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Patients' experience of using hospital services

An analysis of trends in inpatient surveys in NHS acute trusts in England, 2005–13

Authors

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Contents

1	Introduction	2
	Data and methods of analysis	4
2	Results: national patterns	7
	National patterns: conclusions	22
3	Results: trust-level patterns	24
	Consistency of changes	25
	Examples of change	28
	Trust-level patterns: conclusions	32
4	Conclusion and proposed action points	33
	Relatively small changes over time	33
	Policy focus and national support	34
	Wider service pressures	35
	Scope for improvement	36
	The potential role of changing expectations	36
	The 'London effect'	37
	Using the inpatient survey data for quality improvement	38
	Using the inpatient survey data to judge performance	44
	Conclusion	45
	Appendix: Methods of survey data analysis	46
	References	49
	About the authors	53
	Acknowledgements	56

Contents











Introduction

Patients' feedback on their experience of using health care services is recognised internationally as a key marker of the quality of those services and a vital source of information for quality improvement. Patient feedback is a component in the health care quality frameworks of the United States (US) Agency for Healthcare Research and Quality (AHRQ) and the Organisation for Economic Co-operation and Development (OECD), and in most countries in the developed world (AHRQ 2015; Arah 2006). It was first explicitly embedded in the English NHS in 1999 as one of six domains in the NHS Performance Assessment Framework, which was designed to deliver high-quality, cost-effective care that would improve people's health (Department of Health 1999).

The focus on patient experience as a key element of quality in the NHS has been reinforced over the past decade through numerous reviews and policies. These include the Darzi review and its three domains of quality (effectiveness, safety, patient experience) (Department of Health 2008); the report on service failures at Mid Staffordshire NHS Foundation Trust (Francis 2013); the coalition government's White Paper (Department of Health 2010); the NHS Outcomes Framework (Department of Health 2014b); and the NHS mandate (Department of Health 2014a).

The Performance Assessment Framework was followed by the introduction of a national patient survey programme in England, marking the start of a systematic approach to measuring the experience of patients using NHS services. The survey programme has been extended over time to become one of the largest programmes internationally to systematically collect patient feedback across a wide range of health care services: inpatient, outpatient, accident and emergency (A&E), community mental health, cancer, maternity and general practitioner (GP) services. It has been supplemented by the recent roll-out of the Friends and Family Test across all providers.

Data from the patient surveys is designed to be used by multiple audiences for a range of purposes: by providers, to improve the quality of their services; by











regulators, for quality assurance and to produce provider ratings; by commissioners, to monitor contracts and inform pay-for-performance schemes; by managers (locally and nationally) for performance assessment; by government and the public, for accountability purposes; and by patients, so that they can make informed decisions about their care. While the data is being widely used for most of the purposes listed, it is unclear whether (and to what extent) patients are using the survey data to make choices about their care.

Introduced in all NHS acute trusts in England in 2002, the annual inpatient survey was the pioneer in the launch of the national NHS patient survey programme. Because a key aim of the surveys is to provide reliable data at provider level, sample sizes are large: 62,400 inpatients across 156 NHS trusts responded to the 2013 survey. The average response rate to the survey over the 2005–13 period was 54 per cent. Development and co-ordination of the national patient survey programme, which includes surveys of several other categories of users of NHS services, is funded and managed by the Care Quality Commission (CQC).

A key aim of the surveys is to enable trusts to monitor and improve the quality of care they provide to patients. Given that the surveys have been carried out for more than a decade now, at some cost both nationally and for trusts locally, it is important to look closely at what they reveal. Has patients' experience of using hospital services improved over time? Are some organisations delivering a better experience for patients than others? Although some studies have considered trends at national level (NHS England 2014; Reeves and West 2014; Department of Health 2013; DeCourcy et al 2012; Richards and Coulter 2007; Coulter 2005; Picker Institute Europe 2005), there have until now been no systematic analyses of long-term trends in the experience of inpatients admitted to individual trusts.

For this study, we analysed data from the 2005–13 inpatient surveys for all acute trusts in England to examine trends in patient-reported experience at trust level over the nine years. The findings have important implications for all users of the data, and particularly for NHS policy-makers, commissioners and trusts. (The CQC has published the results of the 2014 inpatient survey since we embarked on this study (CQC 2015). The findings are similar to those of the 2013 survey, so do not alter the conclusions of our study.)











Our **full aggregated dataset** showing trends from 2005–13 at trust level is available (in Excel format) as supplementary data to this report. This is the first time that longitudinal trust-level data for nine years has been made available. Staff at NHS trusts are encouraged to review the data for their own organisations to examine the changes over time. It should help them to identify where they are doing well and where there is scope for improvement.

Data and methods of analysis

Annual inpatient survey data for the years 2005–13 was aggregated into one dataset for analysis. This data was collated by Picker Institute Europe in its role as the co-ordination centre for NHS patient surveys. The Picker Institute performs this role on behalf of the CQC, which is responsible for the inpatient survey and other collections in the national patient survey programme.

The questions analysed were those that have contributed to the 'overall patient experience score' reported by the Department of Health each year, originally as a Public Service Agreement indicator of departmental performance against nationally set goals (HM Government 2007). These questions are grouped into five 'domains' of patient experience representing aspects of care that patients have said are important to them. The questions have remained unchanged over the period to enable analysis of changes in patient experience over time (Bates 2011). For national reporting, a composite score is reported for each domain, together with an overall mean of the five domain scores. Additionally, the question about the overall rating of care was also examined. The questions used for the analysis are listed in Table 1 below.

Patients' responses to each question are scored from 0–100, with 0 being the least positive response, 100 being the most positive, and intermediate scores where questions have more than two answer options.

Because the demographic characteristics and method of admission of respondents can influence their ratings of care, and as these features of patient populations differ both between trusts and over time, the data has been standardised to adjust for these differences in patient-mix. This makes for more reliable comparisons of scores across trusts and over time. The variables used for standardisation were the respondent's age, gender, ethnic group and method of admission (emergency or elective).











