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Equality Monitoring 2011/12

# Equality Monitoring in DfT(C)

v1.1

In House Analytical  
Consultancy

14 December 2012



Department  
for Transport



GOVERNMENT OPERATIONAL RESEARCH SERVICE

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## Chapter 1: Management Summary

### 1.1 Introduction

This report is an analysis of staff diversity, for staff in post between 1<sup>st</sup> April 2011 and 31<sup>st</sup> March 2012.

The analysis takes data on staff in post, cessations, grievances and discipline, sickness absence, training and performance management, and considers whether there were significant differences with respect to sex, race, disability, pay band, age, sexual orientation, religion and belief, job type and working pattern.

Where possible, comparisons have been made against the previous year.

The inequalities and differences identified have been described in non-statistical terms throughout this report. However, where differences have been found to be statistically significant, this has been highlighted. By statistically significant, we mean that the difference is unlikely to have occurred by chance. Where results are not specifically discussed, this generally means that no statistically significant inequalities were found.

### 1.2 DfT(C) Structure and Organisation

The role of the central Department (DfT(C)) is to determine overall transport strategy and to manage relationships with the agencies responsible for the delivery of a range of transport-related services.

DfT(C) has seven executive agencies, and IHAC has written equality monitoring reports for each, in addition to this report.

Senior Civil Service (SCS) staff across the whole Department (i.e. DfT(C) and its agencies) have been included in this report.

At the end of 31<sup>st</sup> March 2011, there were 1,696 staff in post, 161 of whom were in the SCS.

The majority of staff were based in Great Minster House (1,336) or the Fry Building (78) in London. In addition, there were 82 staff based in Ashdown House, Hastings. The remaining staff were based either in smaller London offices or in other locations around the country.

The number of staff in post decreased by 9% from 1,859 at the end of March 2011 to 1,696 this year. This was in part due to a restructuring exercise, which was completed in 2011.

### 1.3 Restructuring in DfT(C)

Several of the restructuring changes implemented in 2010/11 were still in effect in 2011/12. Consequently, the figures for cessations may be higher than in previous years.

### 1.4 Key Findings: Sex

64% of DfT(C) staff were male.

Staff in London and in Other locations had higher proportions of males than the local working-age population.

PB2 had a higher proportion of female staff and PB6-7 had a higher proportion of male staff than would be expected given the proportions of male and female staff in DfT(C) overall.

Female staff were more likely to have received an Exceeded mark than males, although this was not one of the most significant factors.

A higher proportion of female staff recorded sickness absence than would be expected, although, as with receiving an Exceeded mark, this was not one of the most significant factors.

### 1.5 Key Findings: Race

1,132 (67%) of the 1,696 staff were white, 218 (13%) were BME (black or minority ethnic) and 346 (20%) were of unknown or undeclared race.

There were more white staff than expected in London and at non-Hastings locations, compared with the local working-age populations.

Lower pay bands (PB1-3) had higher proportions of BME staff than would be expected compared with the proportion of BME staff in DfT(C) as a whole, while higher pay bands (PB6-7 and the SCS) had lower proportions of BME staff than expected.

White staff were more likely to have received an Exceeded performance mark than would be expected.

Staff whose race was unknown or undeclared were less likely to have undertaken training during the year than other staff.

### 1.6 Key Findings: Disability

1,371 staff declared themselves to be non-disabled, 78 declared themselves disabled and the disability status of 247 staff was unknown. This was a significant decrease in declaration rates since the previous year.

Staff in both London and Other locations were less likely to be disabled than the local working-age populations.

PB4FS had a higher proportion of disabled staff than would be expected,

while PB6-7 had a higher proportion of non-disabled staff.

Staff whose disability status was unknown were less likely to have undertaken training than other staff, and also had fewer days training on average than other staff.

Disabled staff were more likely to take time off as sickness absence than other staff, and also took more days, on average, than other staff.

### 1.7 Key Findings: Age

Staff in all locations tended to be older than the local working-age populations.

PB2, PB7, SCSPB1 and SCSPB2 had higher proportions of older staff than would be expected, while PB6 and PB4FS had higher proportions of younger staff.

A higher proportion of older staff left the Department than would be expected given the age profile of the staff in post. This was largely due to retirement.

Younger staff received higher proportions of Exceeded performance marks than older staff.

Younger staff undertook more days training on average than other staff.

Older staff tended to take more time off as sickness absence than younger staff.

### 1.8 Key Findings: Working pattern

1,552 (92%) staff worked full time and 144 (8%) worked part time.

PB3 had a high proportion of part-time staff and PB4-5 had a lower proportion.

Part-time staff were more likely to be female, white and older.

Disproportionately more part-time staff left DfT(C) than full-time staff.

Full-time staff were more likely to have received an Exceeded mark than their part-time colleagues.

## 1.9 Key Findings: Recruitment

For London posts, higher proportions of applicants were male than expected (for PB5, PB6 and PB7 campaigns) and PB5) and more were non-disabled than expected (for PB4, PB5, PB6 and PB7), compared with the local working-age population.

For posts in Other locations, more applicants than expected were male (for PB6) and non-disabled (PB2 and PB6), compared with the GB working-age population.

There were high numbers of applicants for PB2 and PB6 campaigns.

Religion and belief was significant at every stage on the recruitment process, with applicants who declared a religion or belief less likely to succeed compared with other applicants.

Proportionately more female applicants were appointed than male applicants.

A higher proportion of white applicants were appointed than expected, compared with other applicants.

## 1.10 Information Recommendations

Declaration rates for both race and disability have decreased since the last report. As in previous years, this is

largely due to information on new staff either not being provided or recorded<sup>1</sup>.

In 2011/12, race was known for 79.6% of staff and disability status for 85.4%. These proportions are sufficiently high that we can have reasonable confidence in the analysis.

However, declaration rates for sexual orientation and religion and belief were lower, 43.7% and 47.6% of staff respectively have not declared. Some analysis was performed on these results, but we cannot have full confidence in the results.

Additional information on job type may also provide greater insight. This could be given at a broad level such as policy maker, administrator etc.

Information on recruitment was delayed due to problems of data assembly by our Shared Services Department. The specification and systems changes have been addressed to ensure that in future recruitment data will be automatically captured. Changes in the way internal recruitment is managed meant that there was no 2011/12 data available for analysis.

<sup>1</sup> Some of the staff considered to be new may be those returning from long-term leave

## Chapter 2: Introduction

### 2.1 Equality Monitoring

This report contains an analysis of the diversity of DfT(C) staff for 2011-12.

The aims of the analysis were to:

- identify differences between diversity groups within DfT(C);
- compare the diversity of DfT(C) staff with the diversity of the local working-age population; and
- highlight any changes since previous years.

### 2.2 Analysis and reporting

This analysis has considered the following areas of diversity:

- Sex
- Race
- Disability
- Age
- Working pattern
- Sexual orientation
- Religion and belief

And for the following datasets:

- Staff in post
- Recruitment
- Cessations
- Performance management reports
- Learning and development
- Disciplinary cases
- Grievance cases
- Sickness absence

It also gives information about maternity leavers and returners.

Results described in this report are based on the outcomes of statistical tests. These tests are used to identify statistically significant differences between groups – that is, differences larger than the likely range of natural variation.

Data for this report was provided by DfT(C) HR, and has been summarised in the annex tables provided with this analysis.

Recruitment data was provided by DfT Shared Services, on behalf of the DfT Resourcing Group (DRG).

Throughout this report any references to declaration rates or staff who had declared their [e.g. disability] status apply to staff who identified with a particular diversity category – such as “disabled” or “White British”. In other words, for the purposes of this report, staff who have declared that they prefer not to say have been grouped with those for whom no information is held, and described as unknown/undeclared. So if, say 10% of staff had chosen not to specify their race, and information was not available for a further 20%, we would quote a declaration rate of 70%, even though, technically, 80% had made a declaration.

Numbers have been presented to one decimal place, except where the decimal was zero (so 3.0 would be written 3).

### 2.3 Data coverage and quality

Data related to staff in post at the end of 31st March 2012, and cessations between 1st April 2011 and 31st March 2012.

For the purpose of this report, Senior Civil Service (SCS) staff in DfT(C)'s agencies have been included.

Staff on long-term leave (for instance maternity leave and career breaks) are not included in the analysis (14 were on maternity leave), and nor are staff who are not civil servants (e.g. consultants, temporary administrators etc).

Data on staff sex, age and pay band are held for each member of staff, but data on disability, race, sexual orientation and religion / belief are voluntarily provided. As a result, and because staff may be unwilling to provide this information, this data often has significant numbers of unknowns or undeclared statuses and subsequently analysis was not always possible.

In some cases, analysis was performed on pay band groups rather than individual pay bands (PB1-3, PB4FS, PB4-5, PB6-7 and SCS).

## 2.4 Declaration rates

All employees are encouraged to complete an equality monitoring form which records their race, religion or belief, sexual orientation, disability status, age and sex. The individual information is confidential but the overall statistics are used to analyse trends and support diversity action plans. DfT is keen to achieve high declaration rates and to exceed 90% for all diversity strands (protected characteristics).

Throughout this report any references to declaration rates or staff who had declared their [e.g. disability] status apply to staff who identified with a particular diversity category – such as “disabled” or “White British”. In other words, for the purposes of this report, staff who have declared that they prefer not to say have been grouped with those for whom no information is held, and described as unknown/undeclared. So if, say 10% of staff had chosen not to specify their race, and information was not available for a

further 20%, we would quote a declaration rate of 70%, even though technically 80% had made a declaration.

