

## NHS NATIONAL STAFF SURVEY TRUST REPORTS GUIDELINES FOR INTERPRETATION OF RESULTS

1. How the scores were calculated
2. Where can you find more detailed information?
3. Methods used for weighting scores

### 1. How the scores were calculated

The report to trusts focuses on 25 key areas covered by the questionnaire. These are mostly summary scores for groups of individual questions which, when taken together, give more information about the area of interest. The variables included are described below.

There are two basic types of scores included in the report: percentage scores, and scale summary scores. Both types were weighted to form the overall trust score (see section 1.3).

#### 1.1 Percentage scores

These were scores, which are calculated as the percentage of respondents who gave a certain answer to a question (or series of questions). For example, the percentage of staff appraised within the previous 12 months is the percentage of people who responded to the question, "have you had an appraisal or individual performance review in the last 12 months?" by ticking "yes".

The different percentage scores are described here:

##### ***Percentage of staff working extra hours***

This is the percentage of staff that, in an average week, said they work longer than the hours for which they are contracted. This was calculated from question 1b in the core questionnaire.

##### ***Percentage of staff working extra hours due to pressure and demands of job***

This is the percentage of staff who, in an average week, said they work longer than the hours for which they are contracted, and give at least one of the following reasons for it: because it is necessary to meet deadlines; because it is expected by their line manager; because it is expected by colleagues; because it is impossible to do the job without doing so; or because they don't want to let down the people they work with. This was calculated from questions 1b and 2 in the core questionnaire.

##### ***Percentage of staff appraised within previous 12 months***

This is the percentage of staff who answered "yes" to the question, "have you had an appraisal or individual performance review in the last 12 months?". This was calculated from question 8a in the core questionnaire.

***Percentage of staff having well structured appraisal reviews within the previous 12 months***

This is the percentage of staff that have had an appraisal or performance review in the previous 12 months and also answered "yes" to three questions. These questions were: "was your appraisal or performance review useful in helping you improve how you do your job?"; "did you and your manager agree clear objectives for your work during the appraisal or performance review?"; and "did the appraisal or performance review leave you feeling your work is valued by your employer?". This was calculated from questions 8a to 8d in the core questionnaire.

***Percentage of staff with personal development plans agreed within previous 12 months***

This is the percentage of staff who answered "yes" to the question, "in the past 12 months, did you agree a personal development plan with your line manager?". This was calculated from question 9a in the core questionnaire.

***Percentage of staff receiving any training in previous 12 months***

This is the percentage of staff that in the past 12 months, had received any training or development from their employer. This includes taught courses, supervised on the job training, secondment, mentoring, shadowing, e learning or online training, or any other type of training. This was calculated from questions 11 and 12 in the core questionnaire.

***Percentage of staff receiving at least one day's training on taught courses in previous 12 months***

This is the percentage of staff who, in the past 12 months, had received at least one day's teaching, instruction, tuition or supervised study as part of taught courses provided or paid for by their employer. This was calculated from question 11 in the core questionnaire.

***Percentage of staff saying they work in teams***

This is the percentage of people who answered, "yes" to the question, "do you work in a team?". This was calculated from question 14a in the core questionnaire.

***Percentage of staff working in a well structured team environment***

This is the percentage of people who answered "yes" to all the following questions: "do you work in a team?"; "does your team have clear objectives?"; "do you have to work closely with other team members to achieve the team's objectives?"; and "does the team meet regularly to discuss its effectiveness and how it could be improved?". These people also said there were no more than 15 people in their team. This was calculated from questions 14a to 14f in the core questionnaire.

This is potentially a far more useful measure than the percentage of staff who say they work in a team, because the vast majority of NHS staff say they work in a team. However, many of these are loosely structured work groups, which do not display all of the characteristics of a team, and do not therefore benefit from the advantages of true team work.

***Percentage of staff having had health and safety training in previous 12 months***

This is the percentage of staff who answered "yes" to the question, "have you received health and safety training from your employer in the last 12 months?". This was calculated from question 15a in the core questionnaire.

***Percentage of staff witnessing potentially harmful errors or near misses in previous month***

This is the percentage of staff who, in the previous month, had witnessed at least one error or near miss, which could have hurt patients, or staff. This was calculated from question 16 in the core questionnaire.