We examined annual trends in trust scores and pooled data over three-year periods (the baseline, 2005–7, the middle period, 2008–10, and the most recent period, 2011–13) to reduce erratic fluctuations observed in annual scores for some questions. The discussion presented here focuses mainly on changes between the baseline period (2005–7) and the most recent period (2011–13). This is because national mean scores in the intervening period (2008–10) were generally in line with the trend over the period.

For more details on the methods of analysis, *see* Appendix.

We supplemented the quantitative analysis with some small-scale qualitative research using semi-structured interviews with patient experience leads at five trusts. The trusts were chosen because they had shown notable changes in performance, either in relation to particular questions or across the survey as a whole. Findings from these interviews are reported in the concluding section of this report, to supplement findings from the quantitative analysis with qualitative material that can support further interpretation of the results.











Table 1 Patient experience domains and constituent questions (question numbers as used in the survey)

Domain	Question
Access and waiting	Q6: How do you feel about the length of time you were on the waiting list before your admission to hospital?
	Q7: Was your admission date changed by the hospital?
	Q9: From the time you arrived at the hospital, did you feel that you had to wait a long time to get to a bed on a ward?
Safe, high-quality, co-ordinated care	Q31: Sometimes in a hospital, a member of staff will say one thing and another will say something quite different. Did this happen to you?
	Q52: On the day you left hospital, was your discharge delayed/main reason?
	Q59: Did a member of staff tell you about any danger signals you should watch for after you went home?
Better information, more choice	Q32: Were you involved as much as you wanted to be in decisions about your care and treatment?
	Q55: Did a member of staff explain the purpose of the medicines you were to take at home in a way you could understand?
	Q56: Did a member of staff tell you about medication side effects to watch for when you went home?
Building better relationships	Q24: When you had important questions to ask a doctor, did you get answers that you could understand?
	Q26: Did doctors talk in front of you as if you weren't there?
	Q27: When you had important questions to ask a nurse, did you get answers that you could understand?
	Q29: Did nurses talk in front of you as if you weren't there?
Clean, comfortable,	Q15: Were you ever bothered by noise at night from other patients?
friendly place to be	Q16: Were you ever bothered by noise at night from hospital staff?
	Q17: In your opinion, how clean was the hospital room or ward that you were in?
	Q21: How would you rate the hospital food?
	Q37: Were you given enough privacy when being examined or treated?
	Q39: Do you think the hospital staff did everything they could to help control your pain?
	Q67: Overall, did you feel you were treated with respect and dignity while you were in the hospital?
Overall rating	Q68: Overall (please circle a number on the scale from 0-10) I had a very poor experience (0) to I had a very good experience (10) (used in the 2012 and 2013 surveys)
	075: Overall, how would you rate the care you received? (used in the 2005-11 surveys





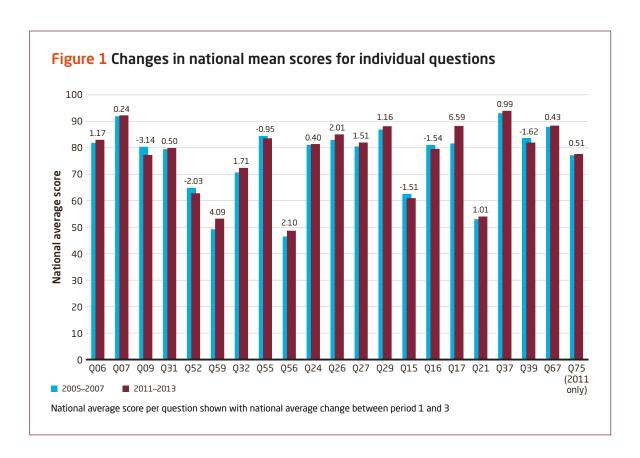






Results: national patterns

Our analysis shows some interesting patterns at national level. Figure 1 shows a summary of the top-level findings.



National mean scores were comparatively high for 11 of the 20 questions examined, with means of more than 80 (the maximum score being 100) during the baseline period (2005–7) and the most recent period (2011–13). By contrast, national mean scores in both periods were comparatively lower (between 47 and 53) for questions about hospital food, and information given to patients on discharge (possible side effects of medicines and any danger signals to watch for).











Changes in mean scores were generally small – less than three points for all but three questions. But there was improvement overall, with the national mean scores increasing for 14 questions but falling for 6 questions. The 'overall rating' questions (68 and 75) also showed a small improvement. However, these national mean scores conceal some very different patterns at individual trust level (*see* next section).

The results of more detailed analyses are summarised below. As already noted, the discussion focuses mainly on changes between the baseline period (2005–7) and the most recent period (2011–13), because national mean scores in the intervening period (2008–10) were generally in line with the trend over the period. All the graphs use the same scale (0–100) so that responses to different questions can be compared. Further commentary on the overall rating question is not possible because we were unable to analyse it on a like-for-like basis with other questions due to changes in the way it was worded from 2011.

• All trusts consistently showed higher performance levels over time for some questions than others (*see* Figure 2 for examples), but there were no clear patterns by domain

Questions for which responses have been relatively positive across trusts and over time are as follows.

- Was your admission date changed by the hospital? (Q7)
- Did nurses talk in front of you as if you weren't there? (Q29)
- Were you given enough privacy when being examined or treated? (Q37)
- Overall, did you feel you were treated with respect and dignity while you were in the hospital? (Q67)

Questions for which responses have been less positive for most trusts and over time are as follows.

- Were you ever bothered by noise at night from other patients? (Q15)
- How would you rate the hospital food? (Q21)











- On the day you left hospital, was your discharge delayed/main reason? (Q52)
- Did a member of staff tell you about medication side effects to watch for when you went home? (Q56)
- Did a member of staff tell you about any danger signals you should watch for after you went home? (Q59)
- Differences in performance between trusts (as measured by the standard deviation of trust scores) were consistently wider for some areas of patient experience than others (see Figure 2)

Several questions for which patients rated performance relatively low were also those with the widest variation in scores between trusts, as follows.