The table below shows the position for the year ending 31 March 2012. Age and sex have a 100% declaration rate because this data is automatically available for all employees.

Protected characteristic	Declaration rate
Age	100%
Sex	100%
Race	79.6%
Disability status	85.4%
Sexual orientation	56.3%
Religion and belief	52.4%



## Chapter 3: Staff in post and geographical distribution of staff

This chapter considers the geographical distribution and the diversity mix of DfT(C) staff.

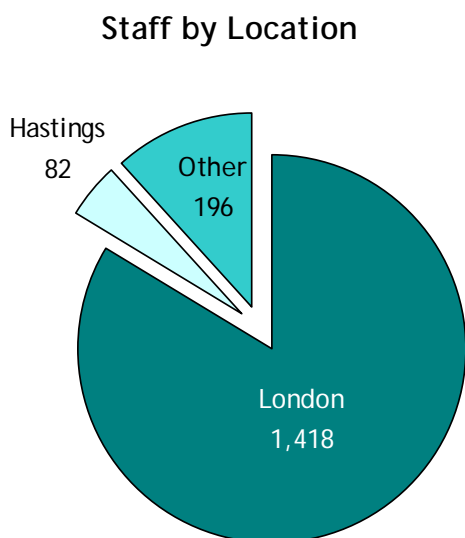
It compares the diversity of staff at each main location with the diversity of the local working-age population.

### Key findings

- 1,696 staff in post: 1,148 in London, 82 in Hastings and 196 in other locations.
- **London:** Staff were more likely to be male, white, non-disabled and older than the local working-age population.
- **Hastings:** Staff tended to be older than the local working-age population.
- **Other locations:** Staff were more likely to be male, white, non-disabled and older than the GB working-age population.

### 3.1 Geographical distribution of DfT(C) staff

On the 1<sup>st</sup> of April 2012 there were 1,696 staff in DfT(C), the majority of whom (83.6%) were based in London. 4.8% of staff were based in Hastings and the other 11.6% staff were based in Other locations around the country.



### 3.2 Diversity profile of DfT(C) staff

For all diversity types, comparisons have been drawn with local working-age populations.

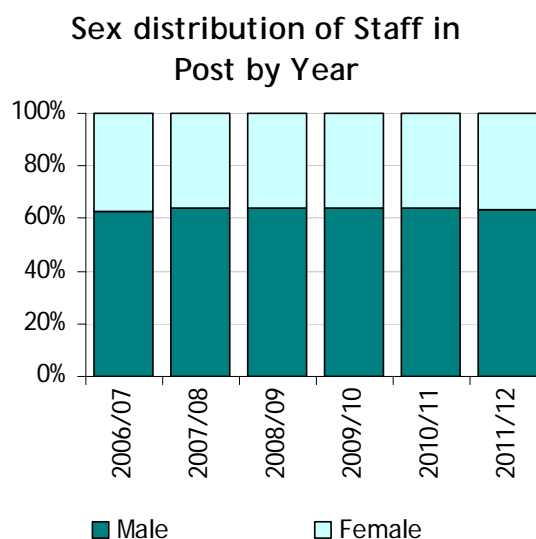
For London-based staff this means London boroughs and the neighbouring counties. The Hastings local area is defined as East Sussex and surrounding local authorities. Staff in Other locations have been compared with the GB working-age population.

#### 3.2.1 Sex by location

##### DfT(C) as a whole

The proportions of male and female staff in DfT(C) have remained fairly constant since IHAC first produced Equality

Monitoring reports in 2006/07, with approximately 64% (63.6% in 2011/12) male staff.



##### London

62.9% of London-based staff were male, a higher proportion than in the local working-age population (50.3%).

The higher pay bands (PB4-5, PB6-7 and the SCS) had higher proportions of male staff than expected given the proportions of males in the local working-age population.

##### Hastings

The proportion of male staff in Hastings (61%) was not significantly different from the local working-age population (48.8% male).

Due to small numbers of staff in Hastings, little analysis was possible at pay band level. However, wherever analysis was possible, no significant differences were found.

##### Other locations

The proportions of male and female staff at locations other than London or Hastings followed a similar pattern to

that of London-based staff – higher proportions of male staff, particularly in the higher pay bands.

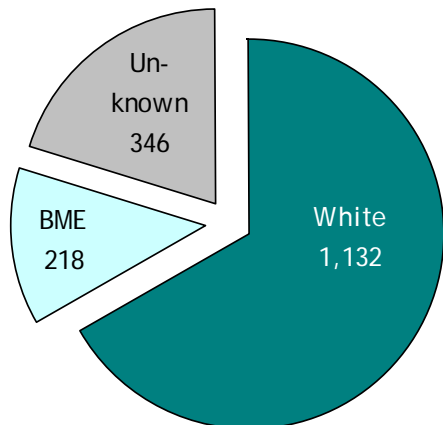
Overall, staff in Other locations had a higher proportion of male staff compared with the GB working-age population (69.4% compared with 50%). This was largely due to the high proportions of males in some of the higher pay bands (89.5% in PB6 and 82.9% of SCSPB1).

### 3.2.2 Race by location

#### **DfT(C) as a whole**

Of the 1,696 staff, 20.4% were of unknown or undeclared race. Of the 1,350 staff who declared their race, 83.9% were white, and 16.1% BME (black or minority ethnic).

Race of staff in post



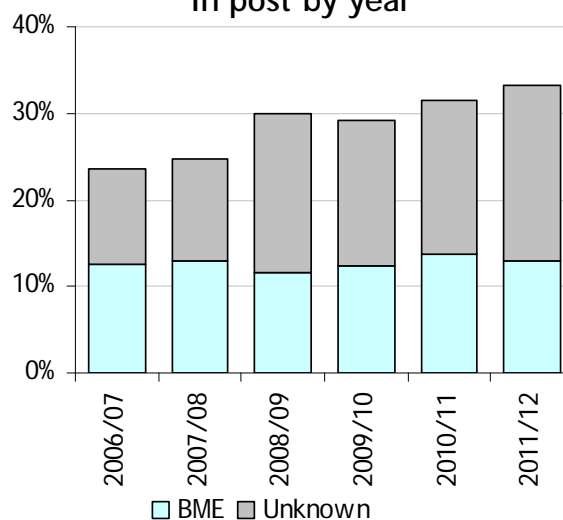
The number of staff of unknown race exceeded the number of BME staff.

Where comparisons were made with working-age populations, staff with unknown or undeclared race were excluded from the calculations.

There was a decrease in race declaration rates since last year, and also a decrease in the proportion of BME

staff. The graph shows how these have changed over the last five years.

BME & unknown race - staff in post by year

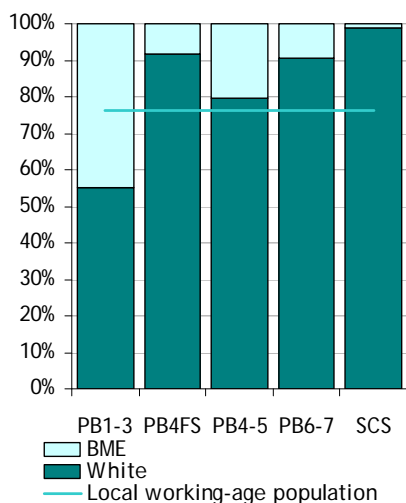


#### **London**

81.3% of London-based staff (of declared race) were white. This was significantly different from the local working-age population, 76.3% of whom were white.

PB1-3 contained a much higher proportion of BME staff and PB6-7 and the SCS contained much lower proportions of BME staff than expected, given the local working-age population.

Race of London staff by pay band



A higher proportion of the London-based male staff were white (85.8%) than would be expected, given the local working-age population (where 76% of men were white). This result was particularly pronounced in the highest pay band groups (90.8% male staff at PB6-7 and 98.5% for the SCS).

For London-based female staff, a higher proportion of female staff were BME (26%) than expected, compared with the local working-age population (where 23.5% females were BME). The lowest pay band group had a particularly high proportion of BME female staff (57.7% of female staff at PB1-3 were BME).

**Hastings**

76 of the 82 Hastings-based staff declared their race; all of these declared themselves white (97.5% of the local working-age population were white).

Due to small numbers, no statistical testing was undertaken.

**Other locations**

Of the staff in Other locations who declared their race, 83.9% were white. This was not significantly different from

the GB working-age population, of whom 88.4% were white.

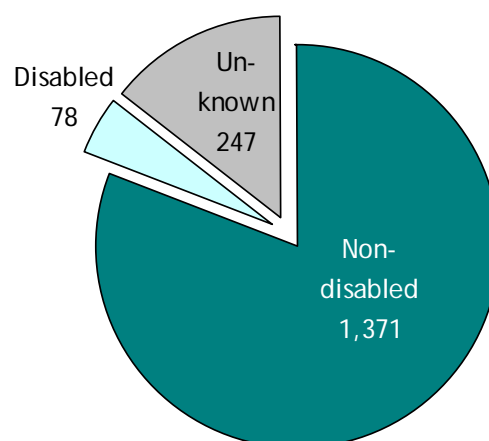
Due to small numbers, little analysis by pay band was possible; where analysis was possible no significant differences were found.

**3.2.3 Disability by location**

**DfT(C) as a whole**

85.4% of staff declared their disability status; 5.4% of these declared themselves to be disabled.

Staff by disabled status



There was a significant decrease in the declaration rate compared with last year, falling from 88.1% to 85.4%.

