The prison characteristics that predict prisons being assessed as performing 'well':

A thematic review by

HM Chief Inspector of Prisons

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Contents

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Introduction

In response to the recent unprecedented rise in the prison population, Lord Carter's 2007 report recommended the creation of 11,500 additional prison places by 2012, including the building of three 'Titan' prisons, each holding up to 2,500 prisoners. The Carter report also hopes that concurrent measures to limit population growth will allow the closure of 5,000 old and unfit prison places.

The government is about to respond to a consultation on the Titan proposal, and to set out whether, and in what form, these proposals will be implemented. It is, therefore, a particularly important time to look at the factors that distinguish those prisons that perform well from those that do not.

The Prisons Inspectorate, over the last five years, has assessed all inspected prisons against four 'healthy prison' tests: whether prisoners are held safely; whether they are treated with respect for their human dignity; whether they are able to engage in purposeful activity; and whether they are prepared for resettlement back into the community. On each test, each prison is assessed as performing either well, reasonably well, not sufficiently well, or poorly. Those assessments determine the overall health of the prison, and the timing and form of its next inspection.

One of the Inspectorate's researchers, Samantha Booth, interrogated the most recent assessments for all prisons in England and Wales, across all functional types, for an MSc dissertation for the University of Surrey, which was awarded a distinction. Using binary logistic regression, the dissertation examined which prison or prison population factors predicted prisons being assessed 'well' (i.e. either well or reasonably well) against each of those tests, and also overall. The predictor variables included functional type, management, age, size and prisoners' distance from home.

The most significant predictors of how prisons performed were: the size of the population; the age of the prison; whether it was privately or publicly managed; the functional type; and the percentage of prisoners held more than 50 miles from home. These factors impacted differently on performance across the four tests.

- Safety was predicted by a model incorporating the size of the prison population, the age of the prison, and the type of management (private or public). Large prisons, private prisons and prisons built before 1938 were less likely to perform well against this test.

- Respect was predicted by the size of the prison population. Smaller prisons were almost two-and-a-half times more likely to perform well than large prisons holding more than 800 prisoners.

- Purposeful activity was predicted by a model including the functional type of the prison and its age. Prisons built since 1938, and open prisons, were more likely to perform well.

- Resettlement was predicted by the percentage of prisoners living within 50 miles of the prison, with a greater percentage increasing the likelihood that the prison would perform well.

- The overall score was predicted by the size of the prison population and the age of the prison. Smaller prisons and prisons opened since 1938 were more likely to perform well.

Size was the most influential factor in how prisons performed against the tests of safety and respect, and overall. Prisons holding 400 or fewer prisoners were significantly more likely to perform well in these tests than larger prisons holding more than 800 prisoners. Smaller prisons were four times more likely to perform well overall than large prisons holding more than 800 prisoners, when the age of the prison was controlled for.

The only clear differential between publicly and privately managed prisons was in relation to safety, where privately managed prisons performed less well.

Functional type and age were the two factors that most affected performance against purposeful activity. The year that a prison was opened, used as an indicator of the age of much of its building, predicted performance against the tests of safety, purposeful activity and overall. Prisons built before 1938 were less likely to perform well against these tests. Most such prisons will be local prisons.

Distance from home was the key variable in performance against resettlement. This is of particular relevance to women and young offenders, where there are fewer prisons, and for training prisons, which may be at some distance from centres of population, particularly in the south of England.

These are important findings, which should provide evidence to influence the key policy decisions now being made about the size and shape of the prison population.

Anne Owers
Chief Inspector of Prisons

About this report

This research investigated which prison or prison population factors predict prisons being assessed as performing 'well' by HM Inspectorate of Prisons against its four tests of a healthy prison – safety, respect, purposeful activity, and resettlement – as well as prisons' overall performance. Data was collected from the most recent inspection report for each prison in England and Wales. The inspections used in this report took place between July 2004 and March 2008.

