5	21.6	21.6
Stomach or intestinal ulcers	18.3	27.0	21.0
Prostate problems	17.1	27.0	20.2
Myocardial infarction	17.7	21.6	19.0
Emphysema	14.6	27.0	18.5
Diabetes	10.1	13.5	11.2
Asthma	8.5	10.8	9.2
Stroke	3.8	16.2	7.8
Cancer	6.3	8.1	6.9
Cirrhosis or liver disease	4.9	2.7	4.2
Injury requiring medical care	78.5	73.0	76.7

Colsher et al (1992), p.882

The second part of the US study noted that 65% of the elderly prisoner cohort were current smokers (a little more than the British study), and they smoked a mean of 23.0 cigarettes per day. 18% were previous smokers, leaving few who had never smoked. These rates were twice

that of the equivalent lay elderly population (Thornberry et al 1986). Almost all of the inmates had been alcohol drinkers at some stage, (96.6%), 45.4% claimed to have been heavy drinkers. 29.4% reported illicit drug use. Again twice the national average (Thornberry et al 1986).

Study participants rated their own memory and cognitive function, and it was also formally assessed. The results correlated well. Depression and anxiety were commonly reported but other psychiatric illnesses were underreported.

Only 37% of the older prisoners reported a visitor in the months prior to the interview and most would have liked more.

Further data, this time from the Bureau of Justice statistics in the USA, (Maruschak et al 2001), highlights other areas that are often forgotten about but are very important in older people. The study was based on a total of 318,000 state and federal prisoners. The over 45 year old prisoners reported higher rates of physical and mental impairment and were more likely to report problems with speech, hearing and vision.

2. Older prisoners in Canada

A Canadian study published in Geriatrics Today (Brown et al 2003) supports the argument that older prisoners represent a unique group. Data presented suggest they have demographic, offence and health need differences compared to their younger counterparts. This paper is keen to establish whether incarcerating first time older prisoners is the most effective measure in terms of cost effectiveness and efficiency of treatment.

The paper demonstrates that Canada, as with the USA, the UK, Australia etc., is experiencing a rapid increase in its older prisoner population, and that older Canadian prisoners have different health needs compared with younger prisoners (Gallagher et al, 1990,2001; Uzoaba, 1998), including an increased need of healthcare and increased problems with alcohol misuse. The paper makes reference to research that suggests older prisoners are less of a management problem whilst in hospital and that they are less likely to offend again on release.

This paper examined data from 30,919 cases. The prisoners were from provincial jails, detention centres or correctional institutions. Demographic variables were recorded and a basic health status was documented. The number of older offenders (over 50 years old) was only 6% of the total prison population, comparable to figures elsewhere in the world. The point this paper makes is that with such a small number their needs are easily overlooked.

The number of female prisoners was again small, especially for the over 50s so again health needs are likely to be overlooked.

The study showed that the older population were much more likely to be taking prescription medications, to have a current illness or injury or have a physical disability. 21% reported a history of substance abuse, largely alcohol, younger inmates reported 27% substance abuse but largely drugs.

In summary the results of this study showed the older offenders were more likely to be married, more likely to be sex offenders and driving offenders, more likely to be first time offenders, on more medication and as mentioned suffering from a disability or illness. Alcohol abuse was also common.

The author concluded that the older prisoner may benefit more from an acute medical programme rather than occupational rehabilitation. The different needs of this group,

including acute medical care and alcohol abuse treatment programmes, highlights the possibility of a rise in cost if an adequate service is to be provided.

G) Specific health problems of the older prisoner.

Having established the general features of health in older inmates, this next section examines the literature which focuses on specific areas of health need and service provision for the older prisoner.

1. Infectious Disease.

Much of the literature available to date describes infectious disease in the general prison population. Glaser et al, (1990) examined the specific problem of infectious disease in the older inmate.

Glaser et al recognise the rising number of older inmates (65 years and over) and discuss the associated high rates of chronic disease and medical problems. This high proportion of chronic disease puts elderly prisoners at risk of infections such as influenza and pneumococcal pneumonia. In addition those who misuse alcohol and drugs are at risk of hepatitis' and retrovirus infection, and possibly tuberculosis..