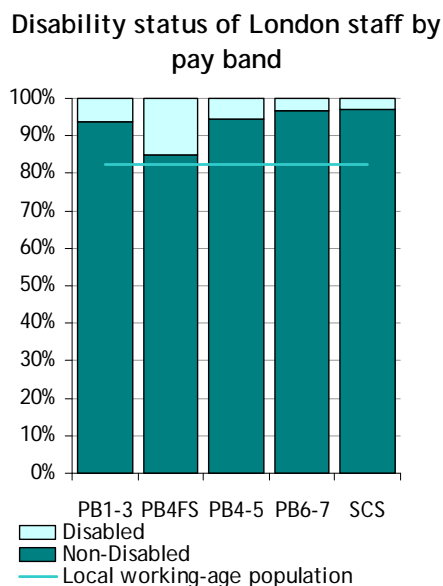
As with race, only those staff of known disability status were used in the location analysis.

**London**

There was a significantly lower proportion of disabled staff in London than the local working-age population<sup>2</sup> (5.2% compared with 17.7%).

<sup>2</sup> For the disability status of the working-age populations, the definition of disabled includes

Similar results were found for PB1-3, PB4-5, PB6-7 and the SCS.



**Hastings**

Of the Hastings-based staff whose disability status was known, 13% declared themselves to be disabled, compared with 24.3% of the local working-age population.

Whilst this difference seems large, it was not found to be statistically significant. Similarly, the proportion of disabled staff within pay bands was not found to be significantly different from the working-age population.

**Other locations**

2% of staff in Other locations were disabled - significantly less than the national figure of 21%.

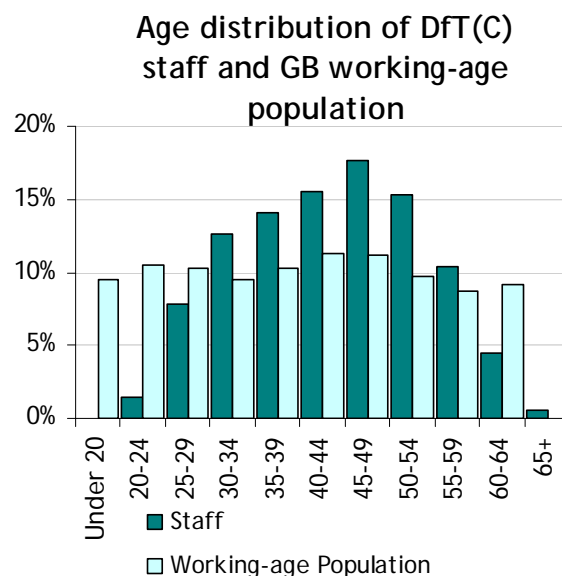
PB6-7 also showed a significantly lower proportion of disabled staff than the national population, as none declared themselves to be disabled.

both those with a disability covered by the Disability Discrimination Act and those with a work-limiting disability.

**3.2.4 Age by location**

**DfT(C) as a whole**

DfT(C) had an older age profile than the GB working-age population. 64% of DfT(C) staff were aged 40 or over, compared with 50% of the GB working-age population.



The age distributions by sex were significantly different, with male staff having an older age profile than female staff. 55.2% of female staff were over the age of 40, compared with 69% of males. This overall result was largely due to a particularly large difference among PB6 staff, of whom 67.1% of male staff and 44% of female staff were 40 or over.

**London**

As with DfT(C) as a whole, the age distribution of London-based staff was significantly different from that of the working-age population: staff tended to be older.

Similar results were found for PB1-3, PB4-5, PB6-7 and SCS but not for PB4FS staff, who had a younger age profile.

Looking at age together with other diversity characteristics for London-based staff, it was found that male staff had an older age profile than female staff, with 65.2% of males and 54.2% of females being aged 40 or over.

The only other significant result for London-based staff was that PB4 showed different age profiles for white and BME staff. Disproportionately more BME staff fell into the 30-44 age range than white staff. 37.5% of white staff and 57.9% of BME staff fell within this range.

**Hastings**

There was a significant difference between the age distribution of Hastings-based staff and that of the working age population. 58.8% of the local working-age population were aged 40 or over, compared with 71.6% of Hastings staff.

No further age/diversity analysis was possible for Hastings staff.

**Other locations**

Staff in Other locations had an older age demographic than the GB working-age population. 81% of these staff were aged 40 or over, compared with 50% of the GB working-age population.

This was also the case for PB6-7 and the SCS, with 87.3% and 100%, respectively, being aged 40 or over.

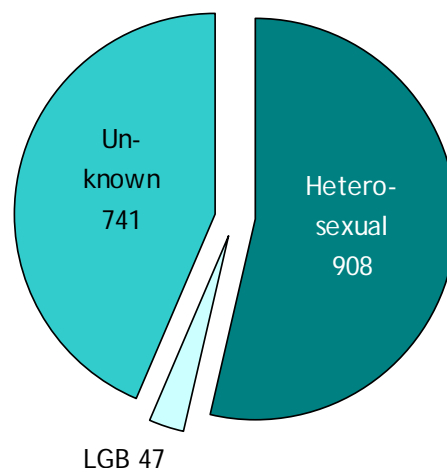
In a similar pattern to London-based staff, male staff tended to be older than female staff, with 72.8% of male staff and 48.3% of female staff being 40 or older.

**3.3 Sexual orientation**

Although data on sexual orientation was collected for staff, a large proportion of staff (43.7%) chose not to declare this information.

Of staff whose sexual orientation was known, 95.1% identified themselves as heterosexual and 4.9% identified themselves as lesbian, gay or bisexual (LGB).

Staff by sexual orientation

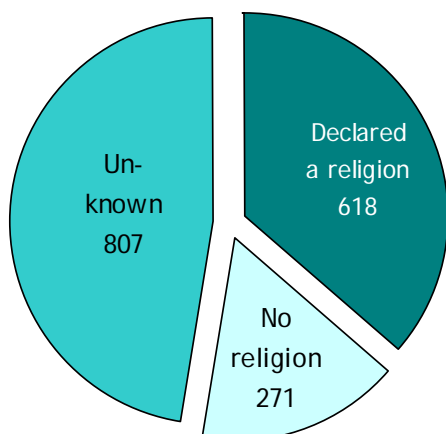


**3.4 Religion and belief**

Similarly to sexual orientation, data was collected for religion and belief, but a large proportion of staff (47.6%) did not declare this information.

Of the staff who did declare their religion/belief status, 69.5% declared their religion and 30.5% declared no religion.

### Staff by belief and religion



The table below gives a more detailed breakdown of those staff declaring a religion.

Religion/ Belief	Number of Staff	Proportion
Buddhist	2	0.3%
Christian	518	83.8%
Hindu	38	6.1%
Jewish	7	1.1%
Muslim	29	4.7%
Sikh	11	1.8%
Other	13	2.1%
<b>Total</b>	<b>618</b>	

### 3.5 Maternity leave

There were 14 staff on paid or unpaid maternity leave at the end of March 2012. 31 staff returned from maternity leave into the Department during the year.

## Chapter 4: Staff in post across pay bands

This chapter considers how the minority groups are distributed across the pay bands.

The analysis takes each pay band in turn and compares it with all the others.

In this section, “significantly more females than expected” means that there were significantly more females compared with the other pay bands rather than the local working-age population.

### Key findings

- Higher proportions of female staff in PB2, but lower in PB5 and PB6-7.
- BME staff tended to be in lower pay bands – high proportions in PB1-3 and low proportions in PB 6-7 and the SCS.
- Disproportionately more disabled staff in PB4FS and fewer in PB6-7.
- PB2, PB7, SCSPB1 and SCSPB2 tended to be older, whereas PB4FS and PB6 tended to be younger.
- PB3 had disproportionately more part-time staff, and PB4-5 had fewer.



### 4.1 Distribution of staff by diversity group

The following sections describe how staff in each diversity group were distributed across the DfT(C) pay bands.

Of the 1,696 staff in post, 9.5% (161) were in the SCS.

Due to low numbers in PB1 (3 staff) and SCSPB3&4 (5 staff), data for this pay band has been omitted from the charts.

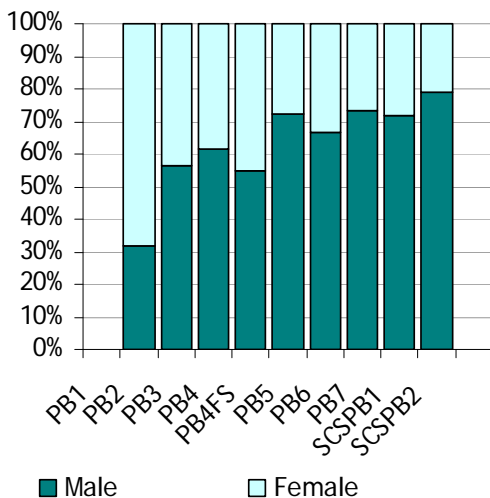
Specialism data refers to Specialist pay bands (Specialist pay bands are quite narrowly defined as legal, accident and nuclear, and engineering and science pay bands).

As specialism is so closely linked with pay band, it has been omitted from the analysis in this chapter.

#### 4.1.1 Staff distribution: Sex

The overall trend across DfT(C) was that lower pay bands had higher proportions of female staff and higher pay bands had higher proportions of male staff.