This research focused on two key prison descriptors:

- *prison characteristics*: including the functional type (local, trainer, high security or open prison), and the year the prison was opened;
- *prison population characteristics*: including the size of the prison population, the overcrowding rate, and the percentage of prisoners held within 50 miles of their home area.

Five key questions were addressed:

- what predicts a prison being assessed as performing 'well' for safety?
- what predicts a prison being assessed as performing 'well' for respect?
- what predicts a prison being assessed as performing 'well' for purposeful activity?
- what predicts a prison being assessed as performing 'well' for resettlement?
- what predicts a prison being assessed as performing 'well' in its overall healthy prison assessment score?

Separate analysis was conducted for adult prisons (including young adult establishments) and juvenile establishments.

1. Methodology

HM Inspectorate of Prisons

1.1 The Inspectorate carries out a full inspection of all adult prisons (including prisons holding young adults, aged 18 to 21) on a five-year inspection cycle. Juvenile establishments (those holding young people aged 15 to 18) are inspected on a three-year cycle. During full inspections, prisons are assessed against the Inspectorate's published *Expectations,*[1] with separate expectations for adult and juvenile establishments, which are based on best practice and referenced against human rights standards. Recommendations are made following each inspection, outlining where improvements are required. Most full inspections are announced, but some are unannounced.

1.2 All prisons also receive a follow-up inspection within the cycle period. Follow-up inspections focus on the recommendations made in the last report, although this is not the sole focus of the inspection. The type (full or short) and timing of the follow-up inspection is based on how well the prison was assessed as performing during the last full inspection and other available intelligence. All follow-up inspections are unannounced.

1.3 The inspection assesses how each prison is performing against the Inspectorate's four tests of a healthy prison:

- safety – prisoners, even the most vulnerable, are held safely
- respect – prisoners are treated with respect for their human dignity
- purposeful activity – prisoners are able, and expected, to engage in activity that is likely to benefit them
- resettlement – prisoners are prepared for their release into the community and helped to reduce the likelihood of reoffending.[2]

1.4 Safety covers topics such as first days in custody, safer custody (including self-harm and violence reduction), discipline, and clinical management of substance misuse. Topics covered under respect include residential units, diversity, health services, catering, and staff-prisoner relationships. Purposeful activity looks at time out of cell, and education and work activities. Resettlement examines offender management and the provision of resettlement needs, such as accommodation, employment, offending behaviour work and drug treatment, and contact with family and friends. For further details of topics under each test, see Appendix II.

1.5 Scores known as 'healthy prison assessments' are given for each of these tests on a rating of one to four:

- ... performing well against this healthy prison test (4)
  There is no evidence that outcomes for prisoners are being adversely affected in any significant areas.

- ... performing reasonably well against this healthy prison test (3)
  There is evidence of adverse outcomes for prisoners in only a small number of areas. For the majority, there are no significant concerns.

[1] http://inspectorates.justice.gov.uk/hmiprisons/docs/expectations06.pdf
[2] http://inspectorates.justice.gov.uk/hmiprisons/our-work/

- ... not performing sufficiently well against this healthy prison test (2)
  There is evidence that outcomes for prisoners are being adversely affected in many areas or particularly in those areas of greatest importance to the wellbeing of prisoners. Problems/concerns, if left unattended, are likely to become areas of serious concern.

- ... performing poorly against this healthy prison test (1)
  There is evidence that the outcomes for prisoners are seriously affected by current practice. There is a failure to ensure even adequate treatment of and/or conditions for prisoners. Immediate remedial action is required.[3]

This is done for both full and follow-up inspections.

Data preparation

1.6 During each inspection, certain information about the prison is routinely collected. Prisons are asked to provide details of their current population using a standardised form provided by the Inspectorate. These details are published in the appendices of the inspection report, and cover areas such as the number and percentage of prisoners, broken down by sentence status, and the distance of prison from prisoners' home areas. Information on the functional type of the prison, size of the prison's population, certified normal accommodation and operational capacity at the time of the inspection is also published in the inspection report.

