



National Audit Office

HM PRISON SERVICE

Serving Time: Prisoner Diet and Exercise

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EXECUTIVE SUMMARY



1 ‘Food’, commented one prison governor, ‘is one of the four things you must get right if you like having a roof on your prison’¹. Food in prison is a key issue in control, improves prisoners’ health and can help in resettlement through training and work opportunities. Although the Home Office does not have a specific Public Service Agreement target relating to prisoner diet and exercise, the Prison Service aims to ensure that prisoners live in safe and decent conditions and that prisons are well-ordered and controlled. We examined improvements made by the Prison Service to prisoners’ diet and exercise since we last reported on prison catering in 1997.²

Main Findings

The Prison Service has made financial savings from catering but scope for more savings exists

2 In 2004-05, the Prison Service spent £94 million on catering, the largest components of which were food (£43 million) and catering staff (£32 million). Significant improvements have been made to the Prison Service’s catering arrangements resulting in financial savings and improved quality of service. Since 2003-04, savings have been made from expenditure on food (up to £2.5 million each year or about six per cent of expenditure on food) and on catering staff (£1.7 million a year or about five per cent of expenditure on staff) – mainly through the civilianisation of catering staff posts. Savings have also arisen from more efficient procurement (up to £1.2 million a year) and reduced stockholdings of food (a one-off saving of some £2 million).

3 Expenditure on food is determined by each prison governor who sets the budget in terms of a daily food allowance per prisoner. The average daily food allowance for prisoners is £1.87, but there are wide variations ranging from £1.20 at an open prison to £3.41 at a young offenders’ institution. Variations between different types of prison can be partly explained. Young offenders’ institutions, for example, have some of the highest daily food allowances because growing juveniles tend to eat more than adults and they receive extra money for food from the Youth Justice Board. Open prisons tend to have lower daily food allowances because some prisoners eat some meals outside the prisons. Variations between the same types of prisons are due to a number of factors including some governors choosing to give food a higher priority than others or differences in the quality and range of foods purchased. Compared with the cost of other public sector organisations, the Prison Service lies in the middle of the range. The Scottish Prison Service, for example, spends £1.57 on its daily food allowance but hospitals spend up to an average of £2.50 per consumer.

4 Our analysis of catering costs shows scope for further savings; for example, by benchmarking prisons’ expenditure on food across the service and with other organisations. There is potential for financial savings if prisons with particularly high daily food allowances (“outliers”) were to reduce their daily food allowance and conform closer to the average. As an illustration, if ten prisons with some of the highest daily food allowances were to reduce their allowance by £0.10 there would be savings of £133,000 a year. Other savings could arise from adopting joint purchasing arrangements with other public sector organisations.

¹ Interview with a governor at an English prison. The other three factors important to maintaining good order include mail, hot water and visits.

² *HM Prison Service: Prison Catering* (HC 277, 1997-98).

The quality of catering has improved, although some standards are not being met

5 Overall, the Prison Service has improved the quality, range and choice of meals over the last seven years. Prison caterers provide a professional service and prisoners' complaints about food have fallen. Prisoners are asked for their views about food likes and dislikes and they are responded to where affordable and practicable. Following the Committee of Public Accounts report in 1998³, the Service introduced key catering standards setting out the legal and practical requirements to deliver good catering practice, food safety and to provide advice on menu management. The last check on performance by the Standards Audit Unit of the Prison Service showed that over 80 per cent of prisons met 80 per cent of the standards.

6 However, there is still more progress to be made. Some prisons are not meeting recommended levels of service. In particular:

- Food is often not served within 45 minutes of its preparation which means that it risks losing some of its palatability and nutritional content. There are, however, practical difficulties in meeting this target, such as the long distances between kitchens and the points where prisoners are served their meals; kitchens having to cope with larger populations than they were designed for; and prisoners having to queue for up to 45 minutes.
- Main meals are sometimes served very early. At Channings Wood Prison lunch was served at 11:15 am and the evening meal at 4 pm at weekends. There are also long intervals between meals – half of the prisons we visited did not meet a 14 hour interval standard between meals overnight.
- Overall standards for the preparation, cooking and serving of religious and ethnic food are being met, but the equipment for the production of Muslim food is not always separately labelled. There is also an issue about prisoner perception. Caterers may well be meeting all of the required standards for religious and ethnic food but some caterers found it difficult to convince prisoners that this was the case.
- The Standards Audit Unit found that in 2004-05 prisons were fully compliant with 66 per cent of standards, partially compliant with 32 per cent of standards and non-compliant with two per cent.

7 Area catering advisers provide advice to the Prison Service's area managers on kitchen catering. The advisers have played a key part in the introduction of improvements in prison catering over the years. Catering managers at prisons act upon their advice. Although two thirds of catering managers at prisons told us that they found area catering advisers helpful, one third did not. Of the managers who were not satisfied, their main concerns were that they added little value at well-managed kitchens.

Prisoners have the opportunity to eat healthily but there are some concerns

8 On the whole, food offered to prisoners is in line with the government's recommendations on healthy eating.⁴ Prisoners are offered a variety of foods, different dietary requirements are catered for and there is a variety of choice such that prisoners who wished to eat vegetarian one day, halal the next, and a standard diet the next could do so. At least one meal option labelled as healthy, is offered at lunch and in the evening.

9 Our consultants, Bournemouth University, carried out research on the nutritional content of food offered to prisoners. They found that although prisoners were offered meals that contained recommended quantities of most vitamins and minerals, there were some notable exceptions which could affect prisoners' health. Average levels of salt, for example, were far above the government's recommended levels – up to 93 per cent more in the case of the adult male standard meals, mainly due to the use of processed and pre-prepared dishes and high consumption of bread. Dietary fibre, which could be provided by fresh fruit and vegetables and wholegrain products, such as bread and cereals was low. The amount of energy (calories) provided by some meals over the day exceeded the government's recommendations and, although the recommendation for average energy consumption for women is lower than for men, most meals offered to women provided similar energy levels.

10 Prisoners are provided with meals which rely heavily on convenience foods, such as pies and burgers and tinned food and frozen vegetables with little use made of seasonal produce. The researchers also found that although prisoners were offered the opportunity to eat healthily many did not choose to do so and they considered that prisoners did not understand what constituted a healthy balanced diet. Prisoners were provided with little information about healthy eating apart from when they first entered prison. Some meals with a

3 Committee of Public Accounts 30th Report of 1997-98 (*The Prison Service: Prison Catering*, HC 419).

4 Balance of Good Health, Food Standards Agency, 2001.

high salt content and salads with a high fat content were incorrectly labelled as healthy. To improve the diet of prisoners we recognise that there would be an additional cost to the Prison Service.

Most prisoners have the opportunity to exercise regularly but participation in organised physical education at some prisons is low

11 Physical activity is as important as food in maintaining and improving prisoners' health. According to Prison Rules,⁵ adult prisoners should have the opportunity to exercise for a minimum of at least one hour a week and young offenders for a minimum of two hours a week. In addition, all prisoners are given time in the open air each day, which they can use to exercise if they so choose. Prisons also offer programmes of organised physical education activities. Prisoners do not have to attend physical education activities but are encouraged to do so.

12 We found that prisoners are given the opportunity to exercise according to Prison Rules. While 43 per cent of prisoners participate in some form of organised physical education activities, there are wide variations ranging from eleven per cent of prisoners in Bristol Prison to 87 per cent in Huntercombe Prison. Low take up rates are affected **by the range of activities and facilities available** (many older prisons have gyms with restricted capacity and no outside sports pitches); **whether prisoners are given equality of access to activities** (vulnerable prisoners, for example, do not always have the same level of access as others); **limitations on the availability of staff** (especially at evenings and weekends when prisoners who work or attend education classes during the week could exercise); and **the emphasis given to some activities at some prisons**, such as weightlifting and personal fitness, which perhaps diverts attention from activities which might attract wider participation.

The cost of physical education instructors varies disproportionately between prisons

13 The Prison Service spends some £29 million on physical education instructors. From the sample of prisons we examined, we found wide variations in the ratios of prisoners to physical education staff ranging from 38:1 at Aylesbury Young Offenders Institution to 165:1 at Channings Wood Prison and commensurately wide variations in cost. Young offenders (at Aylesbury for example) are entitled to and receive more hours of exercise, which is reflected in the costs. Elsewhere the

numbers of instructors did not bear a strong relationship to the number of prisoners or the type of prison. For example, the cost each year of providing physical education per prisoner, including staff, facilities and management, at Channings Wood Prison is £520 compared with £930 at Ashwell Prison. Prison governors do not have up to date guidance on standard ratios of staff to prisoners. The Prison Service told us that there are difficulties in establishing baselines for physical education provision. Very few prisons hold identical prisoner populations with similar facilities and direct comparisons may not be meaningful. In addition some prisons have deficiencies in the provision of other activities, such as education and workshops, and if they incur higher levels of expenditure on physical education they might be covering for regime deficiencies elsewhere. Reducing physical education provision in these prisons would only impoverish regimes further.

14 Prison governors prefer to employ officers as fully trained instructors because of their leadership skills and the assistance they can provide in controlling aggressive behaviour. However, cost effectiveness should be a consideration as to whether officers should be employed as instructors. There is scope for employing civilians in prisons where the risks to security are less, such as open prisons. If by employing a civilian instead of an officer a saving of £5,000 could be made, then the replacement of 20 officers with 20 civilians would save the Prison Service some £100,000 a year.

Overall value for money

15 On the whole the Prison Service provides a well managed and professional catering service. There have been cost savings from rationalisation of food contracts and civilianisation of kitchen staff. Much of the food offered to prisoners meets government healthy eating recommendations. However, there is scope for improvement: some catering standards are not being met; food contains high levels of salt; and some further financial savings could be achieved. Prisoners have access to some high quality physical education activities. Instructors are highly motivated and respected. Better value for money could, however, be achieved. Participation levels in physical education activities in some prisons are low. The Prison Service needs to establish appropriate ratios of instructors to prisoners and consider the financial savings that would arise by employing civilians instead of officers.

⁵ The Prison Act 1952 gives the Secretary of State for the Home Department legal powers to make rules for the regulation and management of prisons. These are set out in the Prison Rules 1999 which were last amended in May 2005.



RECOMMENDATIONS

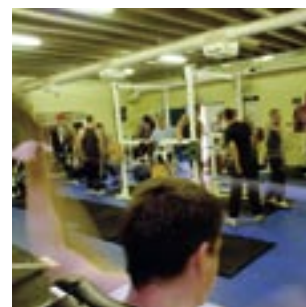
16 We recommend that:

On catering

- a** Prison governors and caterers should improve performance against those catering standards which have consistently not been met including keeping kitchen facilities well-maintained, serving meals at recommended times, putting temperature controls in place and training food handlers at serving points. Governors should enforce compliance with those standards, such as training, which are not wholly managed by catering departments.
- b** It is vital that prisoners, particularly those from minorities, believe that their food is stored, prepared and served in the appropriate way. Good practices we recommend include appropriate labelling of all equipment; caterers inviting local religious leaders into their kitchens; observing religious festivals by preparing special meals; and involving religious and ethnic minority prisoners in kitchen work.
- c** The Prison Service should explore the scope for further financial savings in their catering operations by:
 - comparing food costs between prisons and other organisations and reducing the costs of high spenders; and
 - improving its purchasing power by adopting joint purchasing arrangements with other public sector bodies.
- d** Risk based assessments are used to determine the number of visits to prisons by area catering advisers. Well-run prisons which comply with standards need visiting less frequently than others.

On prisoners' diet

- e** Prison caterers should improve the diet of prisoners, especially those aspects of diet which could adversely affect health, by, for example, reducing the high energy content of some meals taking into account the different requirements of prisoners being catered for (according to age and gender); setting specifications for suppliers to offer healthier products; not offering fried foods too frequently; offering plenty of fruit and vegetables, including more wholegrain products; serving fish regularly including oily fish at least once a week; and increasing dietary fibre.
- f** The Prison Service should provide practical guidance and training to all prison caterers on healthy catering practices and nutrition, including standard healthy option recipes, and the correct labelling of healthy food.
- g** The Prison Service should raise the level of awareness of healthy eating among the prison population through educating prisoners on the importance of healthy eating, posters, and by actively promoting it on a regular basis.



On exercise

- h** Each prison should increase participation in physical education activities to the highest proportion of prisoners as is practicable given the prison's facilities. All physical education departments should consult prisoners over which activities they would like to take part in and then offering them if suitable; promote activities which involve greater participation; and target specific groups who would otherwise be reluctant to participate such as the over 50's and foreign nationals.
- i** All prisons should provide exercise opportunities in the evenings and at weekends to increase participation of prisoners who work or attend educational classes full time during the week.
- j** Prisoners should have equality of opportunity to access physical education activities in each prison, including vulnerable prisoners, as far as is commensurate with maintaining good order and the privileges system in place in each prison.
- k** The Prison Service needs to take a strategic view of staffing for physical education instruction across the whole estate. Governors could be helped in determining how many instructors they require and their level of training if up to date guidelines on standard ratios of staff to prisoners were in place.
- l** The Prison Service should consider whether all physical education instructors in a prison need to be officers. There is scope for cost savings in some prisons by employing civilians as instructors where the risks to security and control are less, such as open prisons.

PART ONE

Introduction



1.1 A high proportion of prisoners⁶, are from socially excluded sections of the community with lifestyles more likely to put them at risk of ill health than the rest of the population. Many have, for example, never registered with a doctor⁷ or a dentist. Many have drug habits or mental illness and live chaotic lives without a stable home. Prison gives an opportunity to improve the health and lifestyle of prisoners to the benefit of all. Diet and exercise are major components of a healthy lifestyle and they are the subject of this report.

Diet is important to good order and to prisoners' health

1.2 Prisons aim to provide food which is nutritious, well prepared and served, reasonably varied, and sufficient in quantity, as otherwise mealtimes can become a catalyst for aggression. Inadequate portion sizes, lack of variety and poorly cooked food can contribute to serious complaints and dissension, with a risk to the Prison Service's goal of maintaining good order. Providing prisoners with the opportunity to choose a healthy, nutritionally balanced diet and with enough knowledge to make informed choices is important because prisoners can be in custody for long periods and are dependent upon prison food to meet their nutritional needs.

1.3 Prison governors bear the ultimate responsibility for prisoners' diet. They are required to approve food as fit for service to prisoners and approve food budgets. In most prisons, one member of the governor's senior management has day to day oversight of catering. Prison kitchens are run by catering managers, who are responsible for implementation of standards, training of staff and control over the food budget. They prepare three meals a day for every prisoner on every day of the year, or some 83 million meals a year, all served at predetermined times.