The authors discuss other infections which are more problematic in an institution and can affect the older, less well population more seriously, including: norwalk viruses, rotaviruses, resistant bacterial infections (present in the elderly because they have had more courses of antibiotics than the general population). Older people with chronic diseases are more at risk of infections and they also suffer more severely with them. In a prison people are in close proximity, therefore it is very important to recognise the risks in order to try and prevent outbreaks and potential deaths. The authors discuss this in detail, providing a reminder of the need for good infection control policy and practise in a prison for both older and younger inmates.

2. Hypertension and Cardiovascular Disease.

As previously described the older prison population is at higher risk of hypertension and its related diseases compared with the older community population. The reasons given for this include previous poor lifestyle, smoking, substance misuse and the stress caused by being in prison.

An Australian study (D'Souza et al, 2005), which does not specifically concentrate on older prisoners, establishes that the prevalence of cardiovascular disease risk factors among prisoners is much higher than the general population. 789 prisoners in 1996 and 916 prisoners in 2001 underwent face to face interview covering behavioural risks, mental health and physical health. Weight, blood pressure, smoking, hypercholestolaemia and random blood sugar were examined. The figures for smoking, hypertension and hypercholesterolemia were better in the 2001 survey than the 1996 prison survey, but smoking was still 88% in 1996 and 79% in 2001. While this study examined the prison population as a whole rather than concentrating on elderly prisoners, its finding remain relevant because many people grow old whilst in prison and, as already discussed, the factors identified will cause prisoners to age prematurely.

Another study by a Nigerian Physician, (Oluboden, 1996), examined the lifestyle and blood pressure of inmates in a developing community prison. The study included 81 prisoners aged between 15 and 62 years. Again while not focusing exclusively on the elderly, the study is important because of the arguments outlined above. 90% were under the age of 40. 63 'low social class' males in the community were used as a control group. Lifestyle questions asked

included smoking, drug abuse and alcohol use. The study demonstrated that both systolic and diastolic blood pressures were higher in prisoners and the figures increased with time incarcerated. The author suggested that this may be due to stressful factors in prison and substance misuse.

3. Diabetes in Prison

Again the literature describing diabetes in prisoners is not specifically concern with older inmates, however it is well established that diabetes becomes more prevalent with age and as already demonstrated there are increased cardiovascular risk factors in older prisoners which will not help this group to stay healthy.

A report from the UK (Gill et al, 1989), discussed the problems of diabetes in prison. The authors found two types of problem:

- manipulative behaviour from both younger and older diabetic prisoners - perhaps because inmates wishes to escape the confines of prison and move to the more pleasant surroundings of the local hospital for a while.

- poor diabetic control - including a lack of review of diabetic prisoners which meant that blood sugars became out of control and the fact that the prison had been using an outdated blood glucose monitor which was not working correctly. The authors provide an example of a man who was felt to be 'acting up' but was actually seriously ill with metabolic decompensation and burns on his feet from having severe neuropathy.

This report demonstrates the need for specialised care to deal with diabetics in prison which is a much harder task than in the community.

The same research team (Macfarlane et al, 1992), went on to publish another paper which discussed the possibility of providing good diabetic control in prison. This study focussed on one prison where one of the authors was a visiting diabetologist. The prison had a significant number of diabetic inmates, 42 in total, a mixture of Type I and II. All diabetic prisoners were identified by the medical officers over a period of 22 months and referred to the diabetic clinic held in the prison hospital. A full diabetic check was undertaken on each prisoner and any change in management recorded. There was a considerable amount of change made to many of the prisoners regimes.

The main outcome measures included diabetic instability, body mass index and glycated haemoglobin. The study found that good glycaemic control was achieved, there was no significant diabetic instability and the glycated haemoglobin was reduced in most. The body mass index remained the same for most.

Having a system offering structured diabetic care in a prison, including a strict dietary regime and lack of alcohol, enables good diabetic control. This study demonstrates what can be achieved when there is a diabetic care system in place.

Following on from these studies Waring (1996) questioned whether people in prison received appropriate care for diabetes (again not specific to the elderly, but relevant). Waring sent questionnaires to a number of prisons in order to determine what services were actually being offered and whether the services were in line with the Prisons Board set of standards. 31 questionnaires were sent and 26 replies received.

1% of the prison population included in the study had diabetes, slightly lower than the national average of 1.2%. However there are a greater number of younger than older prisoners compared with most of the diabetics in the general population who are Type II and older.

Waring found that nine of the 26 prisons offered a diabetes clinic, ranging from weekly to 'when required'. All 26 prisons offered some sort of chiropody, optician and weight clinic, from weekly to 'when required'.