1.7 This research focused on two key prison descriptors:

- prison characteristics, including the functional type (local, trainer, high security, or open prison), and the year the prison was opened
- prison population characteristics, including the size of the prison population, the overcrowding rate, and the percentage of prisoners held within 50 miles of their home area.

1.8 Information was collected from the last inspection report for each prison in England and Wales, regardless of whether the inspection was a full or follow-up inspection. Inspections used in the analysis were conducted between July 2004 and March 2008. Additionally, the date that the prison was opened was taken from *The Prisons Handbook* (2004) as a measure of how old the prison was.

1.9 Some prisons are split-site establishments in that they hold more than one population type (for example, young adults and adults). At establishments where this is a formal split, each site has been included separately. At some prisons, different healthy prison assessments are provided for each site within the prison. At prisons where there is no formal split, for example at most women's prisons where young adults are held on the same wings as adults, there is only a single assessment. Four prisons were excluded from the analyses due to their unique function. These were the two therapeutic community prisons and the two dedicated foreign national prisons. (See Appendix III for details of the prisons included and where different sites within a prison have been included separately.)

1.10 Due to the differences between adult (including young adult) and juvenile establishments, in terms of inspection criteria and frequency, as well as the funding of services by the Youth Justice Board at juvenile establishments, adult prisons and juvenile establishments were analysed separately.

[3] http://inspectorates.justice.gov.uk/hmiprisons/inspect_reports/hmp-yoi-inspections.html/549198/Doncaster_(2008).pdf?view=Binary

Data analysis of adult establishments

1.11 Table 1 shows a crosstab of the number of prisons (adult and young adult) that were assessed as performing well, reasonably well, not sufficiently well and poorly for each healthy prison test: (safety, respect, purposeful activity and resettlement). As there were only a small number of prisons assessed as 'performing well' or performing 'poorly' across most of the healthy prison tests, healthy prison assessments were collapsed into two categories: 'well' (including reasonably well and well), and 'poorly' (including not sufficiently well and poorly).

1.12 Additionally, the healthy prison assessments (HPAs) across the healthy prison tests were added up for each prison to provide an overall healthy prison assessment. As each of the four healthy prison tests could receive a score of one to four, this overall score could range from four to 16. A median split was conducted to create a new 'overall HPA' score with only two categories.[4] A median split essentially divides the data so that 50% of the cases will be in one category and 50% in the other, with the median, or middle value, of the variable data used as the cut-off point.[5] This meant that the 'well' and 'poorly' categories used for the individual healthy prison tests could be mimicked for the 'overall HPA'. The 'well' category represented prisons that were in the top 50% of the split, while the 'poorly' category represented prisons in the lower 50% of the split.

Table 1: The numbers of adult (including young adult) prisons scoring each healthy prison assessment score for each healthy prison test

Healthy prison assessment (HPA)	Safety	Respect	Purposeful activity	Resettlement
Well	22	9	8	8
Reasonably well	72	78	62	85
Not sufficiently well	43	49	52	45
Poorly	2	3	17	1

Binary logistic regression

1.13 Binary logistic regression was used to examine which prison or prison population characteristics predict prisons being assessed as performing 'well' by the Inspectorate of Prisons. Logistic regression is used when the outcome variable is categorical, in this case whether a prison performed 'well' or 'poorly'.[6] Models were fitted for each healthy prison test – safety, respect, purposeful activity and resettlement – as well as the 'overall HPA' score.