- From the time you arrived at the hospital, did you feel that you had to wait a long time to get to a bed on a ward? (Q9)
- Were you ever bothered by noise at night from other patients? (Q15)
- How would you rate the hospital food? (Q21)
- On the day you left hospital, was your discharge delayed/main reason? (Q52)
- Did a member of staff tell you about medication side effects to watch for when you went home? (Q56)
- Did a member of staff tell you about any danger signals you should watch for after you went home? (Q59)

Questions for which there was less variation in performance between trusts were as follows.

- Was your admission date changed by the hospital? (Q7)
- Were you given enough privacy when being examined or treated? (Q37)

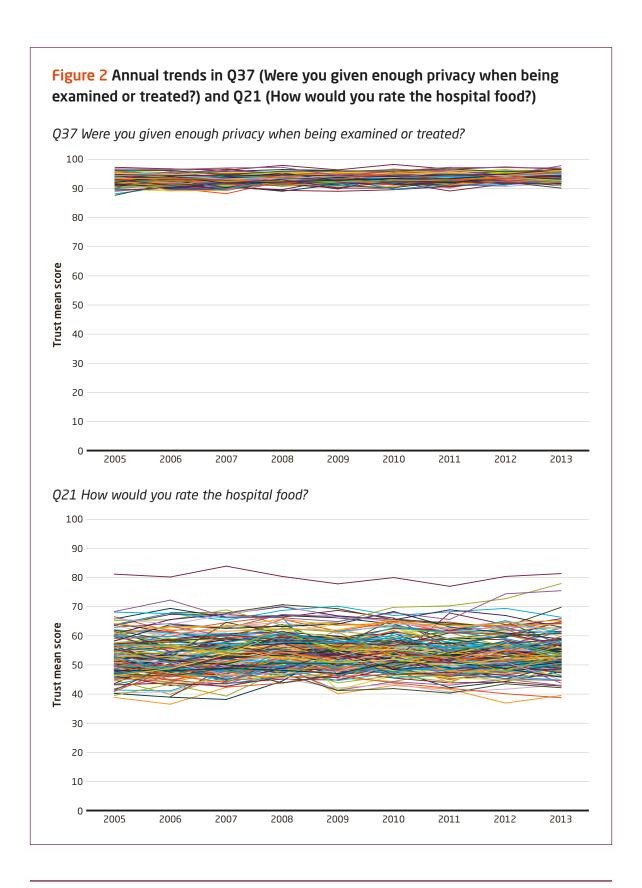






















• There were some consistent patterns in terms of some organisations performing better than others

We looked at individual questions, including those for which there was wide variation in mean scores for trusts (for example, Q21 on hospital food), to see if there was evidence of any trusts maintaining good performance over a sustained period. There was a clear pattern showing that specialist trusts generally performed well, while London trusts had some of the lowest scores. That said, there was considerable variation among London trusts, with some performing better than others. As well as the tendency towards poorer results in London, we observed typically more positive results in the north east. Hospitals in Newcastle upon Tyne and Gateshead performed consistently well to come in or near the top 10 per cent of trusts over the nine years.

Over time, differences in performance between trusts (as measured by changes in standard deviation of trust scores in 2011–13 compared with the baseline of 2005–7) have narrowed in a few aspects of patient experience but shown little change in others (for examples, *see* Figure 3)

Questions for which differences in performance between trusts narrowed over time were as follows.

- In your opinion, how clean was the hospital room or ward that you were in?
 (Q17)
- How would you rate the hospital food? (Q21)
- Did doctors talk in front of you as if you weren't there? (Q26)
- Did nurses talk in front of you as if you weren't there? (Q29)
- When you had important questions to ask a nurse, did you get answers that you could understand? (Q27)
- Were you given enough privacy when being examined or treated? (Q37)











Overall, the area where differences in performance between trusts showed the greatest change was the narrowing of the gap on cleanliness (Q17). Figure 3 shows how the overall range of trust scores has compressed over time as lower-performing trusts have improved.

Questions for which differences in performance between trusts showed little change over time were as follows.

- Were you ever bothered by noise at night from other patients? (Q15)
- On the day you left hospital, was your discharge delayed/main reason? (Q52)

Differences between trusts in their scores for 15 of the 20 questions examined were smaller in the middle period (2008–10) than in the baseline period (2005–7) and the most recent period (2011–13). The reasons for this are unclear.











Figure 3 Annual trends in Q17 (In your opinion, how clean was the hospital ward or room that you were in?) and Q52 (On the day you left hospital, was your discharge delayed/main reason?) Q17 In your opinion, how clean was the hospital ward or room that you were in? **Trust mean score** Q52 On the day you left hospital, was your discharge delayed/main reason? Trust mean score











• At trust level, responses to some questions showed more erratic year-onyear changes than others (for examples, *see* Figure 4)

Questions for which trust scores changed erratically from one year to the next were, in many cases, those for which performance was lower overall and where there was wide variation between trusts, as follows.

- How do you feel about the length of time you were on the waiting list before your admission to hospital? (Q6)
- From the time you arrived at the hospital, did you feel that you had to wait a long time to get to a bed on a ward? (Q9)
- Were you ever bothered by noise at night from other patients? (Q15)
- On the day you left hospital, was your discharge delayed/main reason? (Q52)
- Did a member of staff tell you about medication side effects to watch for when you went home? (Q56)
- Did a member of staff tell you about any danger signals you should watch for after you went home? (Q59)

In contrast, questions for which trust scores were relatively stable from one year to the next were in many cases those that also had higher scores overall and for which differences between trusts were relatively small, as follows.