Sex of staff in post by pay band

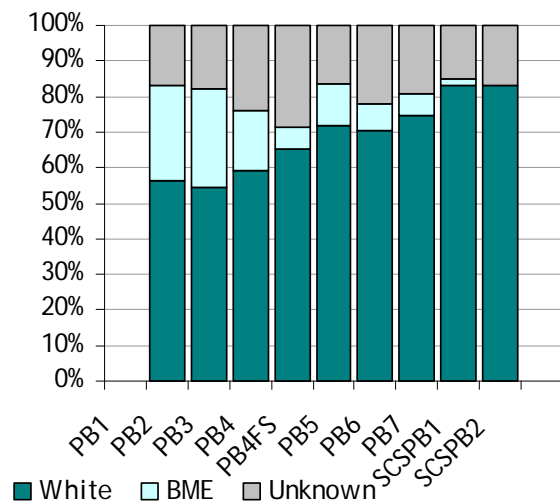


PB2 had a higher proportion of females (68.4%) than would be expected, given the DfT(C) average of 36.4%, and PB5 and PB6-7 had lower proportions of females (27.8% and 31.25%, respectively).

#### 4.1.2 Staff distribution: Race

BME staff were not evenly distributed across the pay bands. Lower pay bands tended to have higher proportions of BME staff than higher pay bands.

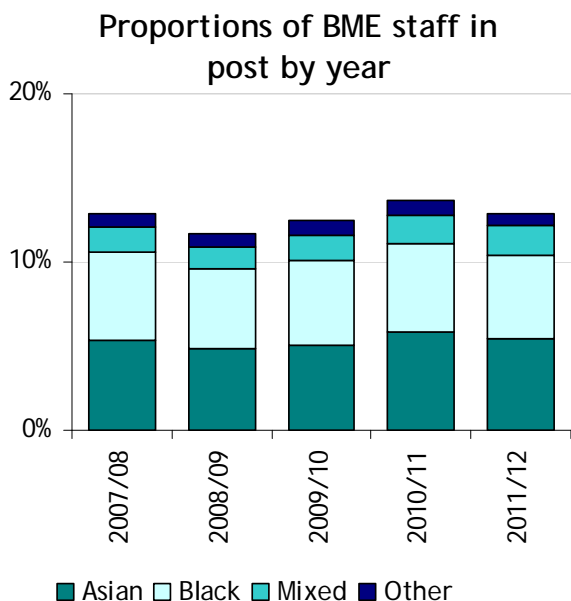
Race of staff in post by pay band



PB1-3 had a higher proportion (27%) of BME staff than would be expected, given the DfT(C) average of 12.9%, and PB6-7 and the SCS had lower proportions (7% and 1.2% respectively).

PB4 had a lower proportion of white staff than would be expected - 59% compared with 66.7% of DfT(C) as a whole.

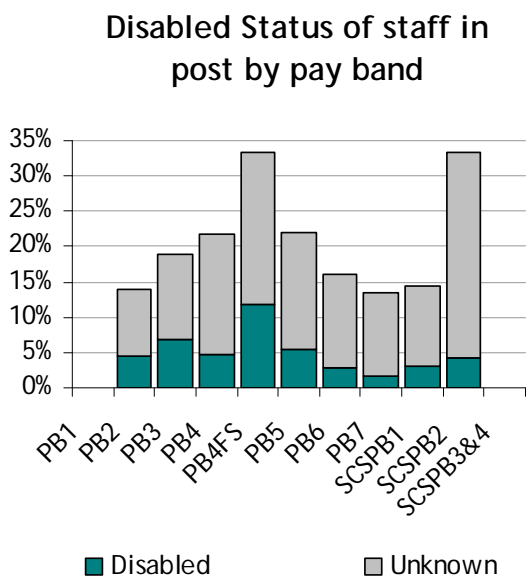
Due to small numbers of staff in many of the categories, no analysis was possible for specific racial groups. However, the chart below shows a breakdown of BME staff by race for the last 5 years.



### 4.1.3 Staff distribution: Disability

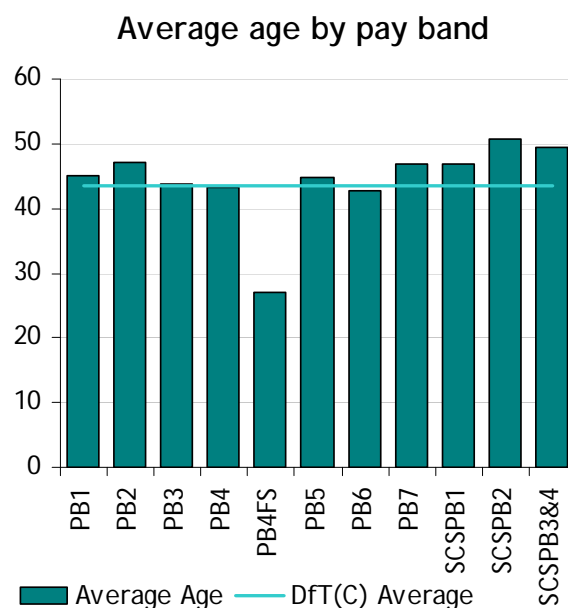
85.4% of staff declared their disability status. Of these, 1,371 were non-disabled and 78 were disabled.

PB4FS had a significantly higher proportion of disabled staff and PB6-7 had a higher proportion of non-disabled staff than other pay bands.



### 4.1.4 Staff distribution: Age

The age distribution varied between the pay bands. PB2, PB7, SCSPB1 and SCSPB2 had higher proportions of older staff than other pay bands, whereas PB4FS and PB6 had higher proportions of younger (see the graph below).



#### 4.1.4.1 Age/diversity distributions

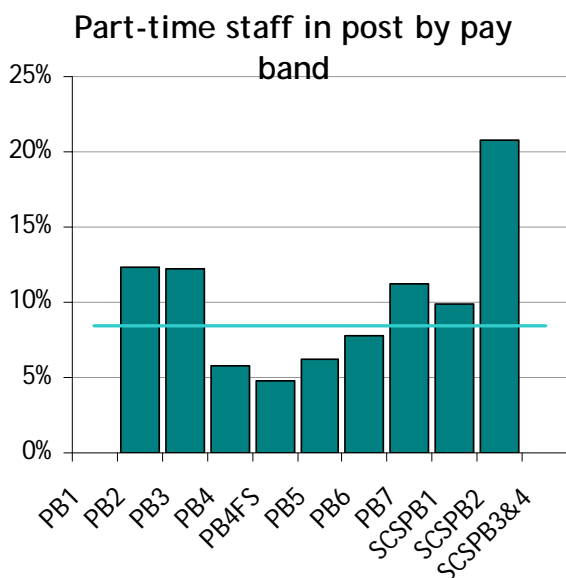
The numbers of staff in many of the age/diversity group/pay band combinations were insufficient for analysis to be performed. Where analysis was possible, the following was true:

- In PB6, female staff were significantly younger than male staff.
- In PB4, BME staff were more clustered around the middle of the age range. 38.9% of white staff were aged between 35 and 49, compared with 77.6% of BME staff.

### 4.1.5 Staff Distribution: Work pattern

Overall, 91.5% (1,552) of staff worked full time and 8.5% (144) worked part time.

PB3 had a higher proportion of part-time staff and PB4-5 had a lower proportion than would be expected when compared with other pay bands.



Although PB2 had a high rate of part-time workers compared to the other pay bands, this was not significant: other factors (such as a high proportion of female staff in PB2) were more important.

#### 4.1.5.1 Working pattern/sex

Female staff were significantly more likely to work part time (18.1%) than male staff (3%).

#### 4.1.5.2 Working pattern/race

Part-time staff were more likely to be white (73.6%) than full-time staff (66.1%); conversely, full-time staff were more likely to be BME (20.9%) than part-time staff (14.6%).

PB3 staff working part time had lower proportions of white staff than full-time staff in PB3, and PB6 had higher proportions.

#### 4.1.5.3 Working pattern/age

Age is only a significant factor for working pattern after other factors such as sex and race are taken into account.

Of the part-time staff, those in PB6 tended to be younger than would be expected and those in the SCS were older than would be expected given the age profile of all part-time staff.

### 4.1.6 Staff distribution: Sexual Orientation

Sexual orientation was unknown for 43.7% of staff. This large proportion of unknowns means that we cannot be sure that those we do not have data for are representative of DfT(C) as a whole. Consequently, no significance testing is possible for sexual orientation.

53.5% of staff declared themselves heterosexual, and 2.8% declared themselves gay man, lesbian or bisexual.

### 4.1.7 Staff distribution: Religion and belief

The religion or belief status was unknown for 47.6% of staff. As with sexual orientation, this high proportion of unknowns means that the results of significance testing may not be reliable, and so tests were not performed.

36.4% of staff declared a religion or belief, and 16% declared no religion.

## Chapter 5: Year on year comparisons

This chapter looks at how DfT(C) has changed in terms of diversity in the year since the last Equality Monitoring report one year ago.

### Key findings

- 8.8% decrease in staff on last year.
- Significant decrease in disability declaration rates.

## 5.1 Year on year comparison

### 5.1.1 Staff numbers

The number of staff in post decreased from 1,859 at the end of 2010/11 to 1,696 at the end of 2011/12, a decrease of 8.8%.

### 5.1.2 Change in diversity profile

The only significant demographic change since last year was a decrease in disability declaration rates, which fell from 88.1% to 85.4%.

The average age of DfT(C) has risen by 0.1 years to 43.6, but this result was not found to be significant.

## Chapter 6: Recruitment

This chapter considers the equality mix of candidates applying for roles within DfT(C) in 2011/12.