1.14 Predictor variables (the prison or prison population characteristics considered) were selected according to what the literature identified, as well as including factors currently being discussed within policy decision making. Although each prison was asked to provide certain information about its population at the time of the inspection, there were several cases where prisons had either not provided or been unable to provide the information requested. With logistic regression, all cases with any missing data for any of the predictor variables or outcome variables are excluded from the analysis. Therefore, several predictor variables were excluded from the fitted models due to the amount of missing information to maximise the number of

[4] This was conducted solely for the purpose of this research. The Inspectorate calculates an overall score themselves as part of a risk assessment for each prison, but this is calculated differently to the method used here.
[5] Pallant, 2005
[6] Field, 2005

prisons that were included in each analysis. The predictor variables considered across models are detailed in Table 2.

Table 2: Description of predictor variables considered when fitting models

Predictor variables	Description	Coding of data
Functional type	Core functional type of prison	1=open; 2=high security; 3=trainer; 4=local prison
Gender	Gender of prisoners held	1=male; 2=female
Role	Type of population held	1=young adults; 2=female; 3=adult males
Type of management	Private or public prison	1=private prisons; 2=directly managed (including service level agreement, SLA, prisons)
Year prison was opened	Year the prison was opened recoded using a three-way equal percentile split	1=before 1938; 2=1939–1977; 3=1978 onwards
Size of the population	Size of the prison population recoded into three groups	1=under 400; 2=401 to 800; 3=801 plus
Overcrowding rate	Prison population divided by certified normal accommodation (%)	Continuous variable
Percentage of operational capacity in use	Prison population divided by operational capacity (%)	Continuous variable
Within 50 miles	Percentage of prisoners who live within 50 miles of the prison	Continuous variable

Data analysis of juvenile establishments

1.15 Table 3 shows a crosstab of the number of juvenile establishments that were assessed as performing well, reasonably well, not sufficiently well and poorly for each healthy prison test – safety, respect, purposeful activity and resettlement. Unlike the adult prisons, there was less spread across the assessment scores, with none of the juvenile establishments assessed as performing poorly for any of the healthy prison tests. Therefore, the focus of the juvenile analysis was on the overall healthy prison assessment score. As with the adult data, the overall healthy prison assessment score was split into two categories using a median split. This produced an 'overall HPA' score with the two categories: 'well' and 'poorly'.

Table 3: The number of juvenile establishments scoring each healthy prison assessment score for each healthy prison test

Healthy prison assessment (HPA)	Safety	Respect	Purposeful activity	Resettlement
Well	4	5	5	4
Reasonably well	7	9	10	12
Not sufficiently well	6	3	2	1
Poorly	0	0	0	0

Binary logistic regression

1.16 As with the adult prisons, binary logistic regression was used to investigate the characteristics that predicted juvenile establishments being assessed as performing 'well' overall. Due to the small sample size, the predictors tested were limited to the three shown in Table 4. These were selected based on what the literature and the adult analysis suggested, but were also limited due to missing information within the other data collected. As logistic regression excludes any cases with any missing data, any predictor variables with missing information were excluded from analysis to avoid a reduction in the already small sample size.

Table 4: Description of predictor variables considered when fitting models for juvenile establishments

Predictor variables	Description	Coding of data
Gender	Gender of young people held	1=male; 2=female
Year establishment was opened	Year the establishment was opened recoded using a median split	1= before 1985; 2=1986 onwards
Size of the population	Size of the population recoded using a median split	1=under 73; 2=174 plus

2. Results

Adult prisons

Prison characteristics

2.1 In total, 139 prisons were included in the analyses. This included 62 (45%) training prisons, 50 (36%) local prisons, 21 (15%) open prisons, and six (4%) high security prisons. Across these functional types, 103 (74%) prisons held adult males, 21 (15%) held male young adults, and 15 (11%) held female prisoners.[7] Twelve (9%) prisons were privately managed, and 127 (91%) prisons were directly managed by the public sector Prison Service (including three run under service level agreements).