The Health Care Service for Prisons has not laid out protocols for dietary requirements for diabetics, but has left this up to the individual doctors. Some prisons offered a low fat or fat free diet, although the majority simply offered a normal diet. Some did not provide extra snacks for those diabetics who needed them. While this report also recognises problems with manipulative behaviour by diabetic prisoners, it also points out that rations of food was being taken by other prisoners from the diabetics.

Some of the prisons surveyed were trying to follow advice and provide a good service, however the report points out that the need for a high level of supervision and knowledge of the condition remains for diabetics of all types and ages in prison.

Braatvedtet al (1994), undertook a cross sectional study of diabetes in Mount Eden Prison in Auckland, New Zealand. The results demonstrated the unique problems that this group of diabetics have. The prison had a capacity of 421 males and 54 females. 60% were from the Maori and Pacific Island ethnic groups. The population studied was probably not typical of inmates in a British prison as there was a high proportion of Maoris. This group and others from the surrounding pacific Islands have a much higher prevalence of diabetes, especially Type II (10-17% of people in these ethnic groups have diabetes compared to 2-5% of Europeans).

The authors found that there was no separate care for prisoners with diabetes, instead all prisoners were looked after by 5 visiting GP's, and 16 full time Nursing staff. Other heath professionals visited such as surgeons and dentists.

All prisoners on oral diabetic medication or insulin were interviewed and had a physical examination. The mean age of the men in the Type II diabetic group was 50, there were 5 prisoners on oral hypoglycaemics and 2 on insulin. There were a further 3 prisoners who were Type I diabetics on insulin.

The findings of the study showed that the Type II group were obese, smoked, had hyperlipidaemia, nephropathy, neuropathy and retinopathy. Four of the five insulin treated diabetics had been in hospital a total of 11 times in the preceding year with self induced hypoglycaemia or ketosis.

Although a very small group of prisoners, the findings of this study highlight the need for specialist diabetic care in the group who are especially at risk of complications.

A French study (Petit et al, 2001) highlighted a number of issues not discussed in the previous studies. In brief a questionnaire was sent out to the head of healthcare for each French Prison. 115 prisons (69%) responded,. The prison population at the time was 38,175 and there were 169 prisoners requiring insulin. Around 55% had access to personal blood glucose monitoring, 62% were not allowed to keep their own insulin, diabetic diets were available in 60% of prisons. 55% had access to a diabetologist in the previous year. There were 20 admissions to hospital with diabetic ketoacidosis and 14 for hypoglycaemia.

This study focussed on all insulin dependent prisoners. The authors concluded that prisoner autonomy was lost because they were not allowed to look after their own medication and

were not able to check their own blood sugar levels. As with all of the reports discussed in this section, the authors felt that diabetic care could be improved by having access to specialist diabetic nurses and diabetologists, both to educate prisoners and to optimise treatment.

4. Substance Abuse as a Chronic Disease.

A UK study (Cooke et al,2000), looked at the vulnerability of substance misusers on remand compared to non misusers. Those that were abusers of any substance perceived themselves to be less well than others. The authors argued that substance misuse could be a marker of vulnerability in this group of prisoners. The authors' concluded that health care providers should involve this group in treatment and rehabilitation both inside and outside prison.

In an American study, Arndt et al (2002) examined older offenders and the problem of substance abuse. The authors began by pointing out that the population of older inmates in the USA is growing dramatically. They state that between 1991 and 1997 there was a 115% increase in the over 50 population in prison. They cite a reference that predicted that the over 50 population would make up 16% of the prison population by 2005 (Morton et al,1992).

During the study 10592 older inmates were interviewed on their entry to prison by trained substance abuse counsellors. The counsellors were specifically trained in taking a substance abuse history and used the DSM IV criteria to define substance abuse. The data was entered into a database between 1996 and 2001. All prisoners entering the Iowa prison system were interviewed within the first month of incarceration. Anyone who was anticipated to be in prison for over 10 years was excluded.

The prisoners were categorised into age groups including: 30 and under, 30-54, and 55 and older. The older group consisted of 180 people (1.64% of the total study population). The older group had the highest number of men, and the highest number of white inmates. Almost half of this group were not working at time of incarceration, mainly due to disabilities.

The older group were the smallest users of substances. In contrast to younger inmates, they tended to abuse only one substance, the most common being alcohol. 71% of older offenders admitted to having a problem, quite often this had gone on for over 40 years. Over a third had never had treatment.