***Percentage of staff suffering work related injuries or illness in previous 12 months***

This is the percentage of staff who, in the previous year, had been injured or felt unwell as a result of one of the following problems: moving and handling; needlestick and sharps injuries; slips, trips or falls; exposure to dangerous substances; or work related stress. This was calculated from question 17 in the core questionnaire.

***Percentage of staff experiencing physical violence in previous 12 months***

This is the percentage of staff who, in the previous 12 months, had experienced physical violence from patients, clients or their relatives, or from other staff. This was calculated from question 27 in the core questionnaire.

***Percentage of staff experiencing harassment, bullying or abuse in previous 12 months***

This is the percentage of staff who, in the previous 12 months, had experienced harassment, bullying or abuse from patients, clients or their relatives, or from other staff. This was calculated from question 28 in the core questionnaire.

## 1.2 Scale summary scores

The remaining scores were worked out by assigning numbers to a series of responses, and calculating the average. For example, staff intention to leave jobs, was calculated in the following way:

Staff were asked to say to what extent they agreed with the following three statements: "I often think about leaving my current employer"; "I will probably look for a new job in the next year"; and "as soon as I can find another job, I will leave my current employer". If they answered, "strongly disagree" to an item, they would score 1 for that item. If they answered "disagree", they would score 2; if they answered, "neither agree nor disagree", they would score 3; if they answered "agree", they would score 4; and if they answered "agree", they would score 5. If a respondent scored a 2, a 3 and a 5 then their average score would be  $(2 + 3 + 5) / 3 = 3.33$ . These scores are then summarised for the entire trust using the weighting procedure described in section 1.3.

The different scale summary scores are described below. All have been scientifically tested in previous work to ensure that they are reliable, that is they consistently measure the same thing. The questions in the core questionnaire<sup>1</sup> that were used to calculate the scales are also shown.

<sup>1</sup> Downloadable at <http://www.chi.gov.uk/eng/surveys/nss2003/index.shtml>

### ***Quality of work life balance***

Work life balance assesses the extent to which staff perceive that the trust and their immediate manager are committed to helping them find a good balance between their work and home life. It assesses also the extent to which there is practical commitment to helping staff to find a good work life balance. Possible scores range from one to five, with one representing virtually no commitment from the trust, and five representing excellent commitment from the trust to helping staff achieve a good balance.

Good work life balance is associated with staff well being, low absenteeism and high retention rates.

Work life balance was calculated from questions 3a to 3c on the core questionnaire.

### ***Opportunities for flexible working***

Staff were asked which of the following flexible working options were offered by their employer: flexi time; working reduced hours; working from home in normal working hours; working to annual hours; teams making their own decisions about rotas; job sharing; career breaks; and flexible retirement. Possible scores range from one to five, with one representing no flexible working options offered, and five representing all options offered.

Opportunities for flexible working was calculated from questions 4a to 4h on the core questionnaire, excluding "don't know" responses.

### ***Fairness and effectiveness of incident reporting procedures***

Overall, this scale assesses the climate and culture of incident reporting in trusts. The scale measures the extent to which staff know the procedures for reporting errors, near misses and incidents. It also gauges whether staff feel that colleagues who are involved in such incidents are treated fairly by their trusts, and measures whether trusts are seen to encourage staff to report such incidents and whether they treat reports of such incidents confidentially. The scale also assesses the extent to which employers blame or punish people who make errors and take action to ensure that they don't happen again. Possible scores range from one to five, with one representing a poor culture of incident reporting, and five representing an excellent culture of incident reporting.

Positive climates of incident reporting enable learning and innovation in patient care. Negative climates tend to perpetuate errors, incidents and near misses.

Fairness and effectiveness of incident reporting procedures was calculated from questions 18b to 18f on the core questionnaire, excluding "don't know" responses.

### ***Staff job satisfaction***

This scale taps staff satisfaction in areas including: recognition for good work; support from supervisors/managers and colleagues; freedom to choose methods of working; amount of responsibility; skill use and satisfaction and the extent to which the trust is seen to value the work of staff. Possible scores range from one to five, with one representing very unsatisfied staff, and five representing very satisfied staff.

High satisfaction is associated with good performance, patient satisfaction, staff well being and low levels of absenteeism and turnover.

Staff job satisfaction was calculated from questions 20a to 20g on the core questionnaire.

***Quality of job design (clear job content, feedback and staff involvement)***

This scale assesses the extent to which staff are performing jobs that are relatively well designed and rich in content. These include having clear goals, providing clear feedback on performance, and giving staff autonomy on how to perform their work and the extent of workload pressure. Possible scores range from one to five, with one representing jobs that are poor in design, and five representing jobs that are very well designed.