Prison population characteristics

2.2 The average size of a prison's population was 537, ranging from 45 to 1,461: 53 (38%) prisons held 400 or fewer prisoners, 61 (44%) prisons held 401 to 800 prisoners, and 25 (18%) held over 800 prisoners. The average overcrowding rate (percentage of certified normal accommodation, CNA, in use) was 111%, ranging from 65 to 187%. The average percentage of the operational capacity used was 95.1%, ranging from 57 to 100%.

2.3 The average percentage of prisoners held within 50 miles of their home was 52%, ranging from 1 to 99%. It should be noted that there was only information for 91 prisons for this variable.

Logistic regression analyses

2.4 By using logistic regression, it is possible to fit models to show which factors predict a categorical outcome. The model shows the partial effect of each predictor variable: that is, the effect the variable has once the other variables in the model have been taken into consideration.[8] Logistic regression provides the odds of the outcome occurring, with an odds ratio of one showing that a predictor variable does not increase or decrease the chance of the outcome occurring. An odds ratio of less than one shows a reduction in the odds of the outcome occurring, and an odds ratio of more than one shows an increase in the outcome occurring. For categorical variables, the odds ratio is in comparison to a specified 'reference category'.

2.5 For the adult data, the predictor variables included the prison and prison population characteristics of interest (outlined in the methodology section, Table 2). The outcome variable was whether the prison was assessed by the Inspectorate as performing 'well'. Models were fitted for each of the tests of a healthy prison, as well as the 'overall HPA' score.

2.6 For each fitted model, the 'enter' method of data entry was used to allow the testing of various models. The fitted models described in this section show models that are significant overall and contain only the predictor variables that are each significant predictors of the outcome.

[7] One female prison has since re-roled to hold male juveniles. This prison has still been included as a women's prison in line with its function at the time of its last inspection.

[8] Tarling, 2008

Safety

2.7 This fitted model shows the prison or prison population characteristics that predict an adult prison being assessed as performing 'well' for the healthy prison test of safety. The model was fitted for 138 adult prisons, as one was excluded due to missing data. Table 5 shows the results of the fitted model for the healthy prison test of safety.

2.8 As described above, with categorical variables the odds displayed are compared to a reference category. For example, in the model below the reference category for the categorical variable 'size of population' is prisons holding 800 or more prisoners. Therefore, the odds given for the other categories (400 or fewer; 401 to 800) are compared to prisons holding more than 800. For categorical data with more than two categories, as with the 'size of the population', a significance level is given for the overall variable as well as for each category apart from the reference category. This does not apply for continuous data, or for variables with only two categories, such as 'type of management'.

2.9 Below the table, the chi-squared figure is provided, along with the significance. This represents the collective contribution that all the variables in the model make on explaining the outcome variable, and shows that the model in its entirety is significant. The 'NagK' figure gives the Nagelkerke R Square value, and provides an indication of the amount of variance in the outcome variable explained by the model. The figure for safety of .218 indicates that 21.8% of the variation is accounted for. These details are provided with the tables for each model.

2.10 This model shows that, after taking into account the other variables in the model, prisons with a population of under 400 were almost five times more likely to be assessed as performing 'well' for safety than a prison holding more than 800 prisoners. Likewise, prisons with a population of 400 to 800 were 1.68 times more likely to perform well against the same reference category. Putting this another way, large prisons with a population of over 800 prisoners were 79% less likely to perform well compared to a smaller prison holding 400 or fewer prisoners, with all other variables in the model controlled for.

2.11 The year the prison was opened was also a predictor in this model, with the likelihood of a prison opened before 1939 performing 'well' for safety, with all other factors in the model considered, reducing by 53% compared to prisons opened since 1978.

2.12 A prison being privately operated, taking into account all other variables, reduced the odds of a prison being assessed as performing well for this healthy prison test by 0.19. Public prisons were 5.26 times more likely to perform well than private prisons.