- Were you given enough privacy when being examined or treated? (Q37)
- Was your admission date changed by the hospital? (Q7)
- Overall, did you feel you were treated with respect and dignity while you were in hospital? (Q67)





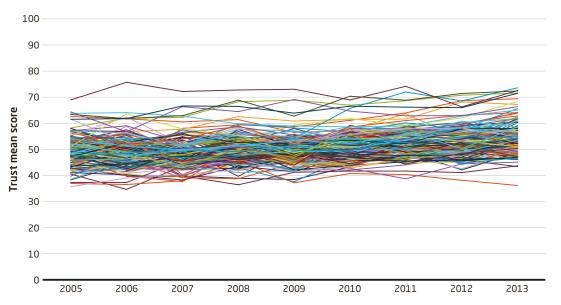




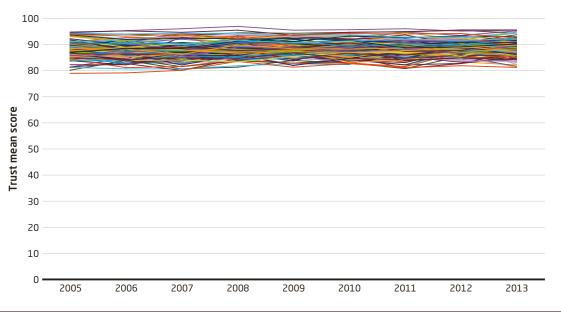


Figure 4 Annual trends in Q59 (Did a member of staff tell you about any danger signals you should watch for after you went home?) and Q67 (Overall, did you feel you were treated with respect and dignity while you were in the hospital?)

Q59 Did a member of staff tell you about any danger signals you should watch for after you went home?



Q67 Overall, did you feel you were treated with respect and dignity while you were in the hospital?













We examined respondent numbers for each question to see if the erratic patterns were due to small numbers. Compared with about 60,000–70,000 respondents for most questions, respondent numbers were lower (about 26,000–36,000) for Q6 (How do you feel about the length of time you were on the waiting list before your admission to hospital?) and for questions 56 and 59 (being warned about medication side effects and danger signals to look out for) (40,000–50,000 respondents). While these are still sizeable numbers overall, for Q6 it works out to about 200 respondents per trust, which will result in relatively wider confidence intervals around the annual points for each trust for this question in particular compared with other questions.

• There was overall improvement in a few areas of patient experience across most trusts over time, and there were a few areas where performance deteriorated

Given that year-on-year changes in trust scores generally did not show a linear trend and were often erratic (or showed a U-shaped curve), an alternative, pragmatic approach was to examine whether performance had changed between the start and end periods (2005–7 and 2011–13). There were relatively few questions for which there was evidence of a sizeable number of trusts doing better or doing worse.

Questions for which 20 per cent (n 31) or more trusts showed an improvement were as follows.

- In your opinion, how clean was the hospital room or ward that you were in? (Q17); uniquely, almost all (149 out of 156) trusts showed a statistically significant improvement in responses to this question
- Did a member of staff tell you about any danger signals you should watch for after you went home? (Q59) (62 trusts)
- How would you rate the hospital food? (Q21) (45 trusts)
- Did doctors talk in front of you as if you weren't there? (Q26) (39 trusts)
- When you had important questions to ask a nurse, did you get answers that you could understand? (Q27) (31 trusts)











Questions for which 20 per cent (n 31) or more trusts showed a deterioration in performance over time were as follows.

- From the time you arrived at the hospital, did you feel that you had to wait a long time to get to a bed on a ward? (Q9) (76 trusts)
- Were you ever bothered by noise at night from other patients (Q15)?
 (35 trusts); 29 trusts showed deteriorating performance on the question about being bothered by noise at night from hospital staff (Q16)
- On the day you left hospital, was your discharge delayed/main reason? (Q52)
 (35 trusts)

• The magnitude of change differed between questions

Responses to the following questions showed the biggest improvements, although from differing starting points.

- In your opinion, how clean was the hospital room or ward that you were in? (Q17). The national score rose by an average of 6.6 points over the relatively high baseline average (2005–7) of 81.6; scores for the 149 trusts that showed a statistically significant improvement increased by an average of 6.8 points (see Figure 5).
- Did a member of staff tell you about any danger signals you should watch for after you went home? (Q59). The national score rose by an average of 4.1 points over the relatively low baseline average (2005–7) of 49.2; scores for the 62 trusts that showed a statistically significant improvement increased by an average of 8.1 points (see Figure 6).

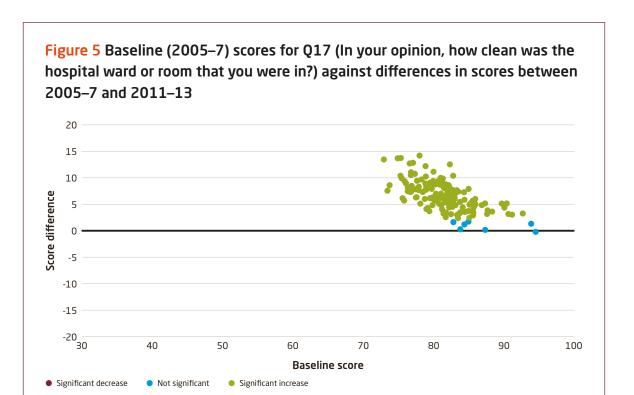


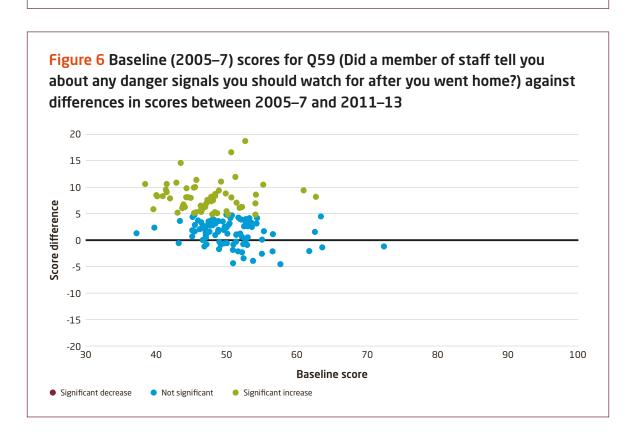
















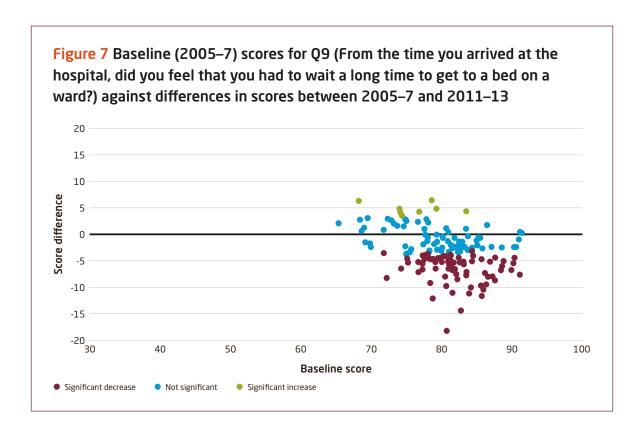






The two questions about length of wait for a bed on a ward (Q9) and delayed discharge (Q52) showed the biggest fall in point scores over time, although the decline was less marked than improvements in other areas.