The study concluded that this group of older offenders would benefit from adequate substance abuse treatment whilst in prison, and that prisons should be sensitive to the older prisoners additional medical needs. This level of alcohol dependence is likely to bring enormous amounts of pathology with it.

Marlowe et al (2003) describes substance misuse as analogous to a chronic medical condition:

> "…dependence is a disease akin to chronic relapsing medical conditions such as asthma, hypertension or diabetes…" (p.1455)

The authors argue that the drug or alcohol abuser should be treated similarly to medical patients.

5. Dementia and Old Age Psychiatry.

The incidence of cerebrovascular disease and therefore dementia is likely to be higher in the prison population compared with the older community population, largely due to the increased risk factors found in the older prison population. Dementia and its ethical

implications in a prison population is a minefield and needs to be treated separately to this review, although it has been discussed to a degree by Fazel et al (2002).

6. Cancer in Older Prisoners.

There is very little published on the subject of cancer in older prisoners. It could however be hypothesised that risky lifestyles and behaviour would mean that older prisoners are more at risk of certain types of cancer compared with the community based population. In addition as already mentioned, a lack of screening, e.g. women in prison may be missing out on essential screening for breast and cervical cancer, may mean that cancer is not being identified and treated early enough when treatment could make a difference. There is a real need for research on this subject for prisoners in the United Kingdom.

A study from the USA, (Biswanger et al, 2005), examines whether female inmates were receiving cancer screening and asks if they were not would they be willing to have it.

The study was cross sectional, set at two San Francisco jails. The screening tests available included: cervical smears, breast examinations, faecal occult blood tests and offsite mammograms. The tests were offered to all inmates of appropriate sex and age. The results showed that as the women moved around jails or were released they missed out on these tests.

Less than half (41%) of the women over 40 years of age had mammograms in the previous 2 years, although 88% felt that they would have been willing to be screened if it had been offered (the USA start screening women at a younger age compared with the UK where the relevant age group is 55-64 years). Cervical screening was carried out successfully in the jails. A quarter of men and a small number of women aged over 50 in the prisons knew about colon cancer screening, 31% were screened, although again many more (69%) were willing to be screened.

The authors conclude that prison could be an appropriate venue to undertake screening on this high risk population.

7. Older Women's Health in Prison.

This is another area of neglect in prison healthcare research, mainly because the small number of older incarcerated women means they often excluded from studies.

However the numbers of older women are rising steadily in prison. In an American study, Williams et al (2006), suggested that the number of older female inmates had increased by 350% over the last decade. The study focused on the problem of functional impairment and adverse experiences of older female inmates in prison in California.

Questionnaires were completed to ascertain the functional impairment of 120 older women (mean age 62 years) in prison in California. The questions focussed on the activities of daily living (ADL) including: hearing disorders, ability to climb onto a top bunk at night, dropping to the floor for alarms, getting to meals and so on. 16% were dependent in one ADL, 69% reported one prison activity of daily living that they found hard.

Increasing severity of impaired function correlated with poor physical health and more adverse prison experiences. Fall rates ranged from 33% in women without impairment to 57% with prison ADL impairment, to 63% with ADL dependence. 29% of older female inmates were assigned to a top bunk, an example of a prison environmental stressor.

The authors concluded that older female prisoners should have their functional impairments evaluated and the suitability of the prison environment should be considered.

Another American study (Reviere et al, 2004), provides further information about older female prisoners. The study was a pilot study looking at federal and state women's prisons. The aim of the study was to establish the state of healthcare for this group of prisoners.

A higher rate of disability was again highlighted. 70% of the institutions reported having disabled inmates. A few institutions provided all the services necessary to meet the requirements of the Americans with Disabilities Act of 1990, and a few more provided some facilities such as wheelchairs, walking frames, walking sticks and handicapped showers. However some institutions that reported having disabled women prisoners did not report providing any of these services.

Conditions common in the older female population were examined including: arthritis, asthma, diabetes, hypertension, heart disease, cervical cancer, breast cancer, menopause and urinary incontinence. Reasonably high numbers of prisons claimed to ask prisoners specifically about these illnesses. Fewer institutions offered mammography. While it might be hypothesised that the institutions with larger numbers of older women would be better at screening and asking about theses illnesses, the authors in fact found that the smaller institutions with fewer older prisoners were more likely to do so.