Recruitment analysis has been split into two sections:

- The first section compares candidates with local working-age populations. These are all campaigns which have been advertised outside DfT(C).
- The second section looks at the success of all candidates through the various stages of recruitment – sift, interview and appointed.

The DfT recruitment freeze came into effect on May 18th, 2010 and continued during 2011/12.

Since the start of the recruitment freeze, the DfT Resourcing Group (DRG) have managed all of DfT(C) recruitment, and data has been provided by them. Data was collected for all recruitment campaigns launched during 2011/12.

This year, recruitment data does not include campaigns that were advertised only within the agency as the majority are now handled by individual business units without DRG's involvement.

### Key findings

#### ***Diversity of applicants***

- For London posts, higher proportions of applicants were male than expected (for PB5, PB6 and PB7 campaigns) and more were non-disabled than expected (for PB4, PB5, PB6 and PB7), compared with the local working-age population.
- For posts in Other locations, more applicants than expected were male (for PB6) and non-disabled (PB2 and PB6), compared with the GB working-age population.
- High numbers of applicants for PB2 and PB6 campaigns.

#### ***Success rates through the recruitment process***

- Applicants declaring a religion were less successful than those declaring no religion, or not declaring their status.
- Females were more successful than males

## 6.1 Diversity of applicants for campaigns outside DfT(C)

This section compares the profile of applicants with that of the local working-age population.

All of these applicants applied for posts that were advertised outside DfT(C) (even if they were already employees within DfT(C)). This includes posts that were advertised across the DfT family, across the civil service and external to the civil service.

1,501 applications were received in total. Of these, 1,001 were male, 468 were female and the sex of 32 was unknown. 658 were white and 327 were BME, and 1,333 were non-disabled and 54 were disabled.

1,080 (72.0%) of the applicants applied for positions in London, 4 (0.3%) were for Hastings and 417 (27.8%) were for Other locations (Other locations includes those campaigns where there was a variety of locations available).

No analysis was possible on the applications to Hastings posts.

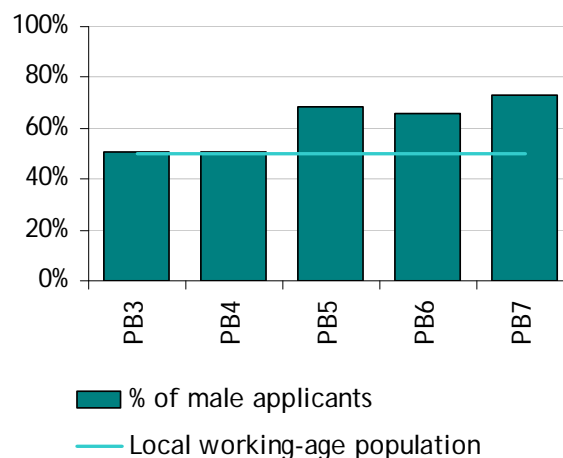
Only applicants with a known disability status were included in the disability analysis below. Likewise, only applicants with a known sex were included in the male/female analysis.

### 6.1.1 London

#### Sex

Higher proportions of males applied to PB5, PB6 and PB7 posts than would be expected given the local working-age population. The graph below illustrates this, comparing the proportion of male applicants with the proportion of males in the local working-age population.

Proportion of male applicants to London posts



While the proportion of male applicants for PB2 is very high, there were too few PB2 applicants for analysis to be performed.

#### Race

Due to high proportions of applicants whose race was unknown, no analysis was possible.

#### Disability

A higher proportion of applicants to PB4, PB5, PB6 and PB7 were non-disabled than would be expected given the local working-age population. Less than 6% of applicants to these pay bands (whose disability status was known) were disabled, compared with over 17% of the local working-age population.

### 6.1.2 Other locations

#### Sex

A higher proportion of applicants to PB6 were male than expected, given the GB working-age population. 90.7% of applicants (of known sex) to PB6 posts in locations other than London or Hastings were male, compared with 50% of the GB working-age population.

### **Disability**

Higher proportions of applicants to PB2 and PB6 (of known disability status) were non-disabled than expected given the GB working-age population. 96.7% of PB2 applicants and 96.9% of PB6 applicants were non-disabled, compared with 79.1% of the GB working-age population.

## **6.2 Sift to Appointment Analysis**

This analysis compares the profile of applicants who were successful at sift and interview with those who were unsuccessful. Finally, it compares all applicants who were offered a job with those who were not.

All applications were included in this analysis: whether the post was advertised within the DfT family, within the civil service or outside the civil service.

Only applicants whose sex was known were included in the analysis. Likewise, only staff with a known result were analysed at each stage of the recruitment process (successful or unsuccessful candidates were included, those for ongoing campaigns or who withdrew were not).

1,469 applications (for which the applicant's sex was known) were received for 172 campaigns. Of these, 27 applications were for posts advertised within the DfT family, 1,033 for posts advertised within the civil service and 441 were for posts advertised externally.

### **6.2.1 Sift**

A third of candidates were successful at sift stage (473 of 1,434).

### **Pay band**

PB2 had a lower success rate (10% of applicants passing sift), compared with applicants to other pay bands. Excluding PB2 applicants, PB6 was also found to have a lower success rate at sift compared with other pay bands.

It should be noted that PB2 and PB6 had a large average number of applicants per campaign, so lower success rate is likely.

### **Religion/Belief**

A lower proportion of applicants who declared a religion or belief were successful at sift (30.4% success) compared with applicants who declared no religion (36.2% success) and those of unknown religion/belief status (37% success).

However, this result should be treated with caution, as the proportion of applicants whose religion/belief status was unknown was greater than that of those applicants who declared a religion or belief. This means that if the religion or belief status was known for all staff, this factor may no longer be statistically significant.

At pay band level, applicants to PB4 who declared no religion had a higher success rate at sift compared with other applicants to PB4, as did applicants to PB5 whose religion/belief status was unknown.

### **6.2.2 Interview**

471 applicants were interviewed, and 168 were successful at interview.

The following characteristics were found to be associated with interview result.

### **Pay band**

A lower proportion of PB6 applicants were successful at interview than would

be expected given the success rate in other pay bands. 27.7% of applicants to PB6 were successful at interview, compared with 35.7% across all pay bands. However, this may be in part due to the high number of applicants per campaign.

### **Religion/Belief**

Applicants who had declared a religion had a lower success rate at interview than other applicants. 30.8% of applicants who had declared a religion were successful, compared with 41.9% of those who had declared no religion and 40.7% who had not declared their religion/belief status.

As at sift stage, the proportion of applicants whose religion/belief status was unknown exceeded that of applicants who declared a religion or belief, and so this result should be treated with caution.

### **Sex**

Female applicants had a higher success rate than males - 41.5% of female applicants were successful at interview, compared with 32.7% of males.

This was also true for PB6 applicants; female applicants had a higher success rate than males.

## **6.2.3 Appointed**

In total, 165 applicants were successful and appointed (3 of the successful interviewees withdrew from the process).

### **Pay band**

Applicants to PB2 and PB6 had lower success rates than applicants to other pay bands. 1.1% of applicants to PB2 and 8.2% of applicants to PB6 were appointed, compared with 11.3% across all pay bands.

However, as mentioned in the Sift section, PB2 and PB6 had the most applicants per campaign, and so it is unsurprising that they had lower success rates. Again, this may be in part due to the high number of applicants per campaign.

### **Religion/Belief**

Lower proportions of applicants who declared a religion or belief were appointed (8.8% appointed) than would be expected, compared with applicants who declared no religion or belief and applicants whose religion or belief was unknown (14.8% and 14.7% appointed, respectively).

This result was also true within PB4 and PB6. Applicants to PB4 who declared a religion or belief had a success rate of 9.8% compared with 15.9% of all applicants to PB4. The corresponding figures for PB6 were 5.6% for staff who declared a religion or belief, and 8.2% overall.

### **Sex**

Proportionately more female applicants were appointed than male applicants - 14% of female applicants and 10% of male applicants were appointed.

A similar result was found in PB6, with female applicants having a higher success rate than males. 14.8% of female applicants to PB6 were appointed, compared with 8.2% of male applicants.



## Chapter 7: Ceased employment

This chapter compares the profile of staff who left DfT(C) during 2011/2012 with that of the staff in post on 31<sup>st</sup> March 2012.

266 staff left DfT(C) in 2011/12, in part due to a restructuring of the Department - 93 of the cessations (35%) were part of a redundancy (or Voluntary Early Severance) scheme.

The 266 leavers comprised 14.3% of staff in post at the end of 2010-11.

### Key findings

- 266 staff left DfT(C), 14.3% of staff in post at the beginning of the year.
- Older staff more likely to leave than younger staff (largely due to retirement)
- More staff from PB2 and PB4FS and fewer from PB7 than expected left.
- Fewer staff from non-specialist pay bands left.
- Fewer staff who declared a religion or belief left than would be expected.

## 7.1 Ceased Employment

The following sections give the diversity factors most closely linked with cessations in order of significance.

### 7.1.1 Age

Age was found to be the most significant factor linked with staff leaving the Department, with leavers tending to be older. The average age of staff was 43.6 years old; the average age of leavers was 46.6 years old. This result was in part due to the number of retirements; 10.5% of leavers retired, and the average age of these staff was over 60.

Removing retirees from the analysis, age was still found to be significant, but it was not the most significant factor.

The staff who left PB2, PB4, PB4FS, PB6 and PB7 were disproportionately older than the staff who remained in post in these pay bands.