Table 5: Fitted model for predicting a safety assessment of 'well'

Variable	Odds ratio: Exp(B)	Significance level
Size of population	/	0.016
400 or under	4.75	0.006
401 to 800	1.68	0.310
801 or more	*Reference category*	*Reference category*
Year prison was opened	/	0.034
1938 or before	0.47	0.139
1939 to 1977	1.68	0.368
1978 onwards	*Reference category*	*Reference category*
Type of management	/	/

Private prison	0.19	0.028
Public prison	*Reference category*	*Reference category*

Chi Sq 23.448, df 5, p=0.0001, NagK .218

Respect

2.13 This fitted model shows the prison or prison population characteristics that predict an adult prison being assessed as performing 'well' for the healthy prison test of respect. Table 6 shows the results of the fitted model for the healthy prison test of respect for all 139 adult prisons.

2.14 This model shows that prisons with a prison population of 400 or under were 2.42 times more likely to be assessed as performing 'well' for respect compared to a prison holding more than 800 prisoners.

Table 6: Fitted model for predicting a respect assessment of 'well'

Variable	Odds ratio: Exp(B)	Significance level
Size of population	/	0.052
400 or under	2.42	0.086
401 to 800	0.93	0.872
801 or more	*Reference category*	*Reference category*

Chi Sq 43.602, df 5, p=0.0001, NagK .361

Purposeful activity

2.15 This fitted model shows the prison or prison population characteristics that predict an adult prison being assessed as performing 'well' for the healthy prison test of purposeful activity. The model was fitted for 138 adult prisons as one was excluded due to missing data. Table 7 shows the results of the fitted model for the healthy prison test of purposeful activity.

Table 7: Fitted model for predicting a purposeful activity assessment of 'well'

Variable	Odds ratio: Exp(B)	Significance level
Functional type	/	0.016
Open	28.03	0.003
High security	3.70	0.190
Trainer	1.20	0.698
Local	*Reference category*	*Reference category*
Year prison was opened	/	0.001
1938 or before	0.18	0.001
1939 to 1977	1.15	0.782
1978 onwards	*Reference category*	*Reference category*

Chi Sq 46.697, df 7, p<0.0001, NagK .383

2.16 Taking into account the other variables in the model, the functional type of the prison was a strong predictor of a prison being assessed as performing 'well'. Open prisons were 28 times more likely to perform 'well' than local prisons. There was no significant difference between local and training prisons, although training prisons were still 20% more likely than local prisons to perform 'well'.

2.17 The year the prison was opened was also a predictor in this model. Prisons opened before 1939 were 0.18 times less likely to be assessed as performing 'well' for purposeful activity compared to prisons opened since 1978, when functional type had been taken into account.

Resettlement

2.18 This fitted model shows the prison or prison population characteristics that predict an adult prison being assessed as performing 'well' for the healthy prison test of resettlement. The model was fitted for only 91 adult prisons due to missing data. Table 8 shows the results of the fitted model for the healthy prison test of resettlement.

Table 8: Fitted model for predicting a resettlement assessment of 'well'

Variable	Odds ratio: Exp(B)	Significance level
Within 50 miles of home area	1.03	0.002

Chi Sq 11.007, df 1, p=0.001, NagK .156

2.19 The percentage of prisoners living within 50 miles of the prison was the only variable that predicted a prison performing 'well' for resettlement. A 10% increase in the number of prisoners living within 50 miles would increase a prison's likelihood of performing 'well' by 30%.

2.20 Table 9 details the average percentage of prisoners living within 50 miles of the prison by functional type. Although the figure is slightly lower for women, prisoners not being held in a prison close to their home area is a problem across functional types.

Table 9: Average percentage of prisoners living within 50 miles of the prison by role

Role	Average percentage of prisoners living within 50 miles of the prison
Young adults	53.7
Women	46.5
Male adults	52.2

Overall HPA score

2.21 The range of the overall healthy prison assessment score was from six to 15, with a mean of 10.65. A median split was used to create two categories for the 'overall HPA' variable. Prisons scoring 12 or more were in the top 50% of the split and were classed as performing 'well', and prisons scoring 11 or less were in the bottom 50% of the split and classed as performing 'poorly'.