The authors concluded that the needs of the older woman in prison challenge the prison healthcare system in the USA because it is primarily designed for healthy young men. The institutions are not fully equipped to cope with the expanding numbers of older female prisoners with distinct health needs. Little is actually known about their treatment, availability of hospital beds, the system for delivery of medication, occupational and physiotherapy and so on.

Little has been written on the medical problems of older women in prison in the UK. There is therefore a pressing need for research in this area.

8. Palliative and Hospice Care in the Prison Setting.

Something that is topical and thought provoking and has prompted several ethical debates, is that of palliative care and dying in prison. The World Health Organisation (WHO) definition of palliative care was updated in 2002, "the active total care of patients, whose disease is not responsive to curative treatment." As the proportion of elderly people increases it seems reasonable to suggest that this type of care is going to be needed more and more in both the general and the prison population. Palliative care does not just refer to terminal care for those with cancer, but includes all those with terminal and chronic diseases.

America has quite a number of prisons with hospices but that is not a feature of prisons in the UK as a rule. Another debate is whether terminally ill and elderly prisoners should be released early, as is the practice in France (Steiner, 2003)?

The HM Inspectorate of Prison's report, 'No problems – Old and Quiet' (2005), makes reference to the state of palliative care in prisons in the UK. It mentions that all prison healthcare centres are required to have a policy for palliative care. 18 healthcare managers were interviewed for the report. Of these only 11 had a policy, five did not and two were unsure. Two of the prisons had good liaison with the local Macmillan Team or local hospice team. Frankland Prison was commended for its policy which included the Macmillan end of life care pathway. However this was an exception.

A paper written by an American Prison Hospice worker (Maull,1998) is based on experiences over a nine year period and discusses some very important issues including: 'do not resuscitate orders', palliative care or curative care, pain management at the end of life,

interdisciplinary teams, and arrangements for compassionate release, possibly akin to getting someone home form hospital to die.

The author highlights the need for hospice care in prisons in the USA because of an ever increasing number of prison inmates dying in hospital. In federal prisons the number of deaths between 1988 and 1993 rose from 127 to 170. Over a ten year period from 1983 to 1993, the number of deaths in state prisons rose from 723 to 2431. Further figures are quoted for deaths in other years in the 1990's, they are large and growing. The percentage of deaths from AIDS was quoted as being around the 30% mark. The figures continues to grow and the prison population carries on aging. In Britain, according to the figures from the Prison Service from 2001-2003, an average of 26 male prisoners over the age of 60 died from natural causes in each of the years. Presumably this figure will continue to rise.

Maull emphasises the point that hospice care and care of the terminally ill needs to be carried out by highly skilled professionals, not by a rapidly turning over, untrained nursing cohort. Maull talks about the lack of funding from the state to provide the appropriate facilities for terminal care in prison.

Maull concludes by highlighting areas which are in need of further research, including: the effectiveness of community and inmate hospice volunteers; pain management in the prison setting where prisoners may have a history of drug abuse, including the use of patient controlled analgesia systems; nurse/patient relations in the correctional setting; 'do not resuscitate' orders and advanced directives; informed consent and confidentiality in the correctional setting, etc.

Maull followed up this study by examining a number of case studies of dying prisoners, old and young, and exploring the issues in detail (Maull, 1991).

Another paper from the USA, Enders et al (2005), raises the issues of healthcare decision making for women in prison. This study is one of the very few that focuses on chronically ill and aging women in correctional institutions. It examines the ability of prisoners (in this case female) to make decisions about medical treatment, advance care planning or end of life treatment. Many prisoners have not had the benefit of a good education and might lack capacity to read or comprehend critical information about important issues. In America, two thirds of inmates are illiterate.

This study aimed to identify the informational barriers which mean that women in prison lose autonomy in decision making about their healthcare. The results of discussion groups held with female inmates demonstrated the inability of prisoners who have a life threatening or chronic illness to make meaningful decisions regarding medical treatment without a basic knowledge of health information. The outcome of this study was the production of a handbook for female inmates in this situation to make informed decisions and retain at least some autonomy.

Informed decision making and consent has not been explored in male or female prisoners in the UK, and is an important topic for future research.

9. Getting Out of Prison.

The health and social care issues associated with prison release has been well published, however there is no specific research which deals with the release and reintegration of older prisoners. As with other groups of prisoners, older inmates may have been newly incarcerated, may have served a short sentence and may have a good social support network on release; alternatively they may have served a long sentence and have no social support remaining on release. Research is needed which acknowledges there is not only one type of

older prisoner and which explores the health and social care needs of the different types on release including: the impact of institutionalisation, availability of money, appropriate housing, and continuity of care or the ability to access appropriate medical care for chronic disease?