### 7.1.2 Pay band

The proportions of staff leaving PB4FS (10.5%) and PB2 (13.5%) was higher than expected, and the proportion leaving PB7 lower (4.5%), when compared with the proportions of staff remaining in post in these pay bands (5%, 6.7% and 10%, respectively).

### 7.1.3 Working pattern

The next most important factor was working pattern, with disproportionately more part-time staff leaving. This was particularly true for PB3.

8.5% of DfT(C) staff worked part time, whereas 15% of leavers did.

### 7.1.4 Specialism

Fewer staff from non-specialist pay bands left than would be expected given

the composition of the staff in post. This was particularly true for PB5. 95.4% of staff in post were in a non-specialist pay band, compared with 91% of leavers.

### 7.1.5 Religion and belief

A smaller proportion of staff who had declared a religion left than would be expected. However, just over half leavers had not declared their religion/belief status, so this result is unlikely to be particularly reliable.

## Chapter 8: Performance assessment

This chapter looks at the Performance Management Reports (PMRs) for the reporting year 2011/12.

At the end of the reporting year, DfT(C) employees are awarded a performance assessment mark, based on their end-of-year reports. Employees were awarded any one of the three marks:

- Exceeded
- Achieved
- Not achieved

The analysis examines whether there was a significant difference between the profile of those achieving the top performance mark (Exceeded) and those who did not receive that mark.

### Key findings

- 28.6% of staff received an Exceeded box mark.
- The most significant factors are given in order. The brackets show the group most likely to receive an Exceeded.
- Age (younger)
- Sickness absence (less)
- Overtime (claimed overtime)
- Race (white)
- Working pattern (full-time)
- Sex (female)
- Pay band (PB7)

## 8.1 Headline results

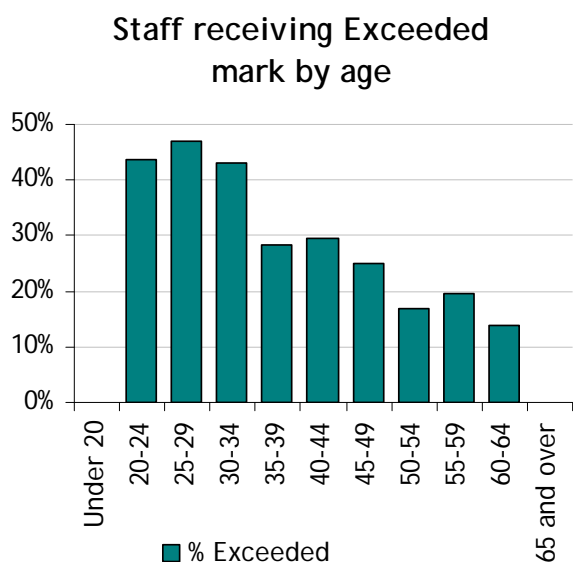
Performance Management Reports (PMRs) were received for 1,332 staff. Of these, 338 (28.6%) received an Exceeded mark, 941 (70.6%) received an Achieved mark and 10 (0.8%) received a Not Achieved mark.

The key diversity factors associated with performance mark are given in order of importance.

### 8.1.1 Age

The age of a staff member was the factor most closely linked with receiving an Exceeded mark. Younger staff were more likely to have received an Exceeded mark than older staff. This was true across DfT(C) and particularly for all pay band groupings other than PB4FS.

The following graph gives the proportion of staff in each age category that received an Exceeded mark.



### 8.1.2 Sickness absence

Staff with fewer days sickness absence recorded were more likely to have received an Exceeded mark.

This result was found for DfT(C) overall, and also for PB3 and PB4.

### 8.1.3 Overtime

Those who had worked overtime<sup>3</sup> were more likely to be awarded an Exceeded performance mark. 38.5% of staff who worked overtime received an Exceeded mark, compared with 26.4% of staff who did not work overtime.

This result was also true for PB3, PB4, PB4FS and PB6 when each was analysed individually.

### 8.1.4 Race

White staff were more likely to have received an Exceeded mark than other staff (BME or unknown race). 31.3% of white staff received an Exceeded mark, higher than either BME staff (22.4%) or staff of unknown race (23.6%).

This result was also found for PB2, PB6 and PB4-5.

### 8.1.5 Working Pattern

Higher proportions of full-time staff were awarded an Exceeded than part-time staff. 29.5% of full-time staff and 19.1% of part-time staff were awarded an Exceeded mark. This result was also found for PB6-7.

### 8.1.6 Other factors

The other significant factors linked to Exceeded marks were sex and pay band, with female staff and staff in PB7 being more likely to have received an Exceeded mark.

These results were not found to be significant when considered in isolation,

<sup>3</sup> In this report a staff member is considered to have worked overtime if they received overtime payments at any point during the year.

rather they became significant after taking into account the factors previously mentioned. This means that after the effect of age, sickness absence etc were accounted for, these factors explained the rest of the difference in proportions of staff receiving an Exceeded mark.

## Chapter 9: Learning and Development

This chapter considers days of recorded training undertaken by each diversity group.

Only training data recorded by the Shared Service Centre is considered. It is therefore likely that the figures analysed understate the amount of training actually taken.

Analysis of the factors which appeared to be linked with the amount of training was performed on all staff this year – in a change from the previous analysis, which included only those staff who had had some training during the year.

### Key findings

- Non-Specialist staff more likely to undertake training, and also recorded more days training per staff member, than Specialist staff.
- Those of undeclared disability status less likely to have undertaken training, and had fewer days recorded, on average.
- Pay band also significant – PB2, PB4FS, and all SCS pay bands less likely to have recorded training, and PB4, PB5, PB6 and PB7 had more days per person.
- Race (undeclared less likely to have training), Sexual Orientation (LGB more days training) and Age (younger more days training) were also significant.

## 9.1 Training by diversity group

70.9% (1,203) of DfT(C) staff had recorded training. Staff had 1.1 days training each, on average.

### 9.1.1 Specialism

Staff in non-specialist pay bands were more likely to have undertaken training than those in specialist pay bands. 74% of non-specialist staff recorded some training, compared with only 7.7% of those staff in specialist pay bands.

Staff in non-specialist pay bands also recorded more days training on average than those in specialist pay bands. These specialist staff undertook on average 0.1 days training, compared with the 1.1 days on average for non-specialist staff.

The average for non-specialist staff is very similar to that of DfT(C) overall. This is because the vast majority of staff (over 95%) were in non-specialist pay bands.

This result was also the case for PB6 and PB7, largely due to the fact that only certain pay bands contain any specialist staff.

### 9.1.2 Disability

Staff with undeclared disability status were less likely to have undertaken training and also recorded fewer days training, on average. 52.2% of these staff recorded training. Staff with undeclared status had 0.8 days training on average.

These results were also significant when the pay bands were analysed separately. Staff of undeclared disability status were less likely to have received training in PB4-5, PB6-7 and the SCS, and

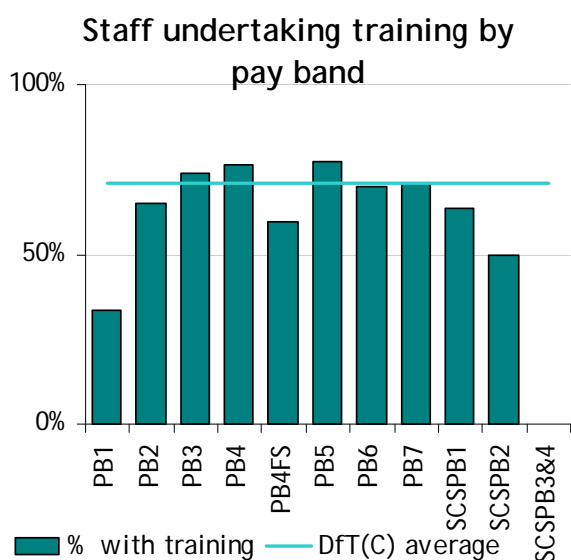
received fewer days training on average in PB4-5 and SCSPB1.

### 9.1.3 Pay band

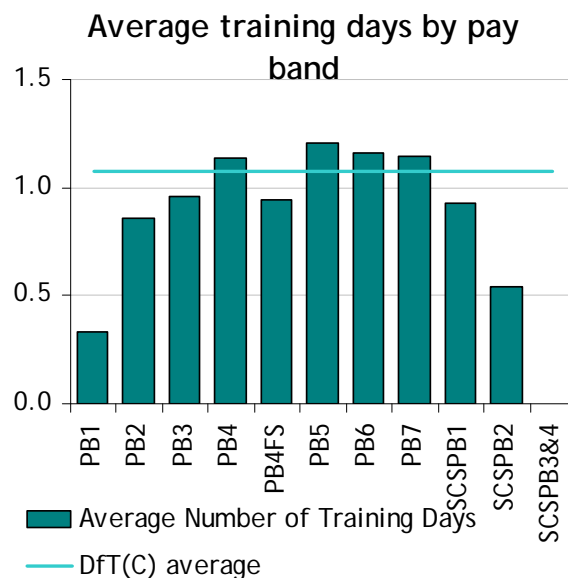
Fewer staff from SCSPB3 & 4, SCSPB1, PB4FS, PB2 and SCSPB2 undertook training than would be expected, given the training profile of all staff. However, it is worth noting that the PB2 result was not initially significant, it only became significant after the effects of the other factors were taken into account).

The graph below shows the proportion of staff in each pay band who undertook training during the year.

Also



Also, PB6, PB5, PB7 and PB4 (in order of significance) had more days training than would be expected given the average across all, shown in the graph below.



### 9.1.4 Race

Those staff whose race was undeclared were less likely to have undertaken training than those who declared it.