- From the time you arrived at the hospital, did you feel that you had to wait a long time to get to a bed on a ward? (Q9). The national score fell by an average of 3.1 points from the relatively high baseline average of 80.4; scores for the 76 trusts that showed a statistically significant deterioration fell by an average of 6.3 points (*see* Figure 7).
- On the day you left hospital, was your discharge delayed/main reason? (Q52). The national score fell by an average of 2.0 points from the relatively low baseline average of 64.8; scores for the 35 trusts that showed a statistically significant deterioration fell by an average of 6.9 points (see Figure 8).



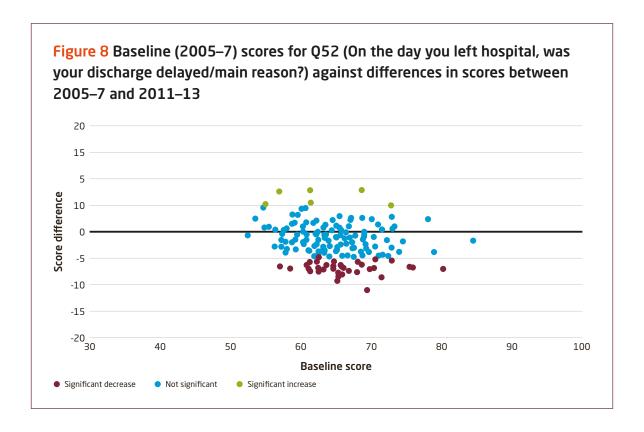












• Evidence of a 'ceiling' effect

In general, trusts at the lower end of performance in the baseline period showed more improvement than those with higher baseline scores (*see* Figure 9 and Figure 10 for examples). The changes in trusts' results over time are inversely proportional to their baseline performance. This reflects a 'ceiling' effect, whereby trusts performing comparatively better to begin with find it harder to improve as much as trusts performing less well at baseline. Figures 9 and 10 also illustrate the limits to feasible improvement. In each chart, the coloured area in the upper-right corner shows the limit beyond which scores cannot increase further; for example, if a trust has a baseline mean score of 80, the most it can improve by is 20 points.

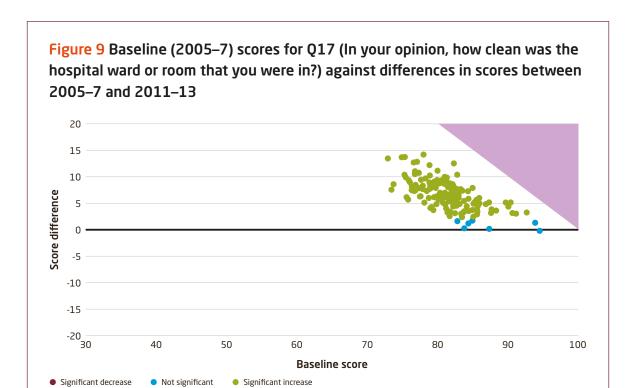


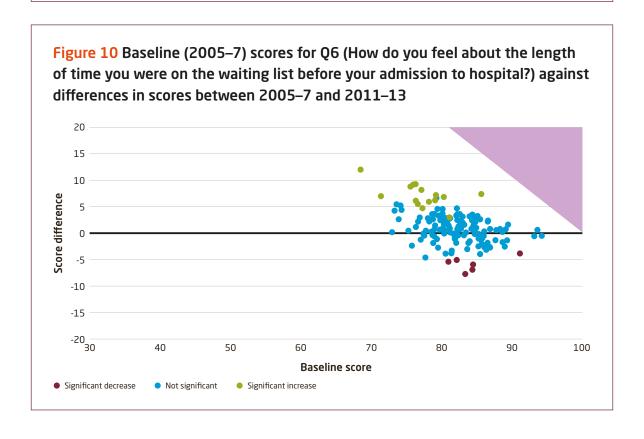






















National patterns: conclusions

In summary, our analysis shows a modest improvement nationally in the self-reported experience of inpatients during the nine years from 2005 to 2013, although in some areas there has been a decline. With a few notable exceptions, the national mean scores for many questions showed relatively small changes over time. In some cases, this was probably because scores were fairly high to begin with, and the margin for improvement was therefore limited. But the degree of change was generally modest even for aspects of patient experience where scores were comparatively low at baseline.

For most trusts, throughout the nine-year period, patient-reported experience was more positive in some areas (change in admission date, privacy, respect and dignity) than in others (information, food, noise levels, and timely discharge). Furthermore, some areas (such as privacy, respect and dignity) showed relatively higher levels of performance across all trusts over time compared with other dimensions of patient experience. However, even here, there is scope for improvement. The areas of care that generally performed lower were also those that showed erratic annual changes and wider variations in performance between trusts.

Overall, there was more evidence of improvement than deterioration; improvements in cleanliness, in particular, being reported by patients at almost all trusts. Areas where patients reported declining standards were in length of wait for a bed after admission, noise levels on wards, and timely discharge. Although performance has improved in some areas (eg, access to information and quality of food), the continuing wide variation between trusts suggests there is potential for considerable improvement, particularly by those at the lower end of the performance spectrum. Furthermore, although variations in performance between trusts narrowed in some areas of care, they widened for timely discharge and noise levels at night.

Our analysis also demonstrates that much of the year-on-year change in trust scores for individual questions is random variation rather than a statistically meaningful change or indication of a consistent direction of travel. Where changes were statistically significant, they were generally small (with the notable exception of cleanliness). For some questions (delays on admission to a ward, timely discharge, noise levels, quality of food, and information on discharge), a few trusts showed sizeable changes – for better or for worse – but even for these questions, most trusts











showed small changes. Furthermore, there is evidence of a 'ceiling' effect, with trusts that were performing comparatively well in the baseline period generally showing smaller improvements over time than trusts with lower baseline scores.