10. Use of Primary Healthcare in Prison.

Although there are many criticisms of the services available in prisons, all prisoners regardless of age has access to a health professional without too much effort. According to Feron et al (2005) prisoners make on average 17 visits to the GP each year, which is 3.8 times more visits than the average person in the community. The authors do not break down visits by age group. It would be useful to have more information about how often and why the older prisoner consults the GP. This would provide more data describing the actual rather than the perceived health needs of the elderly prison population.

H) The Thoughts of Three Prison Doctors on the Healthcare Needs and Current System for Older Prisoners in the UK.

Finally, in order to add to this briefing paper examining the healthcare challenges of older people in prisons, interviews were undertaken with three UK prison General Practitioners (GPs) eliciting their thoughts on the healthcare needs and current services available to elderly inmates. The GPs were at the time working in either a high security prison, a local prison, or a female prison. One Doctor was working full time in the Prison Service and previously was a GP for thirty years during which time he worked part time in the prison system. The second was a GP who, after service in the Army, was a GP in an urban/semi rural practice and who subsequently set up Primary Care services in a very deprived inner city area. The third has extensive primary care and psychiatric experience. Between them they have extensive experience of the needs and care of the elderly prisoner, and their impressions are summarised as follows:

Prisons are designed to accommodate young men and in large part that is what they do. Older prisoners have always been something of a curiosity. Traditionally an older prisoner would be either a vagrant or a sex-offender with the occasional exotic long sentence gangster of the murdering or drug dealing persuasion. The troublesome vagrants are still around now but are greatly outnumbered by the sex offenders.

Some sex offenders are elderly because their failing physical abilities lead to behaviour which is deviant, or because they have always been deviant and they are growing older. However an increasing number are convicted because their victims find it easier to disclose after the passage of years and society is perhaps now more understanding and less likely to see the victim in an unfavourable light. In addition DNA techniques can lead to conviction many years after the offence and subsequent long sentences propel the offender into old age.

Some prisoners have grown old in the system, some have come to it old and will grow older. At some point assessing whether they have different needs will become appropriate but too little is understood or practised in the generality of the elderly prisoner for this to be an immediately pressing matter for the system.

Whether the elderly prisoner actually is or is not a sex-offender is largely irrelevant when it comes to the way in which he is treated by his fellow younger prisoners. Bullying is endemic in prisons and the combination of old age and presumed offence (older prisoners are often assumed to be sex offenders) is enough to render the elderly prisoner very vulnerable. The effect of bullying can never be over-estimated in the prison system. There is a hierarchy of vulnerability and the bullied in one context will frequently become the bullies in another.

Bullying leads to the stealing of medication, social isolation, deprivation of exercise and fresh air when a prisoner is too afraid to mix on the wing or to go on exercise outside or to the Gym. Indeed any purposeful activity outside the cell can become impossible.

Very few medications have no currency value within the system. Opiates, anxiolytics, traditional and atypical anti-psychotics, hypnotics and anti-convulsants are particularly sought after, for example Gabapentin (which is used to treat epilepsy and neuropathic pain) is currently in fashion in some establishments. The effect of a medication may not be particularly pleasant but if it alters sensation or perception it is still sought after. Insulin is sought by body builders, as are inhaled steroids. Salbutamol if taken in sufficient quantity can generate a 'high'. Sleep does not come easily within the jail and anything seen as an aid to this is prized.

Medication may be held by and administered by Healthcare staff at treatment times and while this may improve compliance it does not encourage independence. In addition the prison day is very short and twenty four hours of medication may be administered over an eight hour day. Night time medication is particularly problematic as there are security issues around nurses distributing medication after the prison has closed down for the night. Many cells in many prisons do not have access other than by opening the cell door. In a high secure prison this can involve a dog handler, an Orderly Officer (officer in charge) and the nurse. This is not a popular practice with nursing or prison staff. However well managed, it carries a risk. There is thus frequently no certainty that what has been prescribed is what is being taken.

The focus of much prison healthcare in Local Prisons (i.e. those serving the courts and thus taking people directly from the community) is directed towards dealing with acute medical problems, prevention of suicide and self-harm, substance misuse and serious mental illness.