1.4 The Prison Service's centrally based Catering and Physical Education Service monitors the provision of food through six area catering advisors. They also provide technical advice to prison catering managers. In 2004-05, expenditure on catering amounted to £94 million of which the main components were food (£43 million or 46 per cent) and catering staff (£32 million or 34 per cent).

⁶ HM Prison Service has responsibility for all prisoners in England and Wales. In October 2005 there were some 77,700 prisoners held in 139 prisons.
⁷ The Social Exclusion Unit estimates that half of prisoners have not registered with a General Practitioner before they come into custody.

Exercise has an equally important role in maintaining and improving prisoners' health

1.5 Exercise can make a major contribution to the physical and social well being of prisoners. It has a significant role to play in occupying prisoners purposefully when they are out of their cells, and may also provide a positive outlet for offenders' energy if they continue recreational activities after release. Prisons are obliged by statute to provide prisoners with one or two hours of exercise a week for adults or young offenders respectively, together with regular access to fresh air.

1.6 Prisons also offer programmes of physical education activities. Prisoners do not have to attend these activities but are encouraged to do so. A physical education regime should introduce prisoners to a wide variety of sporting activities and enable them to achieve personal performance and achievement awards (in 2004-05 over 120,000 awards were achieved by prisoners). Other key functions include encouraging prisoners to participate in sport when released from custody and enabling some prisoners to gain coaching and refereeing qualifications.

1.7 The main responsibility for prisoners' exercise lies with prison governors. As with catering, a member of the governor's senior management team has day to day oversight of physical education departments. Five physical education area advisors monitor the provision of physical exercise and provide technical advice to prison physical education managers. In 2004-05, expenditure on physical education amounted to £60 million of which nearly half was on staff.

Our previous examinations of prison catering showed scope for improvement

1.8 In 1997 we examined prison catering⁸, focusing on the quality of catering, including the adequacy of catering standards; specifications and procedures; the quality, diversity and timing of meals; and the cost of catering, especially the Prison Service's arrangements for providing prisoners' meals economically and efficiently.

1.9 Prison catering was examined by the Committee of Public Accounts in 1998.⁹ The Committee recommended that the Prison Service should improve the quality of catering by pressing ahead with the development of standards and with effective quality control arrangements, so that benchmarks could be established to measure the performance of individual prisons. The Committee expected the Prison Service to find cost savings from catering. In implementing the changes necessary to achieve the savings and the planned quality improvements, the Committee expected the Prison Service to emphasise to governors their personal responsibility for catering in their prisons, and to commit them to providing good quality food efficiently and at a reasonable cost.¹⁰

What we examined

1.10 This examination focuses on whether:

- previous Committee of Public Accounts recommendations on prison catering have been addressed (Part 2); and
- prison diet and exercise regimes allow prisoners to follow a healthy lifestyle (Parts 3 and 4).

1.11 In carrying out this examination we sought evidence from a range of sources, set out in **Figure 1**. Further details of our methodology can be found in Appendix 2.

⁸ *HM Prison Service: Prison Catering* (HC 277, 1997-98).

⁹ Committee of Public Accounts 30th Report of 1997-98 (*The Prison Service; Prison Catering*, HC 419).

¹⁰ The Committee's conclusions and recommendations and the government's response are set out in Appendix 1.

1 Our sources of evidence in carrying out this examination

Method

- Visits to 16 prisons.
- Examination of cost savings made since 1998.
- Benchmarking.
- Research into the diet and nutrition of prisoners. We commissioned the Worshipful Company of Cooks Research Centre at Bournemouth University to carry out this research.
- Review the work of HM Inspectorate of Prisons and the Independent Monitoring Boards and the Prison Service's Standards Audit Unit.
- Expert opinion. We engaged the British Nutrition Foundation.

Purpose

- To audit the catering and exercise arrangements at a range of prisons, including one privatised prison and one public sector prison where the catering arrangements had been contracted out.
- To identify and substantiate cost savings made as a result of recommendations made by the National Audit Office and the Committee of Public Accounts in their previous reports on prison catering.
- To compare costs and activities between prisons and between the Prison Service and other organisations.
- To establish whether the meals provided by the prison service enable all prisoners to follow government recommendations on nutrition and healthy living.
- To determine how external bodies regard prisoner diet and exercise.
- To provide advice on the nutrition-related findings of the study.

PART TWO

Prison catering has improved since 1998



2.1 In this Part we examine how the Prison Service has addressed the recommendations of the Committee of Public Accounts¹¹ on the quality and cost of the catering service. Our key findings are that:

- overall the quality of prison catering has improved;
- some standards of service are still not being met; and
- the Prison Service has made significant financial savings from both its food and catering staff budgets, but there is scope for further savings.

Overall the quality of prison catering has improved since 1998

2.2 We found that the quality of catering has generally improved since 1998. There are many factors which have contributed to this improvement, not least the professionalism and dedication of catering staff in prisons. One of the most important factors has been the introduction of Prison Service catering standards at each prison, which set out the legal and practical requirements to support good catering practice, food safety, and advice on menu management. **Figure 2** gives the views of several prisoners.

2 Prisoners talk about food

“The food has got better. Considering how it used to be, it’s improved hell of a lot.”

“We used to only have two menus a week. Right, one week something and then the next week something different and then you go back to the same and it was the same for two or three years.”

“Personally, we don’t have any problem whatsoever with eating healthily and getting as much, if not more than we need really but that’s just my perspective.”

“The food here has changed. It has dramatically changed. It’s not bad, it’s not bad, I’m in prison, I’m not going to moan because at the end of the day I’m in prison – what do I want? Yeah, sometimes you get something and you say yeah that was nice, I want some more but then the next day it might not be so good and that’s how it is.”

Regarding nutritional content of food

“You get salad and fruit – not lots but certainly a couple of times a week and there’s always a vegetable... that’s the one thing we look forward to in prison and if we didn’t get that we’d be on the roof!”

Source: National Audit Office focus groups of prisoners at Leeds, Preston and Wandsworth Prisons

11 The Committee of Public Accounts, *The Prison Service; Prison Catering*, thirtieth report 1997-98.

Prison catering has improved as the Service has adopted catering standards and monitored overall performance against them

2.3 Catering standards are audited at each public prison by the Prison Service's Standards Audit Unit on a two year cycle.¹² The Unit measures the performance of prisons by examining whether prisons are compliant with 21 key standards¹³ such as keeping kitchens clean and maintaining food at the right temperature before it is served. The number of prisons meeting at least 80 per cent of the standards has improved from 66 per cent in 2003-04 to 81 per cent in 2004-05.

2.4 From our visits to 16 prisons we found that the application of standards has improved the quality, range and choice of meals. For example:

- In 1997 about 50 per cent of prisons adopted a pre-select system of choosing meals which allows prisoners to decide what they want a day or more in advance and gives the catering manager a reasonable indication of demand. By September 2005, all prisons¹⁴ had adopted the pre-select system where it is appropriate to their circumstances. This approach improves choice and cuts down on waste.
- All kitchens offered at least four choices at each main meal-time, with vegetarian, vegan, and religious diet options, including at least one labelled as a healthy eating option. An example of a prison's menu is at **Figure 3**.
- Prisoners were regularly asked for their views about their food likes and dislikes. We were told by caterers that they responded to their views, if requests were affordable and practicable. Although prisoners do grumble about the quality of food, there is a widespread view among prison governors that complaints about food have diminished in recent years. We were told by members of Independent Monitoring Boards at most of the prisons we visited that they had received very few formal complaints, if any, about food over the previous year.

Some standards of service, however, are still not being met and more action is needed

2.5 Although prisons' overall compliance with the standards is improving, some prisons were not meeting recommended levels of service as laid down:

- food was not always being served within 45 minutes of preparation;
- some meals were served very early in the day (e.g. dinner at 4pm) and there were intervals of longer than 14 hours between meals;
- there were shortcomings in the handling of religious and ethnic food; and
- other compliance failures have been reported on by the Standards Audit Unit.

Food was not being served within 45 minutes of its preparation

2.6 Food should be served within 45 minutes of its preparation to preserve its palatability and nutritional content. Food quality and nutritional content starts to deteriorate on holding. Six of the sixteen prisons we visited (37 per cent) were regularly serving food to prisoners later than 45 minutes after preparation. Arrangements for the delivery of meals from kitchens to wing serveries or dining rooms are determined by the layout of the prison. The majority of prisons serve food from serveries for consumption by prisoners in their cells, as there is no central or wing dining room, and food is transported to the serveries in heated trolleys.

2.7 There are practical difficulties in achieving the 45 minute target in some prisons. The time delay between cooking and serving will be influenced by the complexity and length of any food distribution route, which may be significant in larger or more spread-out prisons or where the kitchens are not centrally located. Some kitchens cater for more than one prison (for example one kitchen on the Isle of Wight serves three prisons) and delays are compounded at these 'clustered' prisons. In addition it may be impractical to ensure that all cooking processes end at around the same time, especially where limited equipment has to be used for more than one process. Difficulties are further increased in those prisons which

¹² The Standards Audit Unit monitors a wide range of standards, not just catering. It reports directly to the relevant heads of Prison Service Directorates.

¹³ Prior to 2005-06 there were 30 key standards.

¹⁴ Except three (Latchmere House, Leyhill and Sudbury) and some prisons did not have a pre-select system at weekends. The three exceptions have large numbers of prisoners released on temporary licence for work in the community and pre-select systems are not appropriate.

3 Pre-select menus for meals at Kingston Prison (Portsmouth)¹

Day	Breakfast	Lunch	Tea
Thursday 28/04/05	Breakfast pack Milk (semi-skim) Bread Roll	Bread and Soup 1 Vegetarian Pasta Bake, Boiled Potato and Mixed Vegetables 2 Chicken and Mushroom Pie, Boiled Potato and Mixed Vegetables 3 Halal Jamaican Beef Patti, Boiled Potato and Mixed Vegetables 4 Corned Beef and Pickle Roll with Crisps 5 Jacket Potato and Coleslaw	A Vegetable Supreme, Mashed Potato and Green Beans B Chicken Supreme, Mashed Potato and Green Beans C Halal Chicken Curry, Boiled Rice and Green Beans D Grilled Gammon, Mashed Potato and Green Beans E Pork Pie Salad X Eves Pudding Y Fresh Fruit
Friday 29/04/05	Breakfast pack Milk (semi-skim) Bread Roll	Bread and Soup 1 Vegetable Spring Roll, Chips and Peas 2 Breaded Fish, Chips and Peas 3 Cheese and Beano Grill, Chips and Peas 4 Cheese and Tomato Roll, Crisps 5 Jacket Potato and Tuna	A Bean and Vegetable Curry, Boiled Rice and Cauliflower B Chicken Chasseur, Boiled Rice, Cauliflower C Halal Beef Casserole, Boiled Rice, Cauliflower D Fish in Parsley Sauce, Boiled Rice, Cauliflower E Vegetable Quiche Salad X Sponge Pudding and Custard Y Fresh Fruit
Saturday 30/04/05	Breakfast pack Milk (semi-skim) Bread Roll	Bread 1 Veg Sausage x 2, Fried Egg and Hash Brown x 2 2 Chicken Sausage x 1, Bacon x 1, Hash Brown x 2 and Fried Egg 3 Halal Chicken Sausage x 2, Hash Brown x 2 and Fried Egg 1, 2 & 3 served with Tinned Tomato and Toast 4 Turkey Salad Roll with Crisps 5 Jacket Potato and Curried Beans	A Soya Lasagne, Garlic Bread and Salad B Minced Beef Lasagne, Garlic Bread and Salad C Halal Beef Italiane, Garlic Bread and Salad D Rice and Bean Stuffed Peppers and Salad E Cheese Salad X Sultana Scone Y Fresh Fruit

Vegetarian Cottage Pie made here as bought in product is not Vegan friendly.

Jacket Potato is served with its filling only.

Crisps go with Lunchtime Rolls only.

Soya Lasagne keep portions back for Vegans and top with Tomato Sauce instead of Cheese Sauce.

Garlic Bread not suitable for Vegans.

Vegetable Supreme to be made with Soya Milk and Vegan Margarine.

Vegans to be given a portion of Mushroom in place of Fried Egg on Saturday.

Source: Prison Service

NOTE

¹ The daily food allowance at Kingston Prison for 2005-06 is £2.07 of which £0.27 is spent on a breakfast pack (paragraph 2.11).

house large populations. Of the 16 prisons we visited, nine had to cope with a larger population than that for which kitchen and serveries were designed. Bullingdon Prison kitchen, for example, was designed to serve 630 prisoners but currently has to serve 960; Wayland was designed for 400 but has to serve 700.

2.8 There is a further difficulty with the target itself, as it focuses on the start of the service. At some prisons service can last up to 45 minutes and the last prisoners may be served up to 90 minutes after the completion of the cooking process, even if the 45 minute target has been met. **Figure 4** gives the viewpoint of one prisoner. If the 45 minute target is not achievable at some prisons because of practical problems and other, quicker, serving arrangements are not feasible in the short term because of lack of finance, the Prison Service should consider whether more realistic targets should be set.

Meals were often served early and there were long intervals between meals

2.9 Breakfast should be eaten by 8.30am, with lunchtimes set to start at around 12.00 noon, and evening meals around 5.00pm. The time interval between serving the evening meal and breakfast the following morning ought to be no more than 14 hours, as long gaps could result in health and behavioural problems due to low blood sugar levels as well as discontent among prisoners.

2.10 In our sample of 16 prisons, we found nine prisons serving one or more meals earlier than the advisory times. Channings Wood Prison, for example, served lunch at 11.15am and at weekends the evening meal was served at 4pm. Meal timings were set to fit around the prison education and work regimes, staff meal breaks and shift patterns. We found that prisoners at half of the 16 prisons had to wait for over 14 hours between meals and had to be provided with an additional snack (such as biscuits or fruit) for consumption in the evenings. **Figure 5** gives an example of a prisoner’s experience of the timing of meals.

4 A prisoner talks about the time intervals between cooking and serving

“There are trolleys plugged in to the leccy, with a little hot plate at the bottom. You have to make food here at least, I think it’s about 3-4 hours before it goes onto the wing, so your food’s actually cooked about 9.00 in the morning, waiting to come over, to serve to us for 12.30/1.00, so when you get it it’s just *****...”