2.22 This fitted model shows the prison or prison population characteristics that predict an adult prison being assessed as performing 'well' for the 'overall HPA' score. The model was fitted for 138 adult prisons as one was excluded due to missing data. Table 10 shows the results of the fitted model for the 'overall HPA' score.

2.23 The size of the prison population, along with the year that the prison was opened, were both predictors of a prison scoring within the top 50% of overall healthy prison assessment scores.

Taking into account the other variable in the model, a prison with a population of 400 or under was four times more likely to perform 'well' than a prison with a population of over 800.

2.24 Prisons opened in 1938 or before were 47% less likely to be assessed as performing 'well' overall than prisons opened from 1978 onwards, the size of the prison population having been taken into account. Prisons opened between 1939 and 1977 were 66% more likely to perform well than prisons opened since 1978.

Table 10: Fitted model for predicting an overall HPA assessment of 'well'

Variable	Odds ratio: Exp(B)	Significance level
Size of population	/	0.005
400 or under	4.02	0.017
401 to 800	1.19	0.776
801 or more	Reference category	Reference category
Year prison was opened	/	0.061
1938 or before	0.53	0.203
1939 to 1977	1.66	0.266
1978 onwards	Reference category	Reference category

Chi Sq 17.823, df 4, p=0.001, NagK .168

Overcrowding

2.25 Neither of the overcrowding variables, measured by the percentage of the CNA in use as well as the percentage of operational capacity in use, were included in the models outlined above. Logistic regression shows the partial effect of each predictor variable, once all the other variables in the model are controlled for. It should be noted that there was a significant correlation between the size of the prison population and the percentage of CNA in use ($r = 0.331$, $p<0.0001$), and the percentage of the operational capacity in use ($r = 0.407$, $p<0.0001$). This suggests that due to its relationship with this other predictor variable, the impact of overcrowding, once prison size had been controlled for, was masked.

2.26 If entered on its own, the percentage of CNA in use was a significant predictor for the tests of safety ($p = 0.016$), purposeful activity ($p = 0.001$) and the overall score ($p = 0.009$). The percentage of the operational capacity in use predicted how well prisons performed for purposeful activity ($p = 0.049$). For all these, a higher level of in use CNA or operational capacity reduced the likelihood of a prison performing well in these areas.

Juvenile establishments

2.27 Seventeen juvenile establishments were included in the analysis. Four juvenile establishments held young women, and 13 young men. The average size of the population was 160, ranging from 15 to 384. The overall healthy establishment score had an average of 12, ranging from nine to 16. As with the adult data, a median split was used to divide prisons into two categories according to this score. Establishments scoring 13 or more were in the top 50% of the split and were classed as performing 'well', and establishments scoring 12 or less were in the bottom 50% of the split and classed as performing 'poorly'.

2.28 Due to the small number of juvenile establishments, only three variables were tested as predictors of whether an establishment would be assessed as performing 'well' for the 'overall

HPA' score. The variables were: the size of the population; the gender of the population; and the year the establishment was opened. Results from the analysis are shown in Table 11.

Table 11: Fitted model for predicting an overall HPA score of 'well' for juvenile establishments

Variable	Odds ratio: Exp(B)	Significance level
Size of population	/	/
173 or under	24.50	0.017
174 or above	Reference category	Reference category

Chi Sq 7.945, df 1, p=0.005, NagK .498

2.29 The size of the population was a strong predictor of an establishment having an overall HPA score within the top 50%. Smaller establishments, holding 173 young people or under, were 24.5 times more likely to perform well.

2.30 The year that the establishment was opened and the gender of the population held were not a predictor of the outcome. However, it should be noted that all female units are small (ranging from 15 to 26 young people) and new (all opened since 2004). In contrast, male units were older and held an average of 204 young people, ranging from 41 to 384.