Overall, the analysis shows that the NHS is continuing to improve patients' experience of services, especially in areas of policy intervention, and that the 'overall rating' shows a small upward trend. However, improvements have been modest and there is considerable potential to do better. Our analysis shows negative trends in patient-reported experience where there are well-recognised pressures in the system, such as length of wait for admission to a bed on a ward and timely discharge. Furthermore, there remain areas where performance is generally low and needs to improve, and there is considerable potential for reducing variations in performance between trusts, as well as raising overall levels of performance.











Results: trust-level patterns

The previous section's analysis of national trends in the inpatient survey describes both overall patterns of performance and how individual organisations differ on patient experience measures. Most trusts have shown improvement in some areas of patient experience over the nine-year period (2005–13); equally, there are other areas where few changes are observed, and some where patterns are inconsistent. Although there is evidence that the service as a whole can respond to national imperatives – for example, around cleanliness – the findings also imply that trusts across the country are not moving forward as one when it comes to improving patients' experience of services.

Given this complex overall picture, we investigated the results for individual trusts with the aim of identifying organisations that had shown clear patterns of change – improvement or decline – since 2005. We were particularly interested to know whether any trusts showed across-the-board improvement or decline on the 20 questions we analysed.

This was challenging because of the large number of data points involved (156 trusts assessed against 20 questions at 9 annual points, making a total of approximately 28,000 observations) and because year-on-year changes in trust scores were often erratic and sometimes showed a U-shaped curve. As with the national results, we therefore took the pragmatic option and focused on changes between the initial (baseline) three-year period (2005–7) and the most recent three-year period (2011–13). This enabled us to pick out overall trends but also to identify interesting examples of change on a single issue within trusts. The following sections present these high-level findings and more detailed examples of local trends.











Consistency of changes

We enumerated the number of statistically significant changes (improvements and declines) between 2005–7 and 2011–13 in trusts' scores for each question. We then calculated the difference between the number of items that improved or worsened for each trust, giving some indication of the overall pattern of trust-level changes. The histogram and fitted normal distribution for all trusts (Figure 11) shows that, overall, there has been a modest net improvement in patient experience over the period examined. However, the modal value of the distribution is zero – suggesting that for many trusts there was little movement, or that positive and negative changes were balanced and cancelled each other out.

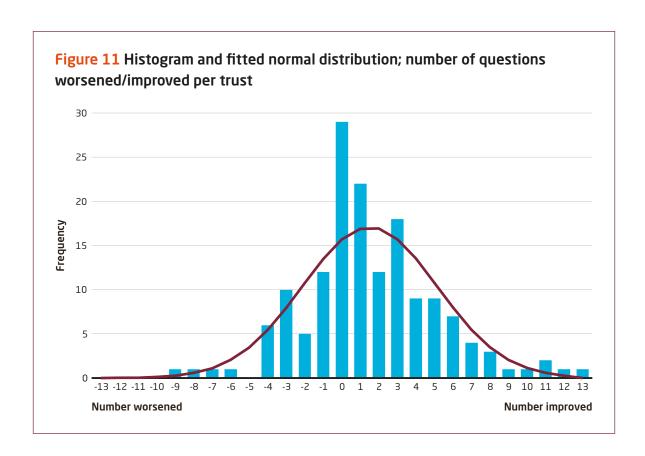




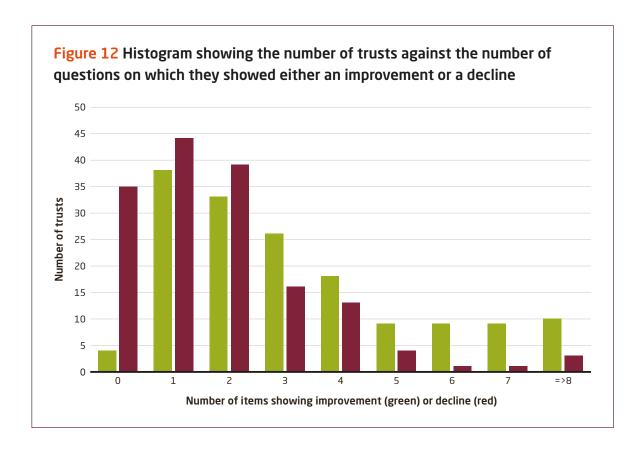








Figure 12 shows frequency counts of trusts for the number of items on which they showed either an improvement or a decline: in both cases, the modal value is 1 (ie, for most trusts, very few questions showed changes in either direction).



The histograms in Figures 11 and 12 both exhibit clear asymmetry. The overall distribution in Figure 11 has a median of 1 and mean of 1.51, showing that generally, there was slightly more improvement than deterioration – also evident in Figure 12. A review of results by question suggests that this is influenced by the selection of items. As noted in the national results section, one question – Q17 (In your opinion, how clean was the hospital room or ward that you were in?) – showed near universal improvement (149 out of 156 trusts). Removal of this item from the analysis shifts the distribution to the left, such that the median is 0 and the mean 0.6. This should not be taken as negating the overall trend towards improvement rather than decline; however, it illustrates how dependent the overall improvement is on movement against a single, specific area of national focus. The analysis also demonstrates that most trusts showed change (in either direction) on only a few questions, and





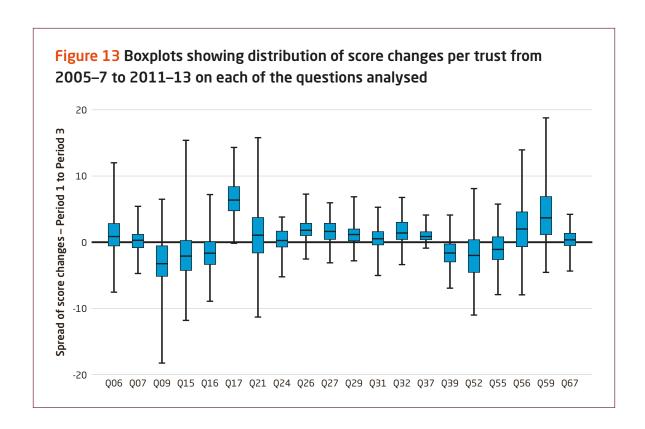






that there were no clear 'winners' or 'losers' overall; the general pattern was for organisations to show mixed performance.