Source: National Audit Office focus group of prisoners at Allicourse Prison

5 A prisoner talks about the time intervals between meals and breakfast packs

“... they talk about ‘menus’; now, ... you look at the menu ...; on weekends you don’t get no breakfast; you get the breakfast the night before (which is a packet of cereal and one little cup ... it’s about that big, it’s not enough), then you get your lunch, then you get your evening meal, which is anything between 4.15 and 5.00 (you get a sandwich, you get a piece of fruit, you get a biscuit) – now, that has got to last you until the next day at 12.30. Now look at the gap ... it’s not a hot meal you’re eating; it’s a sandwich and you’ve got to wait right up until the next lunchtime, which will be anything between 12.30 and 1.00 p.m. before you’re actually given any more food.

So don’t let people get confused because they see a ‘menu’ and you get a ‘breakfast pack’; the breakfast pack is a cold meal, the evening meal is a cold meal, the only hot meal you’re getting today is of a lunchtime and then you’re waiting a full 24 hours before you receive another hot meal. So how do you explain that? I remember 20 years ago when I was in prison, the food that you received in prison, never mind all this ‘menu’ crap, you got what they brought out, what was there was what you’d get; you would get a lot more.”

Source: National Audit Office focus group of prisoners at Leeds Prison

2.11 Providing prisoners with breakfast packs¹⁵ can extend the period that some prisoners go without a main meal. Pre-prepared breakfast packs had taken the place of a cooked or morning breakfast service in 60 per cent of the prisons we visited. They cost £0.27 each to buy. Many packs were issued the previous day for prisoners to consume in their cells the next morning. However, at all of the prisons (except at Drake Hall Prison where milk was delivered in the morning) all the catering managers said that some prisoners ate the contents of their breakfast packs in the evening with the result that prisoners had to wait until lunch time for their next meal. Prisoners can eat their breakfast packs before the recognised breakfast time but there is a significant element of individual responsibility and choice that prisoners can make about when they consume this meal.

2.12 Breakfast packs are generally unpopular with prisoners and some catering staff because of their perceived frugal content and nutritional value. They were introduced so that some staff could be released from preparing, supervising and serving breakfast and allow them to carry out other duties, such as supervising work and education programmes. Breakfast packs were also introduced because cooked breakfasts are no longer part of contemporary eating habits in the wider community. We support the advice given to governors by the Prison Service's Catering and Physical Education Service; that they should determine whether they provide breakfast packs, taking into account the relative costs of providing a breakfast service.

There were shortcomings in the handling of religious and ethnic food

2.13 Prisoners come from a wide diversity of religious and ethnic backgrounds. They can account for up to one third of a prison's population. The Prison Service identifies eleven different religious and cultural diets, with which caterers have to cope. Some diets, such as Buddhist, are covered by providing a vegetarian or vegan option. Other diets, such as Muslim and Jewish diets, require special food and preparation.

2.14 The Prison Service sets standards for the storage, preparation, cooking and serving of religious and ethnic food. We found that on the whole standards were being met. Although, at the time of our visits four out of sixteen prisons were unable to store halal meats separately from other meat, measures had been taken to avoid cross contamination. At 11 prisons equipment for the production of Muslim food, such as knives and cutting boards, and cooking pots and pans, was not separately labelled.

2.15 Additionally, there is an issue of prisoner perceptions. Caterers may well meet all of the required standards for religious food but some found it difficult to convince prisoners that this was the case. To provide reassurance to religious and ethnic minority prisoners that their food is being stored, prepared and served appropriately, we identified several good practices in prisons, which could be replicated elsewhere: inviting local religious leaders, such as imams, to prisons to inspect preparation and storage facilities and discuss any concerns with prisoners and caterers; observation of major religious festivals by preparing special meals to go with them, including making sure that Muslim prisoners can correctly observe Ramadan; and involving religious and ethnic minority prisoners in the preparation and serving of their meals in the kitchens and at the serveries.

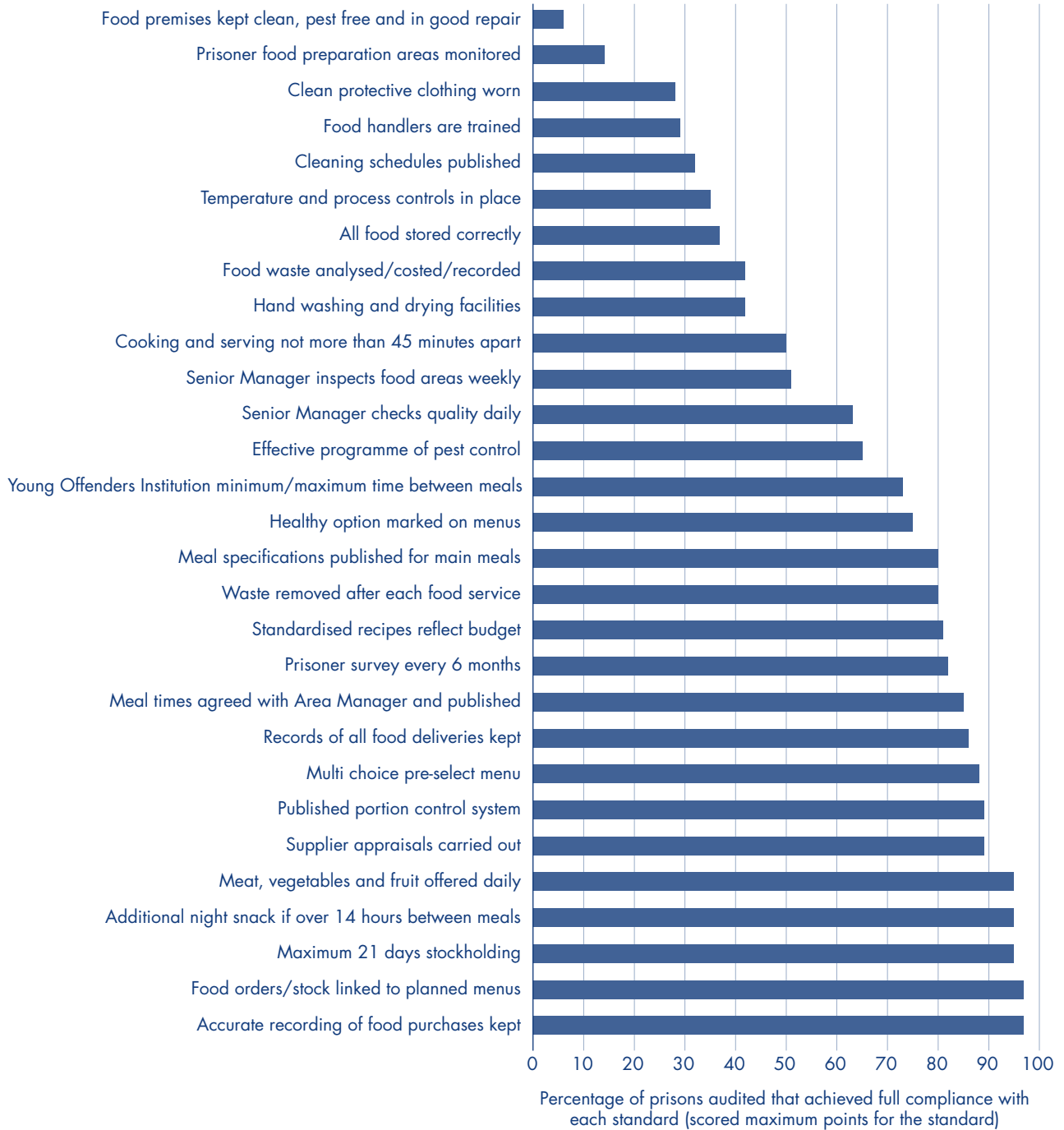
The Standards Audit Unit has reported on other compliance failures

2.16 The Standards Audit Unit assesses whether public sector prisons are compliant with catering standards and scores them on a scale from zero (non-compliant) to four (fully compliant). **Figure 6 overleaf** shows the percentage of prisons that are fully compliant with the standards in 2004-05 when the Unit visited 65 prisons. Overall prisons were fully compliant with 66 per cent of standards, partially compliant with 32 per cent of standards (scores one to three) and non-compliant with two per cent.

¹⁵ The breakfast packs contain a breakfast cereal, two slices of bread, jam or marmalade, margarine, tea bags and instant coffee, sugar sachets and a small carton of UHT (or occasionally fresh) milk (most prisoners have kettles in their cells for making hot drinks). Prisoners can also receive extra bread in the evening for consumption the following morning.

6 Although most prisons are fully compliant with catering standards, compliance with some standards is poor.

Catering standards¹



Source: Prison Service Standards Audit Unit, 2004-05

2.17 Full compliance with the standard on keeping food premises clean, pest free and maintained in good repair has been poor since 2002-03 and declined to only six per cent in 2004-05. On the whole, kitchens are clean and hygienic and there have been no food poisoning incidents in recent times. Each establishment is required to have a pest control contract in place and a trained pest control operative who manages the contract. The problem has been that facilities have come to the end of their working capability and the state of the fabric in many kitchens is generally poor. After each audit, the Unit provides a report to the catering manager who in turn prepares an action plan to address the concerns. For each of the prisons in our sample we found that appropriate action plans were in place and being implemented. Where fabric and equipment was in need of repair appropriate bids for investment had been made although they had to compete with demands for investment from other departments within prisons.

2.18 Compliance with several other standards has been consistently poor over the past three years, including the training of cleaning (wing) supervisors, the training of food handlers and the wearing of protective clothing. The enforcement of these standards are not directly the responsibility of the catering managers in all areas of a prison since food handling and serving can take place in prison wings and housing blocks remote from the kitchen. Catering managers told us that wing and block managers were not always as committed to ensuring full compliance with the catering standards as they would be in the kitchen.

Most catering managers find area catering advisers helpful

2.19 Six area catering advisers provide feedback to the Prison Service's area managers and advice to governors under a service level agreement with area managers. The terms include a 24 hour emergency advice line and a minimum of four visits annually to each prison to check matters such as hygiene, catering standards and staffing in the kitchen. Area catering advisers have played a key part in the introduction of improvements in prison catering such as the introduction of pre-select menus (paragraph 2.4). Advisers also have a vital role to play in providing advice to headquarters on whether kitchens are likely to be approved by environmental health inspectors, since closure of a kitchen would be a major incident and alternative arrangements would have to be put in place.

2.20 Catering managers are required to prepare action plans to meet any concerns that advisers might have. In our interviews with 16 catering managers, ten said that catering advisers were helpful but the other six did not. Managers found them helpful in providing support and advice, and dealing with major change in the kitchens and staffing issues. The main concerns of managers who were not satisfied, were that area catering advisers provided little added value at well-managed kitchens and as a result their reports tended to focus on issues perceived as minor.

2.21 The Prison Service's central catering group should consider whether advisers need to visit all prisons up to four times a year. The number of visits could be reduced, especially in prisons where the kitchens have been identified as well-managed. To get the best from catering advisers, the number of visits should be undertaken on the basis of risks to an effective and efficient catering service and the findings of the Standards Audit Unit.

The Prison Service has made financial savings from its catering budget

2.22 In 2004-05 the Prison Service spent some £94 million on the provision of the catering service, of which £43 million was spent on food and £32 million on catering staff salaries. The remainder was spent on energy and prisoners' wages. Since 2003-04, savings have been made from expenditure on food (by up to £3.0 million each year or about seven per cent of expenditure on food) and on catering staff (by £1.7 million a year or about five per cent of expenditure on staff). There have also been savings arising from more efficient procurement (up to £1.2 million a year) and reduced stockholdings of food (a one-off saving of some £2 million).

Savings have been made from the food budget

2.23 Savings have been made as a result of introducing national mandatory contracts for food. In 1999, as a result of a review of its procurement methods, the Prison Service replaced 43 national and numerous local purchasing food supply contracts with far fewer centrally let national and regional contracts. The simplified structure of national and regional contracts allowed the Prison Service to set consistent standards for quality and make financial savings. In April 2003 the National Audit Office published its report *Modernising Procurement in the Prison Service*¹⁶, which found that efficiency savings of £1.25 million had been made through using centrally let food contracts.

16 National Audit Office, *Modernising Procurement in the Prison Service*, HC562, Session 2002-03, April 2003.

2.24 Since then more savings have been made partly due to a further reduction in the number of contracts and by making their use mandatory. By 2005, the number of contracts had been reduced to eight national and 14 regional contracts for fresh produce. All contracts are let competitively every two to three years and prisons have a choice of contractors for both fresh and frozen goods, although there is only one contractor for non-perishable food. In 2003-04, the Prison Service made cost savings of £2.6 million and in 2004-05 it made cost savings of £3.0 million from its contracts. Some of the largest savings have come from the frozen food contract where the caterers have been able to purchase residual products at keen prices. Rationalising the number of suppliers has also meant savings in administration procedures: reducing the number of deliveries to handle at prison gates and at stores and removing catering managers from involvement in procurement. There were savings in efficiency of £1.2 million in 2003-04 and £1.0 million in 2004-05. The Prison Service estimates that it will make a further £8.0 million of savings from its food budget and by more efficient procurement between 2006 and 2009.

2.25 Efficient management of food stocks has helped to reduce costs. In 1997 prisons held on average some 27 days food supply and the Committee recommended that stockholdings should be reduced. Since 1998 prisons have reduced their food stocks to 11 days on average and by doing so have realised a one-off saving of some £2 million.

Savings have been made from the catering staff budget

2.26 Governors have the option to employ civilians, prison officers and supervised prisoners as caterers, or combinations of all three or to contract out catering if they think it is cost effective. In 1998 the Committee of Public Accounts was concerned about variations in staff costs between prison kitchens and considered that financial savings could be made by better mixes of civilian and officer staff. The Prison Service reviewed the staffing mixes at each prison and as a result officers have continued to be replaced by civilians – a process which began in the early 1990s. The proportion of civilians rose from 55 per cent of catering staff in 2000 to 85 per cent in November 2004 with a commensurate fall in the percentage of officers. The Prison Service has estimated that civilianisation has brought about savings of £1.7 million a year in salaries and other wages costs.

2.27 Over 160 prison officers remain employed in kitchens. The Prison Service told us that the scope for further civilianisation was limited partly because the differentials in salary costs between civilians and officers have been eroded in recent years and partly because civilian staff in some areas were not attracted to the prison environment.