Appendix I: References

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Appendix II: Subject areas encompassed in the four healthy prison areas

Safety

- Courts, escorts and transfers
- First days in custody
- Safer custody' including self-harm and suicide prevention, bullying and violence reduction, and child protection where applicable
- Security and rules, and discipline
- Clinical management of substance use and mandatory drug testing
- Protection of vulnerable prisoners

Respect

- Residential units
- Staff-prisoner relationships (including personal officers)
- Diversity
- Race equality
- Foreign national prisoners
- Applications and complaints, and legal rights
- Faith and religious activity
- Health services
- Incentives and earned privileges
- Catering
- Prison shop
- Mothers and babies, if applicable

Purposeful activity

- Learning and skills and work activities
- Physical education and health promotion
- Time out of cell

Resettlement

- Contact with the outside world
- Strategic management of resettlement
- Offender management and planning
- Resettlement pathways

Appendix III: Prisons included in analysis

Adult male prisons

Acklington
Albany
Altcourse (private)
Ashwell
Bedford
Belmarsh
Birmingham
Blakenhurst
Blantyre House
Blundeston
Bristol
Brixton
Brockhill
Buckley Hall
Bullingdon
Camp Hill
Cardiff
Channings Wood
Chelmsford
Coldingley
Dartmoor
Doncaster (private)
Dorchester
Dovegate main (private)
Durham
Edmund's Hill
Elmley
Erlestoke
Everthorpe
Exeter
Featherstone
Ford
Forest Bank (private)
Frankland
Full Sutton
Garth
Gartree
Gloucester
Guy's Marsh
Haverigg
Hewell Grange
High Down
Highpoint
Hollesley Bay
Holme House
Hull
Kingston
Kirkham
Kirklevington Grange
Lancaster Castle
Latchmere House
Leeds
Leicester
Lewes
Leyhill
Lincoln
Lindholme
Littlehey
Liverpool
Long Lartin
Lowdham Grange (private)
Maidstone
Manchester
Moorland closed
Moorland open
North Sea Camp
Norwich
Nottingham
Onley
Parc (private)
Parkhurst
Pentonville
Peterborough (private)
Prescoed
Preston
Ranby
Risley
Rye Hill (private)
Shepton Mallet
Shrewsbury
Springhill
Stafford
Standford Hill
Stocken
Sudbury
Swaleside
Swansea
The Mount
The Verne
The Wolds (private)
Usk
Wakefield
Wandsworth
Wayland
Wealstun closed
Wealstun open

Wellingborough
Whatton
Whitemoor
Winchester
Woodhill
Wormwood Scrubs
Wymott

Women's prisons

Askham Grange
Bronzefield (private)
Cookham Wood
Downview
Drake Hall
East Sutton Park
Eastwood Park
Foston Hall
Holloway
Low Newton
Morton Hall
New Hall
Peterborough (private)
Send
Styal

Please note that although Cookham Wood has now re-roled, it was a female establishment at the time of the last inspection and has therefore been counted as such for adult women and juveniles.

Male young adult sites

Aylesbury
Brinsford
Castington
Deerbolt
Feltham
Glen Parva
Guy's Marsh
Hindley
Lancaster Farms
Moorland closed
Moorland open
Northallerton
Norwich
Onley
Parc (private)
Portland
Reading
Rochester
Stoke Heath
Swinfen Hall
Thorn Cross

Juvenile establishments/units

Ashfield (private)
Brinsford
Castington
Cookham Wood (female)
Downview (female)
Eastwood Park (female)
Feltham
Hindley
Huntercombe
Lancaster Farms
Parc (private)
New Hall (female)
Stoke Heath
Thorn Cross
Warren Hill
Werrington
Wetherby

The female Toscana unit at Foston Hall was not included in the juvenile analysis as the first inspection took place after the time of this research.