Good job design is associated with high intrinsic motivation, good performance and retention, and low absenteeism.

Quality of job design was calculated from questions 19a to 19c, 22a, 22b, and 22d to 22f on the core questionnaire.

***Work pressure felt by staff***

Work pressure assesses the extent to which staff have a workload that is larger than they can cope with. Possible scores range from one to five, with one representing virtually no pressure felt by staff, and five representing extremely high feelings of work pressure.

Work pressure is the best predictor of stress in the NHS and predicts, in turn, absenteeism and poor performance.

Work pressure felt by staff was calculated from questions 19d and 22c on the core questionnaire.

***Staff intention to leave jobs***

Intention to leave is a measure of the extent to which staff are considering leaving their organisation and looking for a new job, either within or outside of the NHS. Possible scores range from one to five, with one representing staff who have no intention of leaving their jobs, and five representing staff who are very keen to leave their jobs.

This scale is in effect the opposite of a measure of retention, and is known to predict actual levels of retention.

Staff intention to leave jobs was calculated from questions 21a to 21c on the core questionnaire.

***Support from supervisors***

Support from supervisors assesses the extent to which staff feel that their manager or supervisor provides them with support, guidance and feedback on their work and takes into account their opinions before making decisions that affect their work. Possible scores range from one to five, with one representing very unsupportive leaders, and five representing highly supportive leaders.

Supervisors play a highly significant role in buffering staff from stress and influencing many aspects of their work life. When supervisor support is high, staff retention is high and absenteeism is lower.

Support from supervisors was calculated from questions 23a to 23f on the core questionnaire.

***Quality of senior management leadership***

Senior management leadership assesses the staff perceptions of the leadership role played by senior management in the organisation in terms of setting out a clear vision, innovating, focusing on patients' needs and building strong links with the community and other organisations. Possible scores range from one to five, with one representing very poor leadership, and five representing excellent leadership from senior management.

This scale is a good predictor of organisational effectiveness and innovation. Staff who believe their senior management are providing good leadership have greater commitment to their organisations and are less likely to want to resign.

Quality of senior management leadership was calculated from questions 24a to 24e on the core questionnaire, excluding "don't know" responses.

***Extent of positive feeling within organisation***

This scale measures organisational climate, or culture, which is a measure of the broader climate or, how things feel within the organisation. It assesses a range of dimensions including communication effectiveness in trusts, employee involvement, innovation and patient care. Possible scores range from one to five, with one representing very poor climate, and five representing excellent climate in the trust.

Climate predicts the performance of trusts and levels of innovation. A positive organisational climate is associated also with high levels of staff well being and satisfaction, themselves indicators of performance and staff retention.

Extent of positive feeling within organisation was calculated from questions 25a to 25h on the core questionnaire.

***Perceptions of effective action from employer towards violence and harassment***

Staff were asked four questions about whether their employer takes effective action if staff are physically attacked, or bullied, harassed or abused (including racial and sexual harassment). Possible scores range from one to five, with one representing the perception that the employer never takes any effective action, and five representing the perception that the employer always takes effective action.

Perceptions of effective action from employer towards violence and harassment was calculated from questions 30a to 30d on the core questionnaire, excluding "don't know" responses.

**1.3 Weighting of scores**

Trusts of the same type often have imbalances in the number of employees they have in different occupational groups. This can be for a number of reasons, for example, some trusts contract out services such as catering and cleaning, whereas other trusts supply them in house. Whatever the reason, this can potentially have a significant effect on trust results, as it is known that different occupational groups tend to answer some questions in different ways.

In order to make trusts of a similar type comparable with one another, all scores were weighted by occupational group. The occupational groups were broad categories such as nursing and midwifery, or admin and clerical staff, details of these can be found in section 3. This means that the average score for each occupational group within a trust is given a particular weight, according to how many staff in each group there would be in a typical trust of that type. Details about exactly how the weighting was done can be found in section 3.

This procedure ensures that no trust will appear better or worse than it should merely because of any occupational group imbalance. For example, there are some questions which managers are known to respond to more positively than other groups. A trust that has a particularly large number of managers, might appear more positive compared with other trusts on these questions, simply because of this imbalance in the number of managers. The weighting procedure corrects for this.