2.28 Employing prisoners in kitchens can make cost savings. Prison kitchens provide employment to nearly 2,300 prisoners at a cost in wages of £1.7 million. Wages vary from £7 to £34 a week depending on factors such as hours worked and level of responsibilities, availability of other work and governor discretion. As part of the Prison Service's commitment to rehabilitation of prisoners, many prison kitchens offer vocational courses to prisoners in catering, food hygiene and cleaning. Prison labour is relatively cheap compared to staff, although additional costs are incurred to manage and educate prisoners and provide a secure and safe environment in the kitchens where knives, boiling liquids and other hazards are present.

2.29 Prison governors have the option to contract out their catering services, although the contracted out service must adhere to the same quality standards as in-house catering. In 1998 nine prisons had contracted out catering but the number has fallen to four, (Woodhill, Holme House, Lancaster Farms and Bullingdon). The five prisons which have brought catering back in-house have done so on the grounds of cost savings and improved service delivery. Contracted out services are generally more expensive than in-house operations because contractors do not use prisoners as kitchen labour but kitchen staff at commercial rates.¹⁷ Reading Prison, for example, the most recent to convert back to in-house catering, has made financial savings by employing prisoners in its kitchens. Other benefits to governors of having an in-house catering service include the ability to train prisoners in kitchens and greater flexibility in dealing with short term increases in prison populations.

17 The amounts spent on daily food allowances by prisons that have contracted out their catering services are close to the average spent at prisons that have not contracted out their catering service.

The Prison Service could make further cost savings and improve quality

2.30 Since 1998, the Prison Service has realised some significant financial savings from catering whilst generally improving the quality of food provided to prisoners through introducing quality standards and other measures. Analysis of the Prison Service's cost information and other evidence indicates that further cost savings might be achieved by benchmarking prisons against each other and against other organisations and adopting joint purchasing with other public sector organisations. The quality of food could be further improved by dispensing with Land-Based Activities.

Financial savings could be made by benchmarking prisons against each other

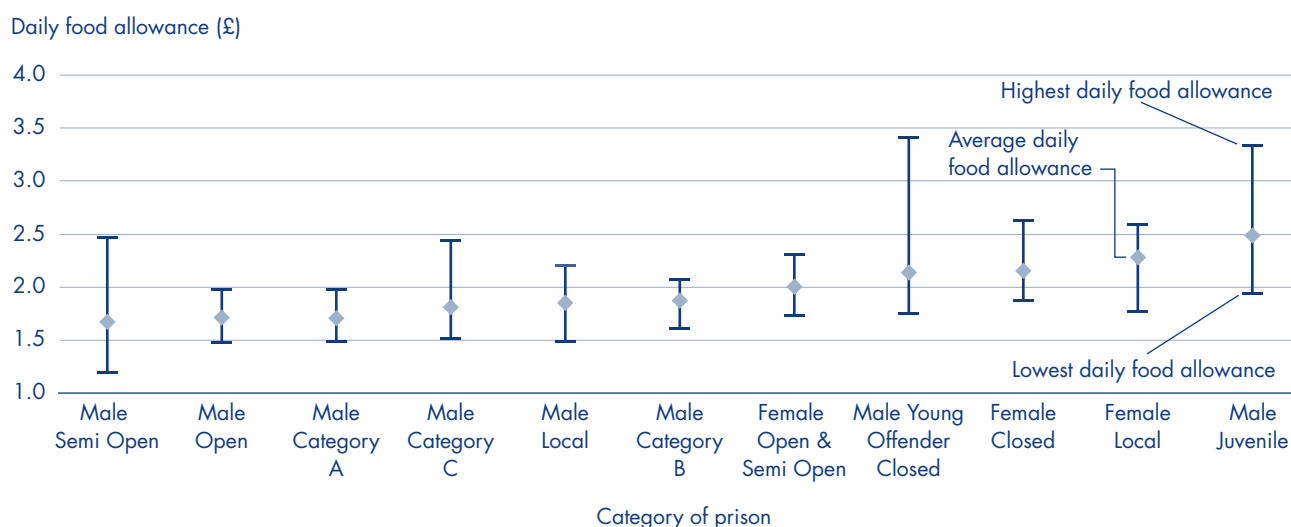
2.31 Expenditure on food at each prison is determined by the governor who sets the budget on the basis of an allowance per prisoner (called the "daily food allowance"). **Figure 7** shows an analysis of the daily food allowance by type of prison, which ranges from £1.20 (Latchmere House Open Prison) to £3.41 (Feltham Young Offenders' Institution). The average daily food allowance across the whole estate is £1.87. The reasons for the wide variations between categories of prison can generally be

explained: young offenders' institutions have some of the highest daily food allowances because growing juveniles tend to eat more than adult males. Young offenders' institutions are also provided with additional funds for food by the Youth Justice Board (nearly £1.5 million in 2004-05). Open and semi-open prisons have some of the lowest daily food allowances because many of their prisoners work and eat outside the prison and only require two prison meals a day.

2.32 Some variations in daily food allowances between the same type of prison can be explained. For example, the range observed in open and semi-open prisons is likely to be due to the difference in the percentage of prisoners who work outside. Other variations are less easily explained. For example, the daily food allowance at Feltham Young Offenders' Institution (£3.41) is nearly double that at Brinsford Young Offenders' Institution (£1.75).¹⁹ During our prison visits we examined how daily food allowances were calculated. We found that:

- Each year prison governors determine their priorities for expenditure on goods and services within their control. Some governors choose to give food a higher priority than other areas of spend, while others might have more pressing concerns and choose to spend less.

7 Variations in the daily food allowances between prisons of the same category¹⁸



Source: National Audit Office analysis of Prison Service data 2004-05

¹⁸ Prison establishments are categorised by their main role only. Establishments that have more than one role are placed in the category which represents their primary function. All adult inmates are placed into one of four security categories A to D, and the level of security at a prison is similarly graded. Category A prisoners are held in maximum security dispersal prisons, while category D prisoners are held in semi-open or open prisons. Local prisons hold newly-sentenced and short-sentence prisoners, young offender institutions hold prisoners aged 18 to 21, and juvenile prisons hold prisoners aged under 18.

¹⁹ The Youth Justice Board allocated £152,000 to Feltham and £102,000 to Brinsford in 2004-05.

- Daily food allowances are only partly based upon an assessment of need. At most prisons, the allowance is based upon previous years' expenditure. The allowance rarely changes from one year to the next: only one prison in our sample – Wayland Prison – regularly changed it.
- Since prison caterers select many of their food items from the same national suppliers at the same prices and quantities of food given to prisoners are the same at prisons of the same type, differences in expenditure between prisons of the same type are mainly due to differences in the quality and range of foods purchased.
- Governors and caterers did not routinely compare themselves with other prisons of the same category or learn how they might be more cost effective.

2.33 There is potential for financial savings if prisons with particularly high daily food allowances for their category of prison (“outliers”) were to reduce their daily food allowances and conform closer to the category average. As an illustration, if those prisons with the highest daily food allowances in each category (Figure 7) reduced its allowance by £0.10 there would be savings of £133,000 a year.

Financial savings could be made by benchmarking with other organisations

2.34 We collected information on food expenditure by several bodies in the public sector including the Prison Service (Figure 8). Comparisons drawn using this information should be treated with caution. Consumers are not the same. The food requirements of adult prisoners or even young offenders are not the same as school children, hospital patients or military personnel. The opportunities for consumers to supplement their meals, with additional food bought privately, are fewer in prisons. Military personnel, for example, can buy food outside the messes if they wish. Costs in schools are for one meal a day whereas the costs for prisoners, hospital patients and military personnel are for three meals a day. Methods of budgeting for expenditure on food vary between public sector bodies. The Prison Service uses daily food allowances whereas the Ministry for Defence, for example, uses a ration scale.

2.35 Notwithstanding the difficulty of drawing comparisons, food expenditure varies between public sector organisations, with the Prison Service lying in the middle of the range. Many schools spend less (per meal) than prisons (spend per day) but hospitals and Ministry of Defence establishments, with additional allowances, more. The Scottish Prison Service is the most comparable organisation. It spends some £0.30 less on its daily food allowance per prisoner than the Prison Service in England and Wales. The reasons for the differences are not fully known but are likely to include food purchasing arrangements and the quality of food. The Chief Inspector of Prisons for Scotland²⁰ has reported that there is not enough food provided for young men and that at £1.57 the total amount spent on food per prisoner each day in Scottish prisons has not changed since 1996. He also found that prisoners were not provided with a proper amount of fresh fruit and vegetables each day (see paragraph 3.14 for prisons in England and Wales). The Scottish Prison Service told us that the issue of food had been raised in previous inspections and is being taken forward by the Scottish Prison Service. A ‘Good Food’ Group, involving outside nutritional experts as well as Scottish Prison Service staff, has been established with a remit to develop a strategy for the improvement of food in prisons and a role to monitor its quality and delivery over time.

2.36 The differences in cost per consumer between organisations arise from their different approaches to the procurement of food and catering services and the emphasis they give to food quality:

- **Most organisations have centralised purchasing although to varying extents.** Most schools contract out their catering and food procurement to one of four main contractors. In the NHS a large trust which has outsourced its catering to a major catering contractor could spend £5 million a year. The armed forces use one major food supplier whose contract is worth some £135 million. In the Prison Service the trend has been towards fewer contracts with national suppliers (paragraph 2.23).

20 HM Chief Inspector of Prisons for Scotland, Annual Report, 2004-05.

8 The average daily food expenditure per consumer varied between public sector bodies in 2004-05

Body	Annual food costs (£million)	Daily food costs per consumer (£)	Meals per day	Comment
Prison Service	43	1.87 (average)	3	
Primary school	234 ¹	0.40 – 0.65 (range)	1	Primary school children require less quantity than adults.
Secondary school	126 ¹	0.56 – 0.64 (range)	1	
Scottish Prison Service	3.5	1.57 (average)	3	
Ministry of Defence	135 ²	2.00 – 2.20 (range)	3	The £2.00 to £2.20 is a typical allowance. There is a basic allowance of £1.84 which is increased by additional allowances, for example where personnel having completed a full days work are retained on duty through the night i.e. guard duty or undergo extra physical activity. Additionally the allowances assume that all personnel eat all meals, however, average take-up is actually 50-55 per cent allowing more to be spent per meal served. Excludes military personnel on operations.
Hospitals	300	2.50 (average)	3	Cook-serve production system. Other systems used by hospitals such cook-chill are more expensive per consumer.

Source: HM Prison Service, the Scottish Prison Service, the National Health Service, the Ministry of Defence, the Department for Education and Skills and the Local Authority Caterers Association. Daily food costs for schools is derived from information collected by the School Meals Review Panel, August 2005.

NOTES

- 1 Approximate costs.
- 2 Including delivery costs.

- **Approaches towards the outsourcing of catering services vary.** Until recently the trend within the schools sector has been towards outsourcing catering services, but some schools are now taking it back in-house. Hospital trusts tend to outsource, with an estimated 33 per cent of hospitals currently using contract caterers. The Ministry of Defence is developing a Pay-as-You-Dine (PAYD) programme, whereby bases in the UK and Germany progressively come under the management of private sector catering firms. The introduction of PAYD allows for the possibility of second party income from other personnel at the bases e.g. families, locally employed civilians and civil servants. In the Prison Service the trend has been towards bringing catering services back in-house (paragraph 2.29).
- **The quality of food given to consumers has been prioritised in several sectors.** In 2001 the Better Hospital Food programme (a £40 million campaign) was aimed at improving meals for hospital patients. The poor quality of food in many schools has been ascribed to low levels of expenditure on food per pupil. In spring 2005, the Department for Education and Skills pledged £220 million over a three year period and the Department is introducing new food and nutrient based standards. In the Prison Service quality was raised by the introduction of standards (paragraph 2.4).

2.37 The Prison Service could learn by comparing itself with other organisations. It could gain, for example, by examining differences in food purchasing arrangements and contracts; prices paid for food and catering practices and standards. Food procurement across the public sector is currently the subject of a National Audit Office examination due for publication in 2006.

Financial savings could be made by adopting joint purchasing with other public sector organisations

2.38 None of the prisons we visited had sought to combine their purchasing power with other public sector bodies such as local hospitals, or schools or other public service establishments. Yet all of these bodies buy similar products from many of the same suppliers and expect similar levels of service. They are also participants in the government's Public Sector Food Procurement Initiative which is designed to encourage public sector bodies to procure their food in a manner that promotes sustainable development and encourage more small and local businesses to compete to supply them with food. Rationalising purchasing arrangements would provide scope for reducing administration costs. Other possibilities include setting up joint local storage and distribution facilities. Rationalisation, however, would not be without difficulties. It would only produce benefits in administration costs if there was a single standardised ordering, finance and contract management system.

Quality could be improved by no longer buying food from prison Land-Based Activities

2.39 In order to make the best use of their budget, prison caterers have to buy a certain amount of produce (principally vegetables) from prison farms and gardens, now known as Land-Based Activities. Some of the food budget of each public sector prison, £130 a year per prisoner, is ring-fenced for expenditure on food sourced from Land-Based Activities. This produce is no longer grown by the Prison Service as the prison farms are being phased out as they do not offer relevant experience and training to help prisoners to find work on release. By March 2006 there will be no farms remaining except two dairy herds.²¹ Currently Land-Based Activities buys in produce, processes it and distributes it to prisons.

2.40 Of the 16 catering managers we interviewed, 12 said that they were not satisfied with the quality of Land-Based Activities sourced vegetables. Managers who were not satisfied said that the quality of vegetables was poor, or they were badly prepared and dirty, or were not suitable for their intended purpose (for example, varieties of potatoes which could not be used for chips because they broke up on cooking). Caterers have had to throw away poor quality vegetables and replace them at additional cost. In addition, caterers said that they wanted a better range of vegetables and salads that were available for more than half the year. Most catering managers would have preferred to buy vegetables from their national or regional suppliers where a certain level of quality could be guaranteed. The privatised Parc Prison did not buy any produce from Land-Based Activities, although the catering manager could do and was aware of their inventory and costs.

2.41 Land-Based Activities run four vegetable processing and distribution centres located at Hollesley Bay, Kirkham Grange, Leyhill and Lindholme Prisons, which collect, process, store and distribute vegetables to prisons. There is an additional distribution centre at Standford Hill Prison. The plants were set up to relieve kitchens of processing and obviate the need for investment in food processing equipment in prison kitchens. The centres also distribute breakfast packs. Although 165 prisoners work at the centres, the processing work is poor quality and the Prison Service told us that the work does little to contribute to prisoners finding employment on release. The cost of the centres is some £8.0 million a year, of which £5.3 million is spent on buying in the vegetables to be processed.