Varying levels of effort are directed towards chronic or long standing disease. GPs in the community no longer deal routinely with chronic disease management leaving this instead to practise nurses, however relatively few prison nurses have the skills of practice nurses. Communication with prisoners' GPs is often poor – the faults can lie on both sides – and the lack of an integrated IT system in the NHS means that electronic transfer of information is non-existent. 50 % of prisoners are not registered with a community GP, or if they are may confused as to who he or she is.

There is no mechanism as yet for the transfer of full paper records from Primary Care to Prison Healthcare. Administration support in many prisons is inadequate.

Prison medical records are sometimes nightmarishly bad: they can contain much prison related material which obscures the relevant clinical material and, in the case of long stay prisoners, may comprise several impenetrable volumes. They may also be lost in the process of prisoner transfer. Once lost it is seldom possible to re-create. The absence of any or an effective clinical IT system in the majority of prisons is a major handicap.

Assuming a reasonable transfer of information has taken place, prescribing for the elderly in prisons is likely to be vulnerable to the hazards laid out in the BNF. Much prescribing for the elderly in the community is poorly reviewed and re-assessed. It is naïve to think prisons will be any better. Radical review of prescription needs is difficult in local prisons and transfer to long stay prisons may perpetuate the prescribing of "legacy" or inappropriate medication. Deteriorating renal function may be assumed but will seldom be checked for. The authorising of repeat medication without proper assessment is a recognised hazard . There is no excuse but there reasons., again lack of IT and the constraints of time. In essence the problems of prescribing for the elderly in prisons are the same as in the Community but writ large.

Initial screening of prisoners at reception into the prison setting is targeted at the acute high risk problems. Few prisons carry out as comprehensive checks as would be desirable on received prisoners – largely through constraints of time and resource. The mainstreaming of Prison Health into the NHS is almost certainly producing benefits but funding is limited and while more disease is uncovered it is doubtful if the revenue is there to address it. As in the community, resources tend to be targeted at acute issues.

The dietary and dental needs of the elderly are frequently poorly addressed.

Prison catering is frequently a triumph of ingenuity over resource but it is traditionally targeted at the needs, real or perceived, of younger prisoners.

'Prison pallor' probably masks a plethora of nutritional and other anaemias.

The elderly in prison are frequently as readily forgotten by their families as by society and the prompts and concerns of relatives which can be helpful 'irritants' outside are often absent.

Institutionalisation comes to all prisoners in time (as it frequently does to clinical staff) and the willingness to complain of deteriorating function and ability disappears with it. Historically for good reason, as little would have been done about it.

Impaired mobility noticed by prison staff or prisoner is more likely to be addressed by changing cell location to the ground floor than by referral to Healthcare and again with good historical justification.

Incipient heart failure will be treated similarly. Frequently a considerate but inappropriate response.

Deteriorating mental function is routinely regarded as the inevitable consequence of aging and long term imprisonment. Resources in the community are poor enough to address this; within prisons they are practically non-existent. There has been investment in the mental health of prisoners but it is almost exclusively targeted at severe and enduring illness.

Natural death in prison is an issue. The Home Office, in particular at the present time, is not disposed to discharge early simply because death is imminent. It is inconceivable that Ian Brady or Myra Hindley could be discharged prior to death – not solely because of the enormity of their crimes but because of the public outcry that would follow. There are many in the system who have local notoriety and their return to society at the end of life would be regarded as an outrage. Prisons are ill-equipped to deal with natural death though some have delivered excellent work. More prompt engagement with palliative care services is taking place. Some issues are very difficult to resolve.

I) Discussion.

While there is a reasonable amount of research describing the older prisoner and their health needs, there is a distinct lack of information regarding British prisoners compared to those in the USA. It is difficult to compare findings from one country to the other as the penal systems are very different and numbers of prisoners in the UK compared to the USA are much lower. However there are a number of important findings which could benefit the healthcare of older prisoners. To summarise, the key findings of this briefing paper include:

1. There is an increase in the number of older prisoners and this is set to rise.

2. The prisoner ages more rapidly than the average person in the community.

3. Most of the older prison population have chronic illness and disability.

4. Although sensory impairment is recognised as a problem, there is little research to clarify what has been or could be done to help.

5. Incontinence, raised as a problem in many of the studies, is a huge topic and affects many older men and women. More needs to be known about its management in prison.