56.4% of staff of unknown race undertook training, compared with 73.7% of white staff and 79.8% of BME staff.

This was also true for PB4 and PB4FS.

In PB1-3, BME staff undertook more days training and in PB4FS white staff had more training, on average.

### 9.1.5 Sexual Orientation

Analysis showed that after the effect of specialism, disability status and pay band have been accounted for, sexual orientation was a significant factor linked with the number of days training taken.

LGB staff took more days training, on average, than other staff. However, due to very low declaration rates for sexual orientation, this result should be treated with caution.

### 9.1.6 Age

The final factor linked with the number of days training undertaken was age, with younger staff having more days training, on average. This result was also true for PB6



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## Chapter 10: Grievances and Discipline

This chapter considers grievances and discipline cases by diversity group, looking at how representative they were of staff in DfT(C).

The numbers involved for both grievance and discipline cases were too small to carry out statistical testing by pay band.

### Key findings

- No grievance cases
- Seven disciplinary cases during the year.
- No analysis possible.

### 10.1 Grievance cases

No grievance cases occurred during the year.

### 10.2 Discipline cases

There were seven disciplinary cases during the year. Of these, six were male, all were white and non-disabled.

## Chapter 11: Sickness Absence

This chapter considers days recorded absent due to sickness by each diversity group.

Data on days lost to sickness absence were supplied for all staff that were in post at the end of the reporting year (i.e. not including staff who had left DfT(C) during the year).

Both the likelihood of being absent due to sickness and the number of days recorded were analysed according to key diversity factors (sex, race and disability status), as well as pay band, age and job type.

Analysis of the factors which appeared to be linked with the amount of sickness absence was performed on all staff this year – in a change from the previous analysis, which included only those staff who had some sickness absence during the year.

Only the factors that showed significant results are commented upon in this chapter.

The purpose of this analysis was to consider differences in sickness absence by diversity group. Like other analysis in this report, it applies to staff who were in post on 31<sup>st</sup> March 2012, excluding those on long term leave (except for staff on long term sick, who are included in this analysis). It does not, therefore, match the official sickness absence figures reported quarterly to the Cabinet Office, which should remain the official source.

The main difference from the Cabinet Office returns is that we have not made adjustments for available working time – e.g. staff who have worked for less than the full year.

### Key findings

- 42.7% of DfT(C) staff had sickness absence.
- An average of 3.8 days per staff member.
- Pay band significant – those in PB2 and PB3 were most likely to have had sickness absence, and also recorded more days each, on average.
- Disabled staff were more likely to have had sickness absence, and also averaged more days per staff member.
- Younger staff had fewer days sick absence
- Female staff more likely to record sickness absence.

## 11.1 Overall Analysis

### Cabinet Office Figures

Official Cabinet Office figures for sickness absence in DfT(C) are as follows:

Average days of sickness absence (Average Working Days Lost)	4.5
% employees with sickness absence	40.2%

As stated in the introduction to this chapter, the Cabinet Office figures should remain the official source of sickness absence figures for the DfT(C). Any figures quoted from here are based on staff-in-post at midnight on the 31<sup>st</sup> March 2012 and do not include employees on long-term leave at this point in time (those with long-term sickness absence are included in the analysis). Therefore any averages quoted will be different from the official Cabinet Office averages, above.

### Equality Monitoring Sickness Absence

On average, DfT(C) staff who were in post at 31<sup>st</sup> March 2012 had an average of 3.8 days of sickness absence each in 2011/12. In total, 42.7% of DfT(C) staff had had sickness absence.

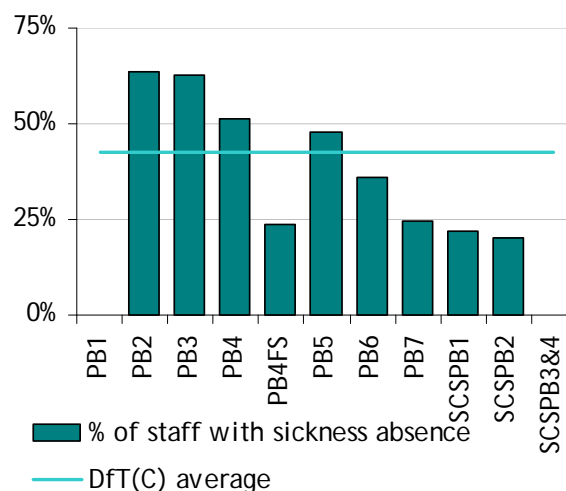
For both the proportion of staff who had sick absence and the average days recorded, the two most important factors were pay band and disability status.

#### 11.1.1 Pay Band

Pay band was the most significant factor linked to the proportion of staff recording sick absence.

Staff in PB3 and PB2 were all more likely to have had sick absence than other pay bands.

Staff recording sickness absence by pay band

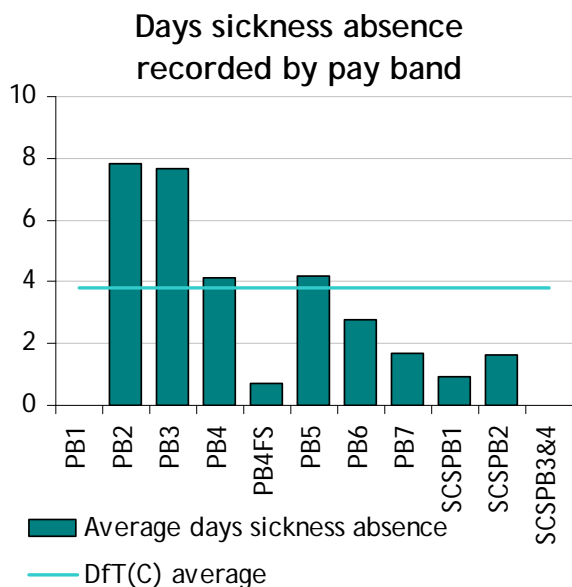


PB4 and PB5 were not significant on their own, rather they explain some of the difference in proportions of staff having sick absence after the effect of PB3 and PB2 were taken into account.

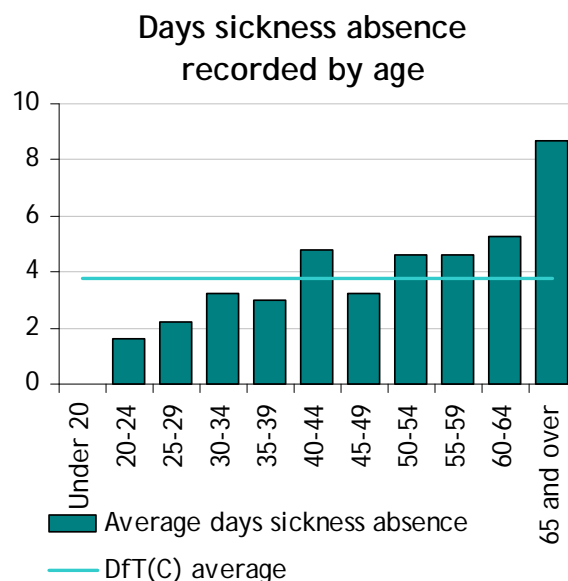
Pay band was the second most important factor when considering the number of sickness days recorded.

Staff in PB3 and PB2 recorded more days sick absence than would be expected, given the DfT(C) average and the demographics of the pay bands.

However, similarly to the proportion of staff taking sick absence, PB4 and PB5 only became significant after the inclusion of other variables.



shows the number of days sickness absence by age group.



### 11.1.2 Disability status

Disabled staff had proportionally more days' sickness absence than other staff. This was the most significant factor relating to number of days sickness absence.

Disabled staff had, on average, 12.4 days sickness absence each, compared with 3.5 days for non-disabled staff and 2.9 days for staff of unknown disability status.

Disabled staff in PB3, PB4, PB5 and SCSPB1 also had more days' sickness absence than their non-disabled colleagues or staff with unknown/undeclared disability status.

Higher proportions of disabled staff had sickness absence than expected, both in DfT(C) overall and in PB3, PB4 and PB5. 64.6% of disabled DfT(C) staff recorded sickness absence, compared with 42.2% of non-disabled staff and 38.7% of those of unknown disability status.

### 11.1.3 Age

Older staff across the DfT(C) had, on average, more days' sickness absence than younger staff. The graph below

This result was also true for staff in PB5 and PB7, with older staff in these pay bands having more days sickness absence.

Among the SCS, a higher proportion of younger staff recorded sick absence than older staff.

### 11.1.4 Sex

A higher proportion of female staff (49.6%) recorded sickness absence than the proportion of male staff (38.7%).

Female staff in PB4 and PB7 had more days sickness than would be expected compared to male staff in those pay bands.

### 11.1.5 Other factors

Other factors were linked to the number of days sickness absence recorded for certain pay bands:

- For PB5, part-time staff had more days' sickness absence than full-time staff, whereas BME staff and

those in specialist pay bands had fewer.

- For PB7, part-time staff had more days and BME staff had fewer days' sickness absence than expected.
- For the SCS, staff whose race was unknown had more days' sickness absence than would be expected.

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## Annex A: Notes on Data

### A.1 Working-age populations

#### A.1.1 Reporting locations

To compare the diversity of staff in post with local working-age populations, we attached each building where staff were located to a Reporting Location, e.g. London, Swansea, etc. This means that all of the staff based in London, for example, were considered as being in one location, irrespective of which part of London they were located in.

For each Reporting Location we identified a catchment area and generated local working-age population figures based on data for that catchment area.