2.42 In 2003, a review of the processing and distribution centres by Land-Based Activities found that the vegetable processing equipment would come to the end of its useful life by 2008. The review recommended that processing equipment should not be replaced because of the high cost – nearly £5.0 million – and that the centres should be closed down. Prisons would then be free to purchase vegetables direct from nationally contracted suppliers in the same way that they buy other food produce. In November 2005 the Prison Service brought forward the closure date of the processing centres from 2008 to July 2007. We welcome this development.

21 Both herds are kept on land that needs to be grazed. In one case the land cannot be sold and the other is in an area of Wales where there is a shortage of herdsmen therefore prisoners are learning transferable skills.



PART THREE

Prisoners have the opportunity to eat a healthy diet but many choose not to



3.1 In this Part we examine prisoners' diet. Our key findings are that:

- on the whole meals offered to prisoners meet the government's recommendations on energy and nutrients, although there are some concerns;
- recommendations on providing balanced and healthy meals are partially met; and
- prisoners do not always make healthy choices about food.

On the whole meals offered to prisoners meet the government's recommendations on energy and nutrients, although there are some concerns

3.2 The Health Departments across the UK and the Food Standards Agency set recommendations, based on the advice of expert committees, on the amounts of energy and nutrients needed by different groups (such as by age and gender) of people in the UK population.²² To examine the content of prison food we commissioned Bournemouth University to carry out research at eight prisons (four male, two female and two young offenders' institutions). The researchers analysed meals²³ offered to prisoners for their nutritional value in terms of energy

content; proportions of energy derived from carbohydrate, protein and fat; their dietary fibre content; and the amount of vitamins and minerals they contained. Bournemouth University's methodology is set out in Appendix 2.

3.3 Our researchers found that on the whole food offered to prisoners closely matched the recommendations, with some significant exceptions. In particular, they found that:

- meals offered over a day often had an energy content²⁴ that exceeded the government's recommendations, and was much higher in the case of women's prisons;
- quantities of vitamins and minerals in meals were generally in line with nutritional intake recommendations except in the case of salt and some other trace elements and minerals; and
- dietary fibre content was below recommended levels.

Meals offered over a day often had an energy content that exceeded government recommendations, and was much higher in the case of women's prisons

3.4 Food provides the energy for physical activity and keeping the body functioning properly. If an individual consumes more energy than is used by the body he or she will gain weight. The average energy content of meals provided by the prisons exceeded

²² Department of Health. Report on health and social subjects, 41. Dietary reference values for food energy and nutrients for the UK, 1991.

²³ The meal options examined were "standard", healthy, halal, vegetarian and vegan.

²⁴ Energy is measured in kilocalories (kcal) or kilojoules (kJ). Most people, however, refer to energy simply as calories.

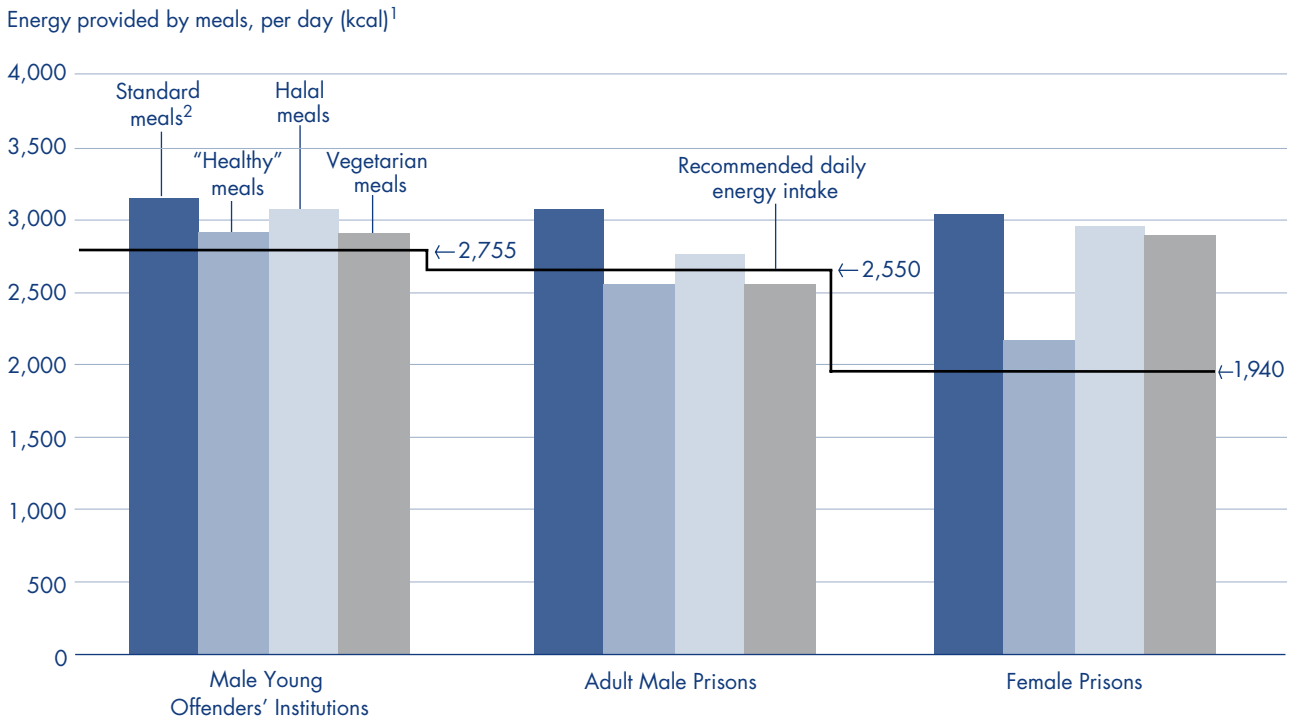
government recommendations except in the healthy and vegetarian meals at the adult men’s prisons examined (Figure 9). In male prisons, prisoners eating the standard meals consumed more energy than they did in a previous study on the nutritional content of prisoners’ meals carried out in 2001.²⁵ Excessive energy consumption is potentially a health problem for people who lead a sedentary life.

3.5 The recommendation for average energy consumption for women aged 19-50 (at 1940 kcal) is lower than for men of a similar age (at 2550 kcal). However, meals offered to women provided similar energy levels to the meals offered to male prisoners, with the exception of the meals labelled as healthy. In

women’s prisons, energy levels for the standard, halal and vegetarian meals were approximately 50 per cent above recommendations mainly because of the high availability of fried food. Chips can be a major contributor to fat in diets and make a significant contribution towards the energy content of meals. At Bulwood Hall Prison, for example, fried potatoes in one form or another were served eight times a week.

3.6 Our researchers assessed whether the meals offered contained the recommended proportions²⁶ of macronutrients (measured as a percentage of dietary energy), that is carbohydrate (at least 50 per cent), fat (less than 35 per cent, of which saturated fat should not exceed

9 Most prison meals offered to prisoners are higher in energy than recommendations set by the government especially in women’s prisons



Source: Bournemouth University data

NOTES

- 1 Energy content is based on meals offered to prisoners. Any plate waste (food thrown away by prisoners) will reduce the energy content of the food consumed. Prisoners can also supplement their food with items that they purchase from prison shops which is likely to increase their energy intake.
- 2 Standard meals are the most frequently chosen meal options.

25 Edwards, JSA, Edwards A and Reeve WG. The nutritional content of male prisoners’ diets in the UK. *Food Service Technology* 1 (1), 2001.

26 Measured as percentage of calories provided by each macronutrient.

11 per cent) and protein (making up the balance). They found that apart from male standard meals, which slightly exceeded the fat recommendation, all meals were in line with the recommendations. The results of the government's National Diet and Nutrition Survey of adults²⁷ showed that the diets of the general population were not matching recommended proportions of macronutrients. Intake of saturated fatty acids, for example, was above the recommended level.

Quantities of vitamins and minerals were generally in line with nutritional intake recommendations except in the case of salt and some other trace elements and minerals

3.7 Vitamins and minerals are essential nutrients that people need in small amounts to keep their bodies in good health. Our researchers found that most prisoners were offered meals that contained sufficient quantities of vitamins and minerals²⁸ (Figure 10) to meet government recommendations, although with some exceptions.²⁹

10 Meals offered to prisoners contain the recommended levels of most vitamins and minerals

Vitamin	Recommended daily amount	Do meals meet the recommendations?	Mineral	Recommended daily amount	Do meals meet the recommendations?
A Retinol	700 (600 for women) to 1500µg	Partially: exceeded in some male meals	Calcium (Ca)	700mg for adults, 1000mg for young adults	Yes
B ₁ Thiamin	0.8mg for women, 1mg for adult males, 1.1mg for young men	Yes	Magnesium (Mg)	300mg for men, 270mg for women	Yes
B ₁ Riboflavin	1.3mg for men, 1.1mg for women	Yes	Phosphorus (P)	550mg for adults, 775mg for young adults	Yes
B ₃ Niacin	13mg for women, 17mg for adult males, 18mg for young men	Yes	Sodium (Na)	<2.4g	No: too much salt in all meals
B ₆ Pyridoxine	1.2mg for women, 1.4mg for adult males, 1.5mg for young men	Yes	Potassium (K) Chloride (Cl)	3.5g <3.6g	Yes No: too much salt in all meals
B ₁₂	1.5µg	Partially: low in vegan meals	Iron (Fe)	8.7mg for adult males, 11.3mg for young men, 14.8mg for women	Yes
Folate	200µg	Yes	Zinc (Zn)	9.5mg for men, 7mg for women	Partially: low in some male meals
Pantothenic Acid	3-7mg	Yes	Copper (Cu)	1.2mg for adults, 1mg for young adults	Yes
Biotin	10-200µg	Yes	Selenium (Se)	75µg for adult males, 70µg for young men, 60µg for women	No: not met in any meals
C Ascorbic Acid	40mg	Yes	Manganese (Mn)	1.4mg	Partially: low in some male and all female meals
D Calciferol	10µg	No: not met in any meals	Iodine (I)	140µg	No: not met in any meals
E Tocopherol	4mg for men, 3mg for women	Partially: low in some male and all female meals			

Source: Bournemouth University data

27 The National Diet and Nutrition Survey; adults aged 19-64 years, L Henderson, J Gregory, G Swan, 2002.

28 Actual vitamin consumption is likely to be lower than that measured by the research: the researchers measured nutritional content based on the assumption that standard cooking methods are used and that food is consumed immediately. However, most prison food is kept warm on heated trolleys for delivery to wing serveries for up to and occasionally over 45 minutes. This will result in a substantial reduction in some vitamins, possibly taking levels below dietary reference values.

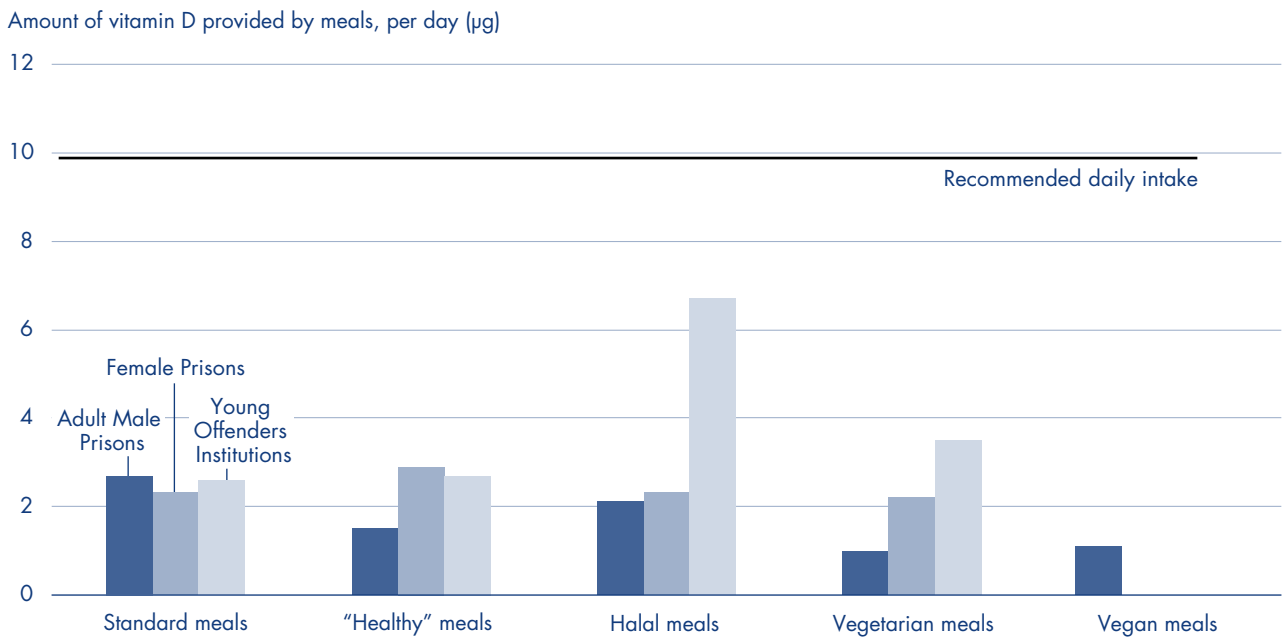
29 The National Audit Office did not examine the health of prisoners and cannot say whether prisoners are affected by deficiencies or excesses of any particular nutrient.

3.8 Quantities of vitamin D in all types of meal were below recommended levels in all types of establishment (**Figure 11**). A deficiency in vitamin D can cause rickets in children and osteomalacia in adults. Low vitamin D intake would not usually be seen as a problem if adequate time is spent outdoors as it is also made by the skin on exposure to sunlight. Vitamin D deficiency can be a particular problem for certain ethnic groups since darker skin pigment reduces the production of vitamin D by the skin. Vitamin D is found in oily fish, eggs and fortified foods.

3.9 On the whole amounts of Vitamin A in meals met recommended levels. The recommended levels, however, were far exceeded in the young offenders' standard meals and all of the adult males' meals except the standard. Too much vitamin A can affect bone health so is a particular concern for individuals who are also not meeting the recommended levels of vitamin D. Vitamin E was low in some of the meals for male prisoners and all meals for female prisoners. Vitamin E has a number of functions in the body including acting as an anti-oxidant. Vitamin B12 in vegan diets was also below the recommended levels, although this might be expected since vitamin B12 is only found in animal products and fortified foods. Very low intake of B12 can cause anaemia and damage to the nervous system.