The difference between Q17 on cleanliness and other questions is further illustrated by Figure 13, which shows the overall distribution of changes in trusts' scores between 2005–7 and 2011–13 for each of the questions in our analysis. Most questions have a mean change of close to zero; Q17 is the exception, with just 7 out of 156 trusts not showing a statistically significant improvement in average score over this period. Other standout questions are Q9 (From the time you arrived at the hospital, did you feel that you had to wait a long time to get to a bed on a ward?) where results show a broad tendency to decline, and Q59 (Did a member of staff tell you about any danger signals you should watch for after you went home?), for which responses show improvements.













Examples of change

We examined annual trends for every trust on each question. While it would be impractical to present this volume of information here, we have chosen some examples to illustrate the different patterns of change – both within a trust on different questions, and between trusts on the same questions. The examples have been selected to highlight the diversity of change patterns observed within and between organisations; they should not be interpreted as representing 'leaders' or 'trailers'. The trend graphs below show an overall mean score for the trust along with control limits of two standard deviations to see whether score changes over time exceeded 'natural' variation (*see* Appendix A for further details).

Q32: Were you involved as much as you wanted to be in decisions about your care and treatment?

On this question, 26 trusts showed significant improvement between 2005–7 and 2011–13. Comparing two of the larger changes that we observed shows the need for detailed trust-level review of findings over time. Figure 14, for Sherwood Forest Hospitals NHS Foundation Trust, shows consistent incremental improvements in scores for this question between a low in 2007 and a peak in 2013. Although the results are mostly within the overall control range, the story is one of marginal improvement over a sustained period.

This pattern of improvement contrasts with the results for another trust showing improvement on the same question, Walsall Healthcare NHS Trust (*see* Figure 15), which show little movement over the period 2007–12, and are essentially static between 2008 and 2011. But the results recorded in 2006 and 2013 mark exceptional lows and highs respectively – that is, observations that are statistically 'out of control'. Such a sharp trough and peak could indicate a short-term change in performance with, respectively, a sudden crisis undermining the quality of patient experience and a major intervention to improve services. Alternatively, the data could reflect sampling error. It is not possible to determine the root cause from a review of the survey results: knowledge of the local context is required to properly understand the reasons for the changes. These results demonstrate the risks of relying too heavily on one year's data as a marker of performance.

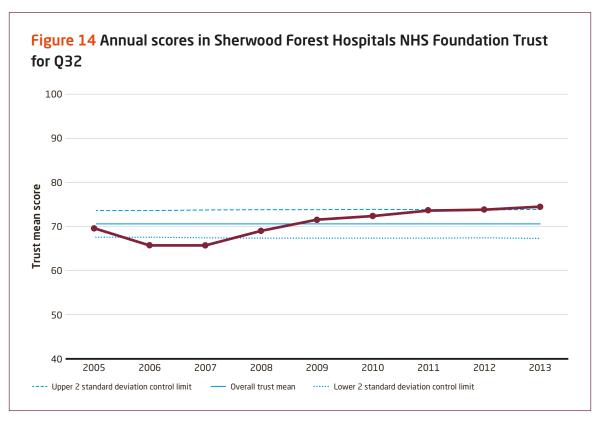


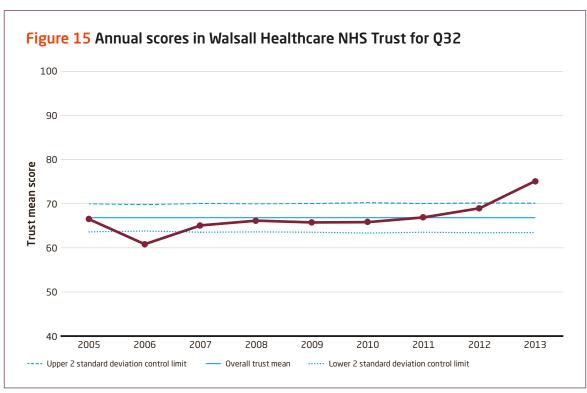
















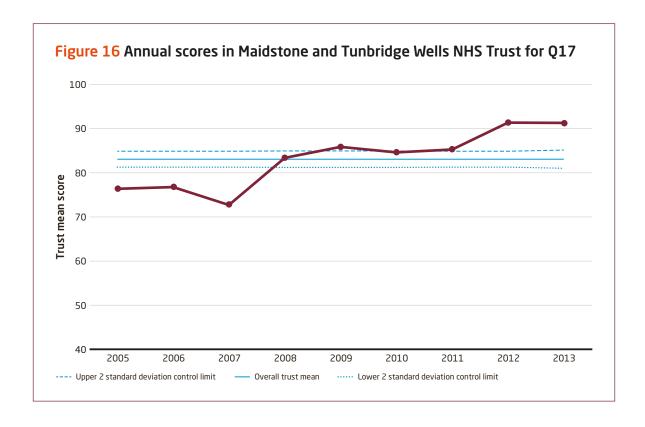






Q17: How clean was the hospital room or ward that you were in?

In some cases, local histories are well known and consistent with the trends we observed retrospectively in the data. For example, in 2007, Maidstone and Tunbridge Wells NHS Trust was subject to an investigation by the Healthcare Commission into an outbreak of the 'superbug' *Clostridium difficile* (Healthcare Commission 2007). The investigation found that the outbreak was partially caused by poor standards of ward cleanliness, and that 'some serious concerns [about] cleanliness and hygiene' remained in 2007. The report highlighted inpatient survey data as one source of evidence, noting that 'in 2006 the trust was rated in the worst 20 per cent of trusts on the cleanliness of wards, and of toilets and washing facilities'. Our analysis (Figure 16) shows that the trust's results for the question on cleanliness fell from a low base in 2005 to a statistical low in 2007, before rising sharply over subsequent years.