A catchment area would typically include the relevant Local Authority area for the Reporting Location, plus neighbouring Local Authorities, as agreed with each agency. For example, for the London Reporting Location, we used the working-age population of all the London boroughs as well as those counties that border them.

#### A.1.2 Data sources

The UK population data at Local Authority<sup>4</sup> level is from the **Annual Population Survey (APS)**. This survey is a combined survey of households in Great Britain, updated quarterly and available at Local Authority level and above. It is a residence-based labour market survey which includes population and economic activity, broken down by sex, age, race, industry and occupation<sup>5</sup>.

The majority of DfT agencies have staff based only in Great Britain, but the Maritime and Coastguard Agency (MCA) also has staff working in Northern Ireland. In previous years, data for Northern Ireland was taken from the **Northern Ireland Labour Force Survey (NI LFS)**; however, this year, this data was also available as a part of the APS dataset.

Where a nationwide population comparison was required, for all agencies other than MCA, the GB working-age population (i.e. not including Northern Ireland) was used. For MCA, the UK working-age population was used.

APS data used in the 2011/12 Equality Monitoring reports was based on the one year period October 2010 - September 2011<sup>6</sup>, and downloaded from [www.nomisweb.co.uk](http://www.nomisweb.co.uk) ("Nomis") on 18<sup>th</sup> April 2012.

#### A.1.3 Population

Population data at local authority level from the APS was combined with **mid-year (30 June) population estimates** for 2010 – the most recent year available. These were also available at Local Authority level and were based upon results from the 2001 Census with allowance for under-enumeration. These figures covered the entire population, not

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<sup>4</sup> Local authorities including County Councils rather than District Councils.

<sup>5</sup> Further information on the survey can be found at <http://www.ons.gov.uk/ons/about-ons/who-we-are/services/unpublished-data/social-survey-data/aps/index.html>

<sup>6</sup> Data on race used the period October 2009-September 2010; this is explained further in section A.1.5.

just the working-age population, so to estimate the working-age population we took the number of males and females aged 15-64 years<sup>7</sup> (only five year age bands were available).

### A.1.4 Disabled status

The APS asks respondents whether they are currently DDA disabled, work-limiting disabled, both DDA disabled and work-limiting disabled, or not disabled. For this report, we have combined data on DDA disabled, work-limiting disabled, and both DDA and work-limiting disabled to calculate proportions of the working-age populations that are disabled.

Northern Ireland disability statistics from the NI LFS were obtained via Nomis.

### A.1.5 Race

APS data on race was unavailable when accessed for the period October 2010-September 2011, because of issues arising from changes to the survey questions. Therefore, data from the same period as the previous analysis (from October 2009-September 2010) were used in this year's analysis.

APS data was available for the following ethnic groups:

- Mixed;
- Indian;
- Pakistani/Bangladeshi;
- Black/Black British; and
- Other.

For our analysis, we have combined all the above into a single BME category.

### A.1.6 Sickness absence data

For DfT(C) and all agencies, data was available on the number of days of recorded sickness absence for each member of staff, with one record per incidence.

#### ***Working pattern***

Sickness absence data has been adjusted to allow for different working patterns. The figures used in this report are the number of days that would have been taken had the staff member worked full-time.

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<sup>7</sup> Please note that as of August 2010, the official definition of "working age" expanded to include both males and females aged 16-64 years old; this reflects a planned change in the female state pension age. All have been included in our working-age populations.

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## Annex B: Analytical Approach

Two statistical approaches have been used to test for differences in the data: univariate methods that test one variable at a time and multivariate methods that compare several variables simultaneously.

### B.1 Univariate methods - Chi-squared and Proportions tests

These tests were employed to test whether the proportion of staff by each diversity grouping was significantly different from that found within the local working-age population. They were also used to investigate recruitments to check if the proportion of candidates by each diversity grouping was significantly different from that of the local working-age population.

The results of these statistical tests give an indication of whether the pattern observed in the data was “significantly different from what would have been expected” or, conversely, whether any difference in proportions could be explained by natural variation.

For example, if there had been 100 staff, 30 of whom were male, and the local working-age population was 50% male and 50% female, the tests would tell you whether the group was statistically different from any random sample of 100 from the working-age population.

For these tests we used the “95% confidence level”. This means that if we reported a difference as being significant it meant there was only a 5% likelihood that the difference could have occurred purely by chance. We have also reported on differences that were significant at the 99% level – i.e. a 1% likelihood that the differences would have occurred by chance.

A certain amount of variation is expected, even with completely random samples, and so it should not be assumed that something that is statistically significant indicates that there is a bias – the level of significance only indicates the likelihood of something occurring. For example, a significant result at the 99% level would indicate something which is more unusual than something that is only significant at the 95% level.

As there are several characteristics to be tested, several univariate tests had to be conducted. One of the drawbacks of multiple univariate testing is that the more tests that are undertaken the higher the probability of finding false significant results. To reduce this risk, we have used the Bonferroni adjustment to the significance levels.

A further drawback with univariate approaches is that they do not take into account all of the other factors simultaneously. In practice an individual staff member has several characteristics: their sex, race, working pattern etc. When looking at only one of these characteristics at a time (for example in relation to performance), the effect of another characteristic is not taken into account and results can be misleading. It is possible to use multi-dimensional contingency tables for chi-squared tests, but the interpretation of the results can be difficult.

It is still, however, an appropriate approach in many circumstances – particularly when the group of staff should be reasonably comparable with the rest of the population (e.g. staff ages compared with working-age population; or the sex split across pay bands).



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## B.2 Multivariate methods – Regression Analysis

The main technique used to analyse data taking into account several factors simultaneously was regression: either multiple, logistic, Poisson or negative binomial.

Regression attempts to predict a dependent variable (e.g. the amount of sickness absence taken) using one or more independent variables (such as sex, age etc). In using multiple regression, the principle is to find the “line of best fit” by minimising the sum of the squared distance from the fitted line to each observation. (This approach is sometimes referred to as ordinary least squares regression). The aim is to find a set of independent variables that have a significant relationship with the dependent variable.

Much of the data that was analysed had a binary (0/1) result, for example, was in a pay band or was not; obtained the top performance rating or did not; was selected for interview or was not etc. This type of data lends itself to being analysed using logistic regression. Logistic regression is analogous to ordinary least squares regression, with the exception that a logistic curve rather than a straight line is fitted to the data. In some cases, neither multiple nor logistic regression was suitable – for example for analysing the amount of sickness absence taken, which for the majority of people was nothing or very little but for a small number of cases was very high. For this analysis Poisson or negative binomial models were used.

In all these approaches, the first step is for each characteristic to be tested in turn to see if it is significantly associated with the outcome (e.g. passed a recruitment stage or not). By significant, we mean that a staff characteristic accounted for an unusually high proportion of the variation seen in the dependent variable. For example, to see if sex had a significant relationship with whether people had passed the interview stage. In this case we would say something was successful or significant in “explaining the variation”, to mean that if you knew the characteristic of the staff member, you would have a better chance of predicting the outcome (for example if you knew the sex of the interviewee, you would also know something about the likely interview outcome). The starting assumption was that prior knowledge of someone’s sex; race; age etc should not enable the model to predict whether they were more likely to have received the highest performance rating or were interviewed etc. Again, as with the univariate approach, significance does not necessarily equate to bias but gives the relative likelihood of it occurring.

The next step in the modelling process was to include the characteristic that explained the majority of the remaining variation after taking account of the first variable. This step was repeated until the variables outside the model could explain no further variation.

Generally an outcome could not simply be explained by a single characteristic. Often, it was several characteristics together that were important. For example, age, sex and race were quite often found to be a powerful combination. A major advantage of the multivariate approach, compared with univariate, is that it is easier to see the relative importance of the characteristics.

There was an element of judgment involved in deciding which variables to include. In some cases variables were highly correlated, e.g. sex and full time equivalence: females were more likely to be part-time than males. Where both were statistically significant and improved the amount of variation that could be explained, both were included.

## Annex C: Tables and charts

### C.1 Year on year comparison – all staff

Staff Type	March 31st 2011			March 31st 2012			Percentage point change	% change from 2010
	2010/2011	% of total	% of total that declared	2011/2012	% of total	% of total that declared		
<b>All staff</b>	1,859			1,696				
<b>Males</b>	1,188	63.9%	63.9%	1,078	63.6%	63.6%	-0.3	-9.3%
<b>Females</b>	671	36.1%	36.1%	618	36.4%	36.4%	+0.3	-7.9%
<b>White</b>	1,274	68.5%	83.4%	1,132	66.7%	83.9%	-1.8	-11.1%
<b>BME</b>	254	13.7%	16.6%	218	12.9%	16.1%	-0.8	-14.2%
<b>Unknown Race</b>	331	17.8%	-	346	20.4%	-	+2.6	+4.5%
<b>Non-disabled</b>	1,548	83.3%	94.6%	1,371	80.8%	94.6%	-2.4	-11.4%
<b>Disabled</b>	89	4.8%	5.4%	78	4.6%	5.4%	-0.2	-12.4%
<b>Unknown disability</b>	222	11.9%	-	247	14.6%	-	+2.6	+11.3%
<b>Full-Time</b>	1,700	91.4%	91.4%	1,552	91.5%	91.5%	+0.1	-8.7%
<b>Part-Time</b>	159	8.6%	8.6%	144	8.5%	8.5%	-0.1	-9.4%
<b>Average age</b>	0	0.0%	-	0	0.0%	-	+0.0	+0.0%