3.10 In terms of mineral content, Bournemouth University's most important finding was that average levels of salt in the meals offered were far above the recommended levels of 6g a day even before the addition of salt at the table which was not measured (**Figure 12**). Eating too much salt can lead to high blood pressure, which is a risk factor in heart disease and stroke. All meals contained more than the recommended levels of salt: 93 per cent above in the case of the standard diet in adult male prisons. In the general population total salt intake is also higher than the 6g recommendation (11g a day in men and 8.1g a day in women). Our researchers found that little or no salt was used in the preparation of food in prisons and the high level of salt was due in main to the purchase and use of processed and pre-prepared dishes and the high consumption of bread by prisoners. The researchers found that food such as bread, powdered soup, tinned spaghetti and stock contributed most to salt consumption.

11 Vitamin D levels are well below recommended levels in all types of meal



Source: Bournemouth University data

12 Salt levels¹ in meals offered are considerably higher than recommended levels

		Adult Male Prisons	Young Offenders Institutions	Female Prisons
Recommended maximum daily consumption of salt in grams (g)		6.0	6.0	6.0
Standard meals	Salt provided by meals per day (g)	11.6	10.0	10.7
	Percentage over recommendation	93.0	66.0	79.0
Healthy meals	Salt provided by meals per day (g)	7.3	8.9	8.0
	Percentage over recommendation	22.0	49.0	34.0
Halal meals	Salt provided by meals per day (g)	9.9	9.6	10.4
	Percentage over recommendation	65.0	60.0	73.0
Vegetarian meals	Salt provided by meals per day (g)	9.5	8.6	9.8
	Percentage over recommendation	58.0	44.0	63.0
Vegan meals	Salt provided by meals per day (g)	11.1		
	Percentage over recommendation	85.0	Information not collected	

Source: Bournemouth University data

NOTE

1 Amounts of salt were derived from sodium levels by multiplying Sodium by 2.55.

Dietary fibre was below recommended levels for all meals

3.11 Most prison meals did not contain enough dietary fibre to meet the guidance. Against a daily recommended level of 18.0g, levels ranged from 5.7g a day for standard meals in women's prisons, to 12.7g a day for vegan meals in adult male prisons. The levels provided were between 29 and 68 per cent below those recommended.³⁰ Prisoners were provided with sufficient foods that were rich in starch, such as bread, potatoes and pasta but were rarely offered wholegrain bread or cereals which would increase the fibre content of their diets. The researchers found that it was difficult for prisoners to obtain five portions of fruit and vegetables a day. Fresh fruit, for example, was usually offered as an alternative to pudding in most prisons and prisoners were unable to choose both pudding and fruit. In the general population fibre intake is also low (12.6g against the 18g recommendation) and adults are eating around three rather than five or more portions of fruit and vegetables each day.

Recommendations on providing a balanced and healthy diet are partially met

3.12 Recommendations for a healthy diet are set out in "The Balance of Good Health" food guide.³¹ Key extracts from the guide are set out in **Figure 13 overleaf**. Our researchers analysed menus at each of the eight prisons they visited over a two to four week period and assessed them on the extent to which they complied with the Balance of Good Health guide.

30 There are a number of ways of measuring levels of dietary fibre. We used the Englyst method which is commonly used in the UK.

31 The Balance of Good Health, Food Standards Agency 2001. See also the Food Standards Agency's *eatwell* leaflet 2005 or visit the *eatwell* website at www.eatwell.gov.uk.

13 The Balance of Good Health guide recommends that people should:

- eat a variety of foods – no single food provides all the nutrients required for a body to stay healthy;
- eat the right amount to be a healthy weight – each person requires a different amount of energy to keep the body active and functioning properly;
- eat plenty of foods rich in starch and fibre – foods like bread, other cereals and potatoes are rich in starch and can be good sources of fibre;
- eat plenty of fruit and vegetables. A balanced diet contains at least five portions of fruit and vegetables a day and should include a wide variety to get a range of their protective substances; and
- not eat too many foods that contain a lot of fat and not have sugary foods and drinks too often.

Source: *Balance of Good Health: Food Standards Agency, 2001*

Prisons partially met the Balance of Good Health recommendations but improvements could be made to the nutritional content of meals

3.13 On the whole, Bournemouth University found that prisons partially met the recommendations, although some prisons were more successful than others. Prisoners were offered a variety of meals every day, up to six options for the evening meal at Wayland Prison, for example. Menus were structured in such a way as to provide prisoners with the opportunity to select a range of different diets. A prisoner who wished to eat vegetarian one day, halal the next, and a standard diet the next day had the opportunity to do so.

3.14 In addition to finding it difficult to meet recommendations on fruit and vegetables (paragraph 3.11), prisoners are also provided with meals which rely heavily on convenience foods, for example, pies, burgers, soups and noodles. These economy foods are often relatively low specification products and are likely to have high levels of salt. Many prisoners are not offered oily fish every week.³² Generally organic foods are not offered. The nutritional content of meals could be improved in several ways, although in some cases there would be an additional cost:

- by setting specifications for suppliers to offer food with lower fat and salt contents and higher fibre content;
- by not offering fried foods too frequently. Potatoes are usually offered daily but could be boiled or mashed rather than fried;
- by offering skimmed or semi-skimmed milk instead of the full fat variety;
- by offering plenty of fruit and vegetables – fresh as well as frozen, tinned, dried and juiced (tinned foods should contain no added salt or sugar);
- by including more wholegrain produce such as wholemeal and wholegrain breads and cereals; and
- by serving fish regularly including oily fish at least once a week.

Some meals are inappropriately labelled as “healthy”

3.15 The Prison Service’s central catering service encourages caterers to offer a range of foods which enable prisoners to make a healthy eating choice. Caterers should offer at least one healthy meal and clearly label it on each menu.³³

3.16 Bournemouth University found that all prisoners were offered menus which included at least one meal option which was clearly labelled as healthy. However, some healthy meal options were incorrectly labelled. Kitchen staff tended to label all low fat options and salads as healthy which sometimes resulted in meals with a high salt content and salads with a high fat content being labelled as healthy. In one prison potato salad made with mayonnaise was given as the healthy alternative to chips and in another sandwich fillings were made with mayonnaise but still labelled as healthy. Some vegetarian dishes were described as healthy but contained high levels of fats and oils (for example, cheese and mayonnaise). There were other menus where nearly all of the meal options were described as healthy and others where there were unlabelled options that were healthier than the so-called healthy option.

³² The Food Standards Agency recommends one portion of oily fish a week.

³³ Menus have to signpost any options that may include genetically modified ingredients.

Prisoners do not always make healthy choices about food

3.17 Although prisoners were given the opportunity to select healthy food, they did not have to choose it. The researchers also observed that:

- some prisoners who chose a healthy option often selected less healthy accompaniments such as chips and white bread, or supplemented their diet with items purchased from the prison shop;
- some prisoners often turned down vegetables and chose chips if they were available; they also turned down wholemeal bread, preferring white bread instead;
- choice of meal was probably directed by what was familiar and recognised. If prisoners were used to eating burgers and pies at home then they would probably continue to eat similar food in prison. Where prisoners were isolated and away from home, food was one constant that brought comfort; and
- the younger prison population was most resistant to eating healthily. They tended to request high fat dishes, whereas some older prisoners requested more salad items and fruit.

3.18 Given that food is important for control in prisons the Prison Service has to take a certain account of consumer preferences whilst moving towards healthier eating. In addition there is a potential link between nutrition and behaviour (see Appendix 3).

Information provided to prisoners about healthy eating was patchy

3.19 Prisoners would be able to make better decisions about their diets and menu choices if they were provided with appropriate information about nutrition. Our researchers considered that one of the barriers to eating healthily was that prisoners did not understand what constituted a healthily balanced diet.

3.20 Interviews with selected groups of prisoners showed that they had little understanding of what was meant by a healthy diet and low fat foods. Many prisoners associated healthy eating with consumption of salads and vegetables, or “rabbit food”. Some body builders considered that protein was something that came in a tin and was bought from the prison shop.

3.21 Prisoners were often given information about healthy eating when they first arrived at a prison but rarely after that unless they were placed on a special diet for a medical reason, such as diabetes. Little dietary information was given to prisoners on a routine basis and there was little evidence of useful information on display, for example on posters at serveries. One exception was Springhill Prison, where there was a display of posters, fliers and newspaper cuttings about nutrition in a dining area.

PART FOUR

Prisoners have the opportunity to exercise regularly but participation in physical education activities at some prisons is low



4.1 In this Part we examine prisoners' exercise regimes. Our key findings are that:

- on the whole statutory obligations for prisoners to exercise are met;
- levels of participation in organised physical education activities vary between prisons; and
- the cost of physical education instructors varies disproportionately between prisons.

Statutory obligations for prisoners to exercise are met

4.2 Prison Rules³⁴ include the following requirements for physical exercise:

- If circumstances reasonably permit, a prisoner aged 21 years or over shall be given the opportunity to participate in physical education for at least one hour a week.
- The following provisions shall apply to the extent circumstances reasonably permit to a prisoner who is under 21 years of age
 - provision shall be made for the physical education of such a prisoner within the normal working week, as well as evening and weekend physical recreation; the physical education activities will be such as to foster personal responsibility and the prisoner's interests and skills and encourage him to make good use of his leisure on release; and

- arrangements shall be made for each such prisoner who is a convicted prisoner to participate in physical education for two hours a week on average.

- If the weather permits and subject to the need to maintain good order and discipline, a prisoner shall be given the opportunity to spend time in the open air at least once every day, for such period as may be reasonable in the circumstances.

4.3 The prisons visited in our sample gave prisoners the opportunity to exercise and statutory entitlements were met. Prisoners might not choose to exercise their rights, but they were given the opportunity. Many prisoners are content to attend education classes or work without participating in physical activities.

Levels of participation in organised physical education activities vary between prisons

4.4 In 2004-05 some 43 per cent of prisoners participated in some form of organised physical education activities in public sector prisons.³⁵ There were large variations in participation levels between prisons, however, ranging from 11 per cent of prisoners in Bristol Prison, a category B male prison, to 87 per cent in Huntercombe Prison, a juvenile male prison. On average, adult prisoners attended organised physical education activities for 2.4 hours a week. In addition some prisoners use their time in the open air to exercise. This level of participation

³⁴ The Prison Act 1952 gives the Secretary of State for the Home Department legal powers to make rules for the regulation and management of prisons. These are set out in the Prison Rules 1999 which were last amended in May 2005.

³⁵ Information on 12 prisons was not available for analysis.

suggests that prisoners' average level of physical activity is close to the number of hours recommended by the Chief Medical Officer. In 2004, he published a report on physical activity and health.³⁶ The report's recommendations for maintaining an active lifestyle for general health benefits were that adults should achieve a total of at least 30 minutes a day of moderate intensity physical activity on five or more days of the week.

4.5 We found that levels of participation were affected by:

- the range of physical education activities and facilities available;
- whether prisoners are given equality of access to activities;
- the emphasis given to some activities which could affect wider participation; and
- the availability of instructors and timing of activities.

The range of physical education activities and facilities varies between prisons

4.6 All of the prisons we visited offered structured programmes, which were advertised to the prison population. Programmes were, on the whole, full and varied and offered a balance of educational courses and recreational activities. In 2004-05 over 120,000 awards were made to prisoners. Many programmes provided support to tackle prisoners' offending behaviour. The exact contents of each programme depended upon the national and local needs and the facilities and staff resources available.

4.7 All prisons have exercise yards or open areas to allow prisoners access to fresh air. In addition prisons have a range of physical education facilities. Of the 16 prisons we visited (**Figure 14**) all had sports halls and/or gymnasiums and all except one had weightlifting equipment; thirteen had outdoor pitches; other facilities, although rare across the estate, included swimming pools, a pitch and putt course and climbing walls. The type of facilities dictates the range of activities available to prisoners. Sports halls and gymnasiums, for example, allow for aerobics, badminton, basketball and volleyball while outdoor pitches allow for football, rugby and cricket.

4.8 The range of facilities available partly depends upon the age of the prison and the land available for sports halls and outdoor pitches. Older prisons tend to have fewer facilities and the capacity of older sports halls and gymnasiums can be restrictive. Brixton, Pentonville and Leeds prisons, for example, have no outdoor pitches. Of those that have outdoor facilities, Bullingdon Prison, has one all-weather pitch, compared to Wayland Prison which has one rugby, one cricket and two football pitches.

4.9 Of those prisons that have a range of facilities we observed that the general standard of their appearance and upkeep was high. There were exceptions: an audit by the area adviser of the facilities at Springhill Prison in March 2005 recorded that the provision of physical education had deteriorated to unacceptable levels; basic security and health and safety systems were non-existent and most of the equipment should have been "condemned". When we visited Springhill at the end of June 2005, a new fitness area, although not open, had been put in place. The swimming pool at Standford Hill Prison had been out of action, awaiting repairs, for several months. Generally though, facilities and equipment were well-maintained. Fourteen out of sixteen physical education managers we interviewed told us that the standard of their facilities was as good as, if not better than, those available to the local community.

4.10 Some prisons have facilities that were not used for security reasons. At Belmarsh Prison, for example, the outdoor pitches were not used because they had to be protected against attempted escapes by helicopter and at Lincoln Prison the outdoor pitches were not used because drugs had been thrown over the perimeter fence. In the case of Belmarsh, the area physical education adviser recommended to the governor that the limitation on the use of the outdoor facilities should be reviewed quickly, as the restrictions were affecting the efficient use of staff resources and prisoners' physical education opportunities.

³⁶ Department of health: At least five a week: evidence on the impact of physical activity and its relationship to health, 2004.

14 The range of physical education facilities varies between prisons

Prison	Sports hall	Weight-lifting facilities	Cardio-vascular unit or fitness suite	Outside sports pitches	Other
Ashwell	Yes	Yes	Yes	All-weather	
Aylesbury	Yes	Yes	Yes	Grass	Swimming pool (not in use)
Belmarsh	Yes	Yes	Yes	Grass, not in use	
Bullingdon	Yes	Yes	Yes	All-weather	
Channings Wood	Yes	Yes	Yes	Grass	
Drake Hall	Yes	No	Yes	None	
East Sutton Park	Yes	Yes	Yes	None, though have outdoor areas	
Elmley	Yes	Yes	Yes	All-weather	
Grendon	Yes	Yes	Yes	All-weather	
Leeds	Yes	Yes	Yes	None, though have space for outdoor facilities	
Lincoln	Yes	Yes	Yes	Grass (not in use)	
Parc (Private prison)	Yes	Yes	Yes	All-weather	Climbing wall
Springhill	Yes	Yes	Yes	Grass	
Standford Hill	Yes	Yes	Yes	Grass	Pitch and putt course and swimming pool (not in use)
Wayland	Yes	Yes	Yes	Grass	
Wetherby	Yes	Yes	Yes	All-weather	Climbing wall

Source: National Audit Office

4.11 Women prisoners told us that the facilities and activities available were not tailored to the requirements of women. Both female prisons we visited had weight training facilities, in which women tended to be less interested than men. Some women's prisons offer classes such as aerobics and yoga which are popular but they also offered activities that were not popular. The managers at East Sutton Park Prison and Drake Hall Prison, both women's prisons, told us that some of their facilities and activities such as volleyball and football were undersubscribed. The proportion of prisoners using physical education facilities was also relatively low at Drake Hall Prison (37 per cent) and unrecorded at East Sutton Park Prison.