6. There is a lack of information on some specific illnesses and chronic diseases which older prisoners are likely to be more prone to. Alcohol and smoking related problems, hepatology, hypertension, cancer incidence, respiratory problems, stroke and cerebrovascular disease, falls, incontinence, management of acute confusional states, renal problems, osteoporosis and fracture prevention, dietary needs and dental problems. The list could go on.

7. The level of drug abuse in the older prisoner in the UK is not clear from the literature, more research is needed in this area.

8. Very little information is available describing the health needs of older women in prison. The health needs of an older male prisoner differ from the younger prisoner and the general older population. Equally it can be hypothesised that elderly female inmates will have very different healthcare needs, e.g. female cancers, osteoporosis, incontinence, menopause and so on. It is important that research is carried out in order to inform the care of this neglected population.

9. Information about the prevalence of infectious disease both in and on leaving prison is limited in the older group.

10. Prison is a stressful environment for an older prisoner. Prisons are designed for fit young men not older incapacitated people.

11. The National Service Framework for Older People has not been implemented in many of the prisons looked at in the HMIP report. Implementation of this framework should be a priority.

12. It is unclear whether prisons are promoting health education, secondary prevention, autonomy and informed consent.

13. There is a problem with record keeping - the notes are often not a reliable source of what has gone before. Prison patient notes need to be improved.

14. There is some evidence concerning cancer screening, however not much is known about the increased incidence and education for prevention in this high risk group.

15. There is a lack of provision for chronic disease management in prisons, something which is key in this group of people.

16. There is a distinct lack of regular medication review which is vital in older people.

17. The health and social care issues for the older prisoner on leaving prison has not been researched adequately.

18. The three GPs interviewed (section I) painted a grim picture of the health needs and service provision for older inmates. The question is, is this the general consensus of

prison healthcare professionals? More research looking at the experiences of prison health professionals is needed which would help to highlight further areas of healthcare need in the older population not currently provided for in prison.

19. While there is an assortment of publications concerning the older prisoner there remains an enormous amount of work to be done. An awareness that the prison population is aging and that elderly inmates have different health needs must be highlighted. It is important that the profile of elderly prisoner research is raised in order to attract up and coming researchers into this area. It is also important that the research results currently available are disseminated widely to those that can make a difference in order to ensure that services provided to older prisoners are evidence based.

20. Many of the studies in America focus on the huge cost of the 'greying ' prison population. This has implications for the UK too. As numbers increase, the level of need and subsequent cost will also grow. It is important therefore that research is carried out in order to identify need and inform care, thereby ensuring that funds are spent effectively and efficiently.

The healthcare of older people in prisons is a challenge and there are many areas which require further research, however some of the more pressing include:

1. the value of a 'complete geriatric assessment' for every prisoner aged over 55 or 60 years;

2. cancer and increased risk in the older prisoner;

3. the benefits of improved health education and health awareness in the older prisoner;

4. what happens to the older prison on leaving prison, both socially and from a health point of view?;

5. what about the 'geriatric giants' such as falls, incontinence, confusion, pressure sores, and immobility, how are they managed in prison, is anyone aware of them?;

6. older peoples Nurses, do they have a place in a prison setting?;

7. visits from a GP with a special interest in older people or a geriatrician, can this improve care of the older prisoner?;

8. the appropriateness of an older prisoner with multiple medical problems, mobility issues and cognitive impairment being in prison;

9. older female prisoners and their health needs;

10. what is the value of a Chronic Disease Nurse being based in a prison?;

11. National Institute for Health and Clinical Excellence (NICE) guidelines and other guidelines are followed rigidly for non prisoners, can the same be said about those in prison? This is especially an issue now that the NHS provides healthcare to prisoners. Some examples of guidelines include: stroke, atrial fibrillation, hypertension, chronic kidney disease, depression, and chronic obstructive pulmonary disease (COPD).

The healthcare of the older person is the largest specialty in the UK secondary healthcare system, with more trainees and consultants than for any other specialty. There are also a

growing number of specialist nurses in older peoples' medicine. It should be of concern that very few older prisoners, with a collection of typical older peoples' problems, will ever meet one of these specialists. Until recently there was a lot of concern about ageism especially in the healthcare setting. The situation has generally improved, but the prison system needs to catch up.

It is possible to use the work that has already been done to benefit older prisoners now. There is nothing very surprising about the research findings described. However it is important to make sure such results are disseminated widely in order to benefit practice.

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