However, this also means that scores provided might differ from actual responses. For instance, it might be that 70% of people returning questionnaires had received an appraisal in the previous 12 months, but the weighting procedure means the score for the trust is actually 72%. This would mean that, if the trust had the same balance of occupational groups as a typical trust, it is likely that 72% of respondents would have had an appraisal. This may cause slight differences between the figures in this report and figures from any other analysis done, for example, by a survey contractor. However, any differences are likely to be small.

#### 1.4 Confidence intervals

Since the score is based on a sample of the employees in a trust rather than everyone (even if a census was carried out, not everyone will have returned their questionnaire), the score may not be exactly the same as if everyone had responded. Therefore a confidence interval, (a measure of how accurate the sample score is) is calculated. We can be 95% sure that if everyone in the trust had responded, the true score would fall within this interval.

## 2. Where can you find more detailed information?

There is a series of Excel spreadsheets downloadable at the CHI web site<sup>2</sup>, which contain summaries of all individual questions (as well as summary scores) for every trust in England, as well as for more specific groups of trust, for example, PCTs who are grouped by strategic health authority.

## 3. Methods used for weighting scores

In order to make trust scores comparable, the scores from individuals within each trust were weighted so that the occupational group profile of that trust reflected that of a typical trust of its type. Occupational groups were collapsed into broader categories than had been used on the questionnaire, so "nursing" includes both registered and unregistered nurses, and health visitors, healthcare assistants and midwives, and "medical / dental" includes consultants and other medical and dental staff.

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<sup>2</sup> <http://www.chi.gov.uk/eng/surveys/nss2003/index.shtml>

The weights applied for each type of trust were determined by the frequency of responses in an average trust of that type. These are shown here.

Acute (specialist) trusts:

Nursing:	36.9%
Medical / dental:	8.7%
Allied health professionals:	10.8%
General management:	3.6%
Admin / clerical staff:	21.1%
All other groups combined:	18.9%

Acute trusts:

Nursing:	39.7%
Medical / dental:	8.2%
Allied health professionals:	8.5%
General management:	2.8%
Admin / clerical staff:	21.3%
All other groups combined:	19.6%

Ambulance trusts:

General management:	4.8%
Admin / clerical staff:	12.4%
Paramedics:	28.2%
Ambulance technicians:	21.9%
Ambulance persons:	18.2%
All other groups combined:	14.5%

Mental health and learning disability trusts:

Nursing:	47.3%
Medical / dental:	5.3%
Allied health professionals:	11.9%
General management:	3.8%
Admin / clerical staff:	18.2%
All other groups combined:	13.4%

PCTs:

Nursing:	43.4%
General management:	7.4%
Admin / clerical staff:	20.9%
All other groups combined:	28.3%

PCT and mental health trusts:

Nursing:	46.4%
Medical / dental:	5.1%
Allied health professionals:	13.9%
General management:	4.2%
Admin / clerical staff:	18.6%
All other groups combined:	11.9%

Acute and mental health trusts:

Nursing:	44.5%
Medical / dental:	7.0%
Allied health professionals:	8.7%
General management:	2.4%
Admin / clerical staff:	15.6%
All other groups combined:	21.8%

Strategic health authorities / workforce development confederations:

General management:	47.2%
Admin / clerical staff:	32.1%
All other groups combined:	20.7%

So for instance, if responses from a PCT included 40.0% nurses, 10.3% managers then each nurse's response would be weighted (multiplied) by  $(0.434 / 0.400)$ ; each manager's response would be weighted by  $(0.074 / 0.103)$ , and so on, before taking an average across all weighted responses to form the trust score.

Similarly, the confidence interval for trust scores had to be adjusted to take account of this weighting. A 95% confidence interval for a finite sample would normally be calculated by the formula:



$$\text{Mean } \pm 1.96 \times \sqrt{(1 - n/N) \frac{\sigma^2}{n}}$$

where  $n$  is the sample size,  $N$  is the population size (number of employees in the trust eligible to receive a questionnaire), and  $\sigma^2$  is the sample variance. Taking account of the weighting, the confidence interval is calculated in exactly the same way, except that the sample variance is replaced by the weighted sample variance. This is calculated by implementing the following formula:

$$\text{Weighted sample variance} = \sum_{i=1}^k w_i^2 \frac{\sigma_i^2}{n_i}$$

where  $w_i$  is the weight of group  $i$  (the proportion in an "average" trust),  $\sigma_i^2$  is the sample variance of group  $i$ , and  $n_i$  is the size of group  $i$  in the trust.