Most but not all prisoners are given equality of access to organised physical education activities

4.12 Prisoners should have equality of access to organised physical education activities, provided that they have the same level of privileges. At some prisons, for example, the level of participation by prisoners in physical education activities was dependent upon a system of incentives and earned privileges. At Bullingdon Prison prisoners with the fewest privileges could attend one session a week, unemployed prisoners on a higher level of privileges could attend two sessions a week, and employed prisoners on the highest level of privileges could attend up to five sessions a week. At two prisons we visited segregated prisoners³⁷ did not have access to any organised physical education activities on a regular basis because their privileges had been removed due to issues of control.

³⁷ Segregated prisoners are those who need to be kept apart from other prisoners "for the maintenance of good order or discipline or to ensure the safety of officers, prisoners or any other person" (Prison Rules 1999, Rule 46).

4.13 We also found that vulnerable prisoners³⁸, whose access to physical education facilities generally has to be at different times to the rest of the prison population, did not always have equal access. And a review of Belmarsh Prison in April 2005 by a physical education area adviser, found that prisoners in some house blocks did not have equality of opportunity to access all facilities. There was no proper procedure for ensuring that access to facilities was fair to all.

The emphasis on some activities could affect wider participation

4.14 All of the prisons we visited have a good range of free-weights, weight machines and cardio-vascular machines. These facilities are popular among many individuals and are well-used. Although all of the prisons offered other activities, there was a risk that too much attention could be diverted to weightlifting and personal fitness at the expense of other activities. Weightlifting and personal fitness are usually solitary pursuits and require expert supervision by physical education instructors.

4.15 Physical education departments should be encouraging as wide a participation in activities as possible. We noted the following good practices:

- Asking prisoners on a regular basis, perhaps by way of a survey, in which activities they would like to partake. From our visits we found that 13 prisons had carried out surveys, three had not.
- Promoting games and activities which involve greater participation and interaction between prisoners.
- Targeting specific groups who would otherwise be reluctant to participate. Elmley Prison, for example, has specialist sessions for different types of prisoner such as the over 50s and foreign nationals.
- Monitoring ethnic participation in different activities, as in Belmarsh Prison, to check that no ethnic group is disadvantaged.

Participation in exercise activities was constrained by the availability of instructors and times that facilities were available for use

4.16 At most prisons we visited, facilities were generally well-used and demand for the more popular activities exceeded supply. Waiting lists had built up. One factor has been the increase in the prison population. Prisons originally built for smaller populations had facilities which were now too small to meet the demand of their current populations.³⁹ We found, however, that there were other factors affecting participation including the availability of instructors and the timing of physical education programmes.

4.17 Prisoners cannot use facilities unsupervised and sufficient numbers of trained instructors are required to keep programmes running. At five prisons we were told that additional instructors were required to provide a fully effective service. In March 2005 there were 33 physical education instructor vacancies across the country. Some prisons had particular staff problems. At Elmley Prison, for example, the physical education department had been without three members of staff since 1999 because they had been suspended pending a court case. Although the court case was resolved in 2004 the results of disciplinary action were still awaited and by January 2006 there remained one vacancy to be filled.

4.18 Physical education activities were not always programmed for prisoners at times that would allow them to participate. Individual governors decide how to use their current resources to maximise use of the facilities. Some prisoners who were either working or attending education classes could only exercise in the evenings or at weekends. Although most prisons offered full weekend and evening programmes of activities, others did not. At Belmarsh Prison, for example, there was only one hour of evening physical education available from 19:00 to 20:00; there were no structured evening programmes at East Sutton Park Prison; and because of the staffing problems at Elmley Prison (see above) there were no physical education activities available at weekends. The Prison Service told us that in order to provide extra cover at weekends and evenings either additional resources would be needed or instructors would have to stop some of their current core tasks to provide the cover.

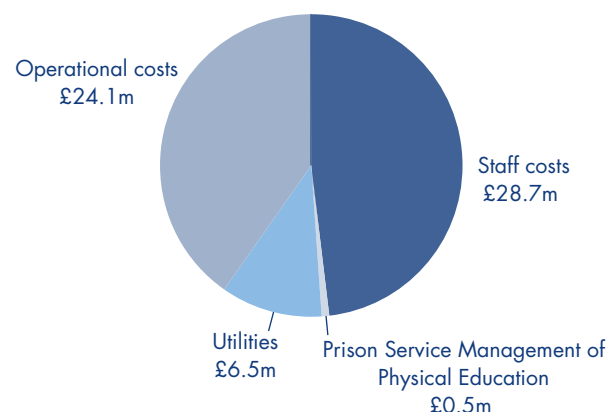
³⁸ Vulnerable prisoners include sex offenders and those who have difficulty in coping with the prison environment, and are kept apart from other prisoners.
³⁹ *National Offender Management: Dealing with Increased Numbers in Custody* (HC458 session 2005-06).

The cost of physical education instructors varies disproportionately between prisons

4.19 The Prison Service spends some £60 million a year on physical education in public sector prisons, mostly on staff and equipment (**Figure 15**).

4.20 We examined the numbers of physical education instructors, their costs, and the ratios of staff to prisoners at the 16 prisons we visited (**Figure 16**). We found that ratios of prisoners to staff ranged from 38:1 at Aylesbury Prison to 165:1 at Channings Wood Prison. Annual costs per prisoner ranged from £392 at Bullingdon Prison, to £1,085, at Aylesbury Young Offenders' Institution.

15 Staff costs make up nearly half of the Prison Service's expenditure on physical education



Source: National Audit Office analysis of Prison Service data 2004-05

16 In 2004-05 the cost of providing physical education and the number of prisoners per instructor varied significantly between prisons

Prison and type	Physical education instructors		Cost of Instructors (£000)	Total cost of physical education (£000)	Total cost of physical education per prisoner (£)	Prisoners per instructor
	Physical education officers	Sports and games officers				
Bullingdon Male local	6	2	271	379	392	121
Lincoln Male local	4	0	135	192	417	115
Elmley Male local	6	0	206	484	496	163
Belmarsh Male local	8	0	273	448	496	113
Channings Wood Male Cat C	4	0	138	342	520	165
Leeds Male local	11	0	374	783	657	108
Standford Hill Male open	3.5	0	125	315	717	125
Grendon Male Cat B	2	0	71	160	727	110
Wayland Male Cat C	6	0	211	539	771	116.5
Ashwell Male Cat C	7	0	241	502	930	77
Wetherby Male juvenile	8	0	273	330	988	42
Drake Hall Female semi-open	5	0	172	299	1,060	56
Aylesbury Young Offenders' Institution	10	0	344	416	1,085	38

Source: National Audit Office analysis of Prison Service data 2004-05

4.21 The costs of instructors at young offenders' institutions we examined (£1,085 per prisoner at Aylesbury and £988 at Wetherby), were considerably higher than other types of prison. Other young offenders' institutions and juvenile establishments also had higher costs, and lower instructor to prisoner ratios. At Werrington juvenile establishment, for example, the total cost of physical education per prisoner was over £5,000 a year and there were 14 boys for every instructor. Young offenders are statutorily entitled to, and receive, more hours of physical education and this is generally reflected in the costs incurred.

4.22 Elsewhere, however, the numbers of instructors did not bear a strong relationship to the number of prisoners or to the type of prison. The ratio of prisoners to instructors in Category B prisons across the whole public sector prison estate, for example, ranged from 46:1 to 152:1. The Prison Service needs to take a strategic view of staffing across the whole estate and governors could be helped in determining how many instructors they require if up to date guidelines on standard ratios of staff to prisoners were in place.

4.23 The Prison Service told us that there are difficulties in establishing baselines for physical education provision. Very few prisons hold identical prisoner populations with similar facilities and direct comparisons may not be meaningful. Even where prisons appear to be similar there are differences in the type of prisoner they hold. Lincoln and Elmley prisons for example, are classified as male local prisons but Elmley holds Category C prisoners whilst Lincoln does not. In addition some prisons have deficiencies in the provision of other activities, such as education and workshops, and if they incur higher levels of expenditure on physical education they might be covering for regime deficiencies elsewhere. Reducing physical education provision in these prisons would only impoverish regimes further.

Prison governors prefer to employ trained officers as physical education instructors over the alternatives

4.24 The Prison Service employs 837 prison officers in prison physical education departments of whom 793 (95 per cent) are fully trained physical education instructors and 44 are partially trained sports and games instructors. Fully trained physical education officers attend a 15 week training course at the Physical Education College at Lilleshall in Shropshire. Instructors'

main functions are to arrange, manage and supervise a programme of physical education activities. Other key functions of instructors include encouraging prisoners to participate in sport when released from custody, enabling some prisoners to gain coaching and refereeing qualifications and providing training for staff in control and restraint techniques. Sports and games officers are prison officers who are sufficiently trained in physical education to be able to act as instructors and take classes.

4.25 Prison governors determine the numbers and level of training of physical education instructors. Prison governors told us that they prefer to employ officers as fully trained instructors because of their leadership skills, their status as good role models for prisoners, their ability to cover for staff shortages, and the assistance they can provide in controlling aggressive behaviour. Cost effectiveness should, however, also be a consideration. Prison officers specialising as physical instructors are paid up to £26,400 a year with an additional allowance of £1,200 a year. In the private sector health and fitness instructors are paid from a starting salary of around £11,000 up to £30,000 a year. Of course, the responsibilities of private sector instructors are less demanding – there are no issues of control and they do not necessarily have to train people for qualifications. While, it might be necessary to employ officers at establishments where there are issues of security and control, it may be more economical to employ some civilian instructors to provide recreational exercise at prisons where the risks to security are less, such as open prisons. Two female prisons in our sample used civilians to deliver their physical education programmes. If by employing a civilian instead of an officer a saving of £5,000 could be made then by replacing 20 officers with 20 civilians the Prison Service could save some £100,000 a year.

4.26 Parc Prison, a privately run prison holding adults, young offenders and juveniles, employs only civilians, although in April 2005 a report by the area adviser questioned whether the civilians were adequately competent and qualified to deliver aspects of the prison's physical education programme. Deficiencies were noted in delivery of the programme for juveniles and the quality assessment system, for example. We noted that Springhill Prison, an open prison, and East Sutton Park Prison, a female open prison, currently use civilian staff as instructors although they do not provide physical education courses.

APPENDIX 1

Undertakings given by HM Prison Service to the Committee of Public Accounts

The Treasury Minute (CM3973 June 1998) sets out the Service's response to the Committee of Public Accounts

30th Report of 1997-98 (*The Prison Service: Prison Catering* – HC419, April 1998).

Recommendations (with reference to finding by the Committee of Public Accounts)	Treasury Minute undertakings	Progress made and paragraph references in this report	Was the recommendation met?
<p>On the quality of catering</p> <p>a Devolved responsibilities ... mean that Governors have considerable local discretion in the management of catering. The Committee... urges the Prison Service to promote ... good practices, and to establish mandatory quality standards where necessary.</p>	<p>1 The Prison Service accepts this recommendation. The Area Catering Advisers' monthly business meetings, and area training days for Area Catering Managers, provide an opportunity for this to happen. Quality Standards for catering are expected to be in place by 31 July 1998. These will be mandatory where necessary.</p>	<p>Prison Service catering standards were introduced in May 1999 which set out legal and practical requirements to support good catering practice, food safety and advice on menu management. The standards are revised and updated to reflect changes in legislation and best practice. See paragraphs 2.2 to 2.4.</p>	✓
<p>b We are concerned that... Area Catering Advisers may have under-played their key role in providing advice to prison caterers and helping them to improve standards. We look to the Prison Service to encourage these staff to be more active in improving the management of catering ... in particular by helping to implement best practice.</p>	<p>2 Area Catering Advisers have played a key part in the introduction of major improvements in prison catering... The Prison Service accepts that there were specific instances of delay by Area Catering Advisers in producing reports of the visits. Reports are now routinely produced within 10 days of the visit. The Prison Service will review by June 1998 the relationship of the Area Catering Advisers with the operational line with a view to introducing Service Level Agreements between Area Catering Advisers and the Operational Area Managers.</p>	<p>Service Level Agreements have been introduced, under which the Area Catering Advisers provide technical advice to prison caterers, a 24 hour emergency advice line and up to four visits annually to each prison. See paragraphs 2.19 to 2.21.</p>	✓
<p>c The Committee is concerned that the performance of an individual prison can fall well below the standard of the rest... [We] look to the Prison Service to urgently identify any other poorly performing prisons and take remedial action as necessary.</p>	<p>3 The Prison Service shares the Committee's concern. To help early identification of problems, the Prison Service introduced in October 1997 advice to Governors on Self Audit and in January 1998 introduced a process for Area Catering Advisers to report to the Head of Catering Services prisons that are causing concern. The introduction of Quality Standards for prison catering due by 31 July 1998 will allow Standards Auditors to test compliance as part of their normal audit routine when visiting prisons.</p>	<p>The Prison Service's Standards Audit Unit examines the application of catering standards at each prison on a two year cycle, examining whether prisons are compliant with key standards. See paragraphs 2.16 to 2.18</p>	✓

Recommendations (with reference to finding by the Committee of Public Accounts)	Treasury Minute undertakings	Progress made and paragraph references in this report	Was the recommendation met?
<p>On the quality of catering <i>continued</i></p> <p>d Over the last three years there has been a 40 per cent reduction in the number of prisoners' complaints about food at the 12 prisons visited by the National Audit Office.... We are disappointed [to note] that only half of the prisons use the pre-select menu system. We recommend that the Prison Service ... should work towards ... a pre-select menu system in all prisons.</p>	<p>4 The Prison Service is pleased to note that the Committee recognises the significant value of the pre-select menu system which has brought about a significant change in attitude. It is, however, crucial to the course of success that this system be introduced gradually to these establishments which can benefit from it. We expect 80 per cent of establishments to be operating a pre-select menu system by March 1999.</p>	<p>Pre-select menus operate at all but three prisons where, due to their mobile populations, pre-selection would not be appropriate. <i>See paragraph 2.4.</i></p>	✓
<p>e The Committee endorses the proposed prison research project into actual nutritional standards.</p>	<p>5 The research project is expected to report by 31 December 1998.</p>	<p>The research carried out for the Prison Service found that on the whole nutritional standards were being met. <i>See Part 3 for the NAO-commissioned work on nutrition.</i></p>	✓
<p>f Time taken between food production and service is unacceptably long.... We note that the Prison Service has set a standard of three-quarters of an hour ... and recommend that Prison Governors be held accountable for achieving it.</p>	<p>6 The Prison Service accepts that in some prisons the time taken between food preparation and service is too long. The Food Safety Manual issued in October 1997 introduced a target time of 45 minutes. This will be considered for incorporation into Quality Standards, to be introduced by 31 July 1998. Governors are held accountable by monitoring by specialist Standards Auditors, and line management through Area Managers.</p>	<p>All prisons are required to serve food within 45 minutes of its preparation. At many prisons the target is not achieved, although there are practical difficulties, such as the distances between the kitchen and the wing serveries. <i>See paragraphs 2.6 to 2.8.</i></p>	✗
<p>g In many prisons there is a long interval of more than 14 hours between the evening meal and breakfast the following day but the Prison Service believes that only a major shift from other activities would allow the staffing of more suitable intervals between meals. We urge the Prison Service to work towards more flexible arrangements....</p>	<p>7 The Prison Service accepts the Committee's recommendation. Area Catering Advisers continue to work with Governors to achieve more reasonable intervals between meals wherever possible.</p>	<p>We found that some prisons still had intervals exceeding 14 hours, although where the interval exceeded 14 hours, they provided additional snacks, in line with a standard. <i>See paragraphs 2.9 to 2.12.</i></p>	✗
<p>On the cost of catering</p> <p>h We are pleased to see ... originally modest expectations of food savings have now been revised ... cost has now been reduced to £1.35 per prisoner per day.... Some as yet unquantified savings are expected to arise.... We look to the Prison Service to conclude [its] review [of</p>	<p>8 The Prison Service review of supplies to prisons started in November 1997. However, in the light of the work on the Comprehensive Spending Review, the Prison Service has decided that a more comprehensive review of the whole of its procurement activity is needed, and the supply chain project will now proceed in that context.</p>	<p>The review led to the introduction of mandatory national food contracts from which financial savings have been made. <i>See paragraphs 2.23 to 2.25.</i></p>	✓

Recommendations (with reference to finding by the Committee of Public Accounts)	Treasury Minute undertakings	Progress made and paragraph references in this report	
<p>On the cost of catering <i>continued</i></p> <p>supplies to prisons] quickly ... to ensure that food costs are economic.</p>	<p>The Prison Service will consider findings and recommendations as they are produced, with the objective of finding savings. The Prison Service expects to produce a project timetable by August 1998.</p>	<p>A computer system was introduced, but it was soon apparent that it was not operating satisfactorily, and the system was subsequently closed down and withdrawn. Future catering procurement requirements are likely to be included in a wider procurement project known as Phoenix.</p>	x
<p>i The Committee recognises that the catering computer system has to be assessed alongside other priorities.... The Prison Service... should assess the benefits of the system ... so as to assist Governors in judging the priority of the system for local capital expenditure.</p>	<p>9 Following a reassessment of the Business Case for the catering computer system, the Prison Service has now procured and installed hardware and software and the staff have received basic training on the use of the package.</p>	<p>Stocks of food have been reduced to an average of eleven days. <i>See paragraph 2.25.</i></p>	✓
<p>j We welcome the steps taken by the Prison Service to reduce high levels of stockholdings.... We urge the Prison Service to consider whether a 21-day average is still too high and to follow up its review of supplies with further reductions in stockholdings.</p>	<p>10 The Prison Service accepts the Committee's recommendation. The review of procurement will consider how to achieve the appropriate levels of stockholding.</p>	<p>The Prison Service reviewed its provision of catering staff and has made some £1.7 million a year in savings by the civilianisation of catering staff posts. <i>See paragraphs 2.26 to 2.29.</i></p>	✓
<p>k The Committee is concerned at the variations in staffing costs between prisons.... We look to the Prison Service to make the further £1 million savings ... as soon as possible, and at least within the two years suggested by the Prison Service.</p>	<p>11 The Prison Service accepts the need to staff the catering function as efficiently as possible and is fully committed to make the further savings within two years.</p>	<p>The Prison Service collects cost information on catering staff to enable meaningful comparisons between prisons.</p>	✓
<p>l Staff catering includes costs associated with non-catering activities ... thereby reducing the Prison Service's ability to draw meaningful comparisons between prisons. We recommend that those costs not directly associated ... should be excluded.</p>	<p>12 The Prison Service accepts the Committee's recommendation. Changes were introduced in December 1997 to remove non-catering costs from the calculation.</p>	<p>The Prison Service also collects the costs of energy used on a prison by prison basis, allowing governors to identify the potential for savings.</p>	✓
<p>m Information on other catering costs such as energy is not available in most prisons. We look to the Prison Service to monitor these costs and to involve prison caterers in controlling them at prison level.</p>	<p>13 The Prison Service accepts the Committee's recommendations, and is tackling the issue of identifying costs and making savings wherever possible. The Prison Service introduced an Energy Efficiency programme in early 1997-98, which has enabled prisons to meter energy use at various points in prisons including kitchens. This will allow governors and the relevant staff to identify areas for efficiency savings more effectively.</p>		

APPENDIX 2

Our audit approach

Visits to prisons

We visited a sample of 16 prisons, including one privatised prison, one public sector prison with contracted out catering, and three clusters of adjacent prisons sharing a common catering facility. The objectives of the visits were for us to collect and audit information about catering and exercise provision to allow us to make comparisons between different types of prison and draw conclusions across the estate.

During our visits we interviewed prison governors, catering managers and catering staff, heads of prison exercise, and their staff using semi-structured interviews. We visited the prison kitchens and wing serveries, prison sports halls/gymnasiums, outdoor facilities and any other exercise related facilities. We observed the preparation and serving of at least one meal. For catering and diet we collected data from each prison on their menus, purchasing arrangements, budgets and information from prisoner surveys. For exercise we collected information from each prison on their exercise programmes, budgets, performance indicators and prisoner surveys. We interviewed a representative from each prison's Independent Monitoring Board, and reviewed their reports.

Examination of cost savings made since 1997

We examined the cost savings made as a result of implementing the recommendations made by the National Audit Office and the Committee of Public Accounts in their previous reports on prison catering. Costs savings were made from the food budget, efficiencies in procurement methods and civilianisation of catering staff and reductions in stockholding of food.

Benchmarking

We used information collected by each prison on the costs of catering and exercise and staff numbers involved in each activity to benchmark and make comparisons of:

- daily food allowances determined by prison governors;
- catering staff costs;
- the overall costs of catering;
- the ratios of prisoner to physical education instructors; and
- the costs of physical education.

We also made comparisons between the Prison Service and other public sector organisations as to the cost of food.

Research into the diet and nutrition of prisoners

We commissioned the Worshipful Company of Cooks Research Centre at Bournemouth University to establish whether:

- the meals provided by the Prison Service enable all prisoners to follow government recommendations on nutrition;
- the extent to which prisoners actually follow healthy eating recommendations and any factors which inhibit them.

The main features of Bournemouth's research methodology were as follows:

- three researchers visited eight prisons (see below) and spent two to three days at each prison;
- collection of data on content of standard, halal, vegetarian and healthy option diets at each prison over a three day period;

17 Prisons visited by the National Audit Office

Prison visited	Prison type	Average population (2004-05)	Catering arrangements	Exercise facilities (see Figure 14)
Ashwell	Male Category C	531	Prison Service Catering	✓
Aylesbury	Closed Young Offenders Institution	361	Prison Service Catering	✓
Belmarsh	Male Local	907	Prison Service Catering	✓
Bullingdon	Male Local	957	Contracted-out catering	✓
Channings Wood	Male Category C	648	Prison Service Catering	✓
Drake Hall	Female Semi-open	284	Prison Service Catering	✓
East Sutton Park	Female Open	97	Prison Service Catering	✓
Elmley and Stanford Hill	Male Local and Male Open	959 and 437	Prison Service Catering, kitchens shared between both prisons	✓
Isle of Wight prisons (Albany, Parkhurst and Camp Hill)	Male Category B (Albany and Parkhurst) and C (Camp Hill)	514, 485 and 570	Prison Service Catering, kitchens shared between all three prisons	✓
Leeds	Male Local	1,230	Prison Service Catering	✓
Lincoln	Male Local	450	Prison Service Catering	✓
Parc	Private Male Category B, young offenders and juveniles	1,028	Private prison Catering	✓
Spring Hill and Grendon	Male Open and Male Category B	334 and 220	Prison Service Catering, kitchens shared between both prisons	✓
Wayland	Male Category C	692	Prison Service Catering	✓
Wetherby	Male Juvenile	317	Prison Service Catering	✓

Source: National Audit Office and Prison Service

- analysis of the nutritional composition using the *Microdiet* computer programme. The results were then compared with current government recommendations on nutrient intakes (Department of Health dietary reference values for food energy and nutrients for the UK);
- *Microdiet* was also used to identify the main sources of fat, sodium and sugars and Omega 3, 6 and 9 polyunsaturated fatty acids;
- menus were assessed against the Balance of Good Health recommendations;⁴⁰
- cooking and serving practices were observed; and
- prisoners' views on healthy eating, for example, were captured through interviews – mostly informal while they were eating their meals. To back up their opinions evidence was also sought from observation and interviews with caterers.

Review of the work of other inspecting bodies

We examined the reports of HM Inspectorate of Prisons and Independent Monitoring Boards for the prisons we visited to obtain other independent views on the issues we were examining. On catering issues we also examined the work of the Prison Service's Standards Audit Unit and the results of their catering audits.

Expert Opinion

We engaged the British Nutrition Foundation to provide expert advice on the interpretation of the nutrition related findings. The British Nutrition Foundation is a scientific and educational charity which promotes the well being of society through the impartial interpretation and effective dissemination of evidence based nutritional knowledge and advice.

18 Prisons visited by Bournemouth University

Prison visited	Prison type	Population (October 2005)
Kingston	Male Category B	193
Ashfield	Male Young Offenders' Institution	375
Eastwood Park	Female	303
Everthorpe	Male Category C	651
Bullwood Hall	Female	134
Brinsford	Male Young Offenders' Institution	474
Frankland	Male Category A	708
Wayland	Male Category C	702

40 Balance of Good Health, Food Standards Agency (2001).

APPENDIX 3

Nutrition and prisoner behaviour

Research carried out at Aylesbury Young Offenders' Institution⁴¹

In 1996-97 research on nutrition and behaviour, funded by the charity, Natural Justice, was carried out at Aylesbury Young Offenders' Institution. The researchers found prisoners typically made poor food choices⁴² and wanted to test what would happen to their behaviour if intakes of vitamins, minerals and essential fatty acids were reinstated to the government's recommended levels.

Method

The researchers used a double-blind, placebo controlled, randomised trial of nutritional supplements on 231 young adult prisoners, comparing disciplinary offences before and during supplementation. The nutritional supplements were of a type that was available over the counter. Anti-social behaviours resulting in disciplinary action were adjudicated through governor and minor reports. Governor reports adjudicate more serious incidents such as those involving violence and may involve loss of remission. Minor reports deal with less serious incidents. Dietary intake of the participants was assessed using seven day food diaries. Double-blind, placebo controlled, randomised trials are used in the testing of drugs on patients and is highly regarded by the scientific community. Other countries, including the Netherlands, are taking up this approach.

Results

The researchers found that compared with the placebo-controlled group, those receiving the active capsules committed an average of 26.3 per cent (95 per cent confidence level, 8.3–44.33 per cent) fewer offences. This difference between groups was statistically significant ($P < 0.03$ two-tailed). The findings of the actual effect of treatment were that the active group showed a significant average reduction in disciplinary incidents of 35.1 per cent (95 per cent confidence level, 16.3–53.9 per cent) reduction of offences ($P < 0.001$ two-tailed), whereas the placebo group reduced their rate of offending by only 6.7 per cent (95 per cent confidence level, minus 15.3 to 28.7 per cent). (Note: minus 15 represents an increase).

Conclusions

The researchers concluded that anti-social behaviour in prisons, including violence, were reduced significantly by vitamins, minerals and fatty acids with similar implications for those on a poor diet in the community.

Further research

Home Office researchers reviewed the Aylesbury research. They concluded that whilst the results showed a positive effect upon behaviour, the number of prisoners involved were too small to draw wider conclusions. The researchers also noted that the research was not designed to follow up offenders once they had been released and the question about whether re-offending was affected was not addressed.⁴³

41 British Journal of Psychiatry (2002), 181, 22-28 C. Bernard Gesch, Sean M. Hammond, Sarah E. Hampson, Anita Eves and Martin J. Crowder: Influence of supplementary vitamins, minerals and essential fatty acids on the antisocial behaviour of young adult prisoners.

42 Eves, A. and Gesch, C.B. (2003). Food provision and nutritional implications of food choices made by young adult males in a young offenders' institution. *J.Hum.Nutr.Diet.* 16, 167-79.

43 Natural Justice was not asked to carry out research on whether re-offending was affected.

In January 2006 the Minister of State at the Home Office asked Natural Justice to conduct further research into the effects of nutrition upon the behaviour of prisoners. Natural Justice has assembled a team of eminent scientists from leading research institutions including Oxford University, the Medical Research Council, the Institute of Psychiatry, and Imperial College to replicate these findings at Warren Hill and Stoke Heath Young Offenders' Institutions and Polmont Young Offenders' Institution in Scotland. In addition to retesting the original findings the replication will examine the exact relationship between different levels of nutrients found in prisoners' blood and a range of specific behaviours including: violence, drug offences, impulse control, how prisoners relate to others and self harm. These data will inform international dietary standards, which have not previously considered the effects of diet on behaviour. Before the researchers can start the Home Office has asked them to submit their proposals to the Home Office Project Quality Approval Board. The proposal also requires ethical approval and needs to be scrutinised by the NHS Multi-centre Research Ethics Committee before it can go ahead.