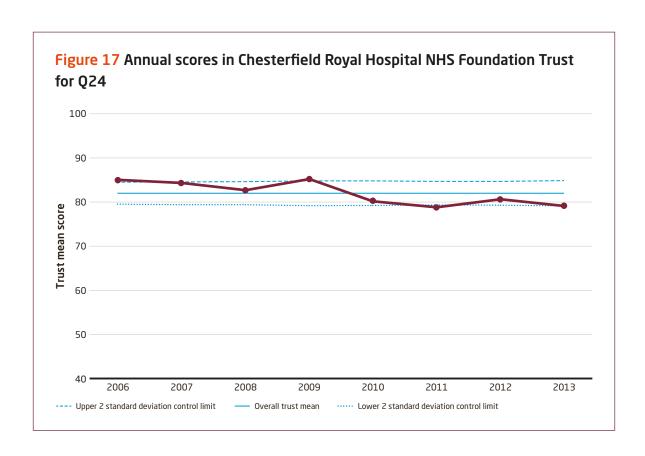






Q24: When you had important questions to ask a doctor, did you get answers that you could understand?

Just as we found some examples of where patients' experience had improved, we also found some cases where it had declined. For Q24, Chesterfield Royal Hospital NHS Foundation Trust showed a significant decline from 2005–7 to 2011–13, visible also in the annual trend data (Figure 17). Overall, the scores follow a downward trajectory from 2006 to 2013 (data for 2005 is missing due to a technical issue), even though the scores are intermittently within the control limits. This example illustrates why trusts should monitor their patient survey data closely to investigate whether sustained declines in performance – even if small – are indicative of systemic changes in the quality of services.













Trust-level patterns: conclusions

Trust-level results from the survey are complex and challenging to interpret from a 'helicopter' perspective due to the large number of data points available. However, in our detailed review of the data, we observed few clear and consistent changes in performance at the organisational level; this refutes the hypothesis that clear, broad patterns of change should be visible for a significant number of NHS organisations. Although it is encouraging that there is slightly more improvement than decline overall, typically, the tendency is to inertia or regression to the mean, or random variation or small changes, with most trusts showing little overall movement.

Despite the national overview showing little change, we were able to identify some examples of trusts exhibiting meaningful trends. These include a small number of trusts that have improved or deteriorated on a number of questions. However, it should be noted that we examined just 20 questions of a much larger questionnaire.

That most trusts do not appear to have established a consistent pattern of change across a range of issues relevant to patient experience is consistent with the national findings. As already noted, we see clear and consistent improvement across England only on measures for which there has been a strong and focused policy mandate driving change – hospital cleanliness being the main example. Where there is no national mandate, changes appear much more mixed: for most questions, average long-term changes tend to be small. This may reflect differing local priorities, a relative lack of focus on issues of patient experience, or that a quantitative survey with sample size limitations is not sensitive enough to capture moderate changes.

While national-level review of the local findings is complicated, the trust-level trends should be of considerable use to organisations striving to deliver service improvements locally. The examples above illustrate how a detailed review of year-on-year changes can offer a valuable perspective on trust performance over time – particularly where it is possible to triangulate the data with knowledge of the local context and qualitative information that surveys cannot capture. However, it is important to reflect that the charts that show clear and consistent improvement or decline are the exception rather than the rule. In most cases, trends are variable: we may see shorter periods of improvement and decline, seemingly random variation, or steady results; and, in some cases, short-term changes might contradict longer-term trends.











Conclusion and proposed action points

The NHS inpatient survey has been running annually for over a decade now. However, to date, this wealth of data has been underutilised, locally, for quality improvement purposes, and nationally, to inform policy development and for secondary analyses and research (DeCourcy et al 2012). Our analysis of the annual inpatient survey data for all NHS acute trusts in England from 2005 to 2013 provides new insights into the data, with implications for how it can be used more effectively to support quality improvement.

Relatively small changes over time

Our analysis shows that, overall, patient-reported experience over the nine years 2005–13 has improved, but improvements have mostly been modest and restricted to some aspects of care. This is surprising given the significant policy focus on improving patients' experience over the past decade - reflected, for example, in its inclusion in the previous star ratings for trusts, regulation and performance assessment by central and regional agencies, pay-for-performance schemes such as Commissioning for Quality and Innovation (CQUIN), and the publication of data to inform patient choice. This could be for a number of reasons: perhaps because trusts are not fully using the data to inform quality improvement; because it is challenging to achieve improvements in ways that can be captured directly by quantitative surveys; or because major interventions are needed to register sizeable improvements in patient feedback. However, given that NHS funding largely plateaued in 2010, it is encouraging that the NHS has been able to maintain positive patient experience in most areas in the face of static resources. The relative stability in patient-reported experience over time has been reported previously (DeCourcy et al 2012) and warrants further research to establish the likely causes.

No individual organisations stand out as showing consistent improvement or decline on their patient experience scores. In terms of changes over time, the typical pattern across trusts is one of improvement in some areas but also areas where some or all











trusts could improve (either because of widely divergent performance or because all perform poorly). Almost all trusts showed an improvement over the nine years for the question on ward cleanliness. This registered the largest improvement, with the national average score rising by 6.6 points over the relatively high baseline of 81.6 (out of a maximum of 100). Improvements were also noted in a few other areas. However, the pattern for several questions was of erratic changes from one year to the next, with little evidence of consistent change over time. Moreover, changes in survey scores over time – whether an improvement or a decline – tended to be small.

Policy focus and national support

Our findings reflect other studies that also show greater improvement in patient-reported experience in areas where there has been specific policy focus and investment, and where incentives and penalties have been targeted (Reeves and West 2014; DeCourcy et al 2012; Richards and Coulter 2007; Coulter 2005; Picker Institute Europe 2005). For example, as already noted, improvement was most apparent on the question on ward cleanliness; this had become an area of significant national focus and strictly enforced targets following intense media coverage of 'superbugs' in the run-up to the 2005 election and a subsequent outbreak of *Clostridium difficile* at Maidstone Hospital in 2006/7.

This mirrors findings from other work (unpublished analysis by Picker) showing improvements in patient feedback in areas targeted by policy priorities, such as fewer mixed-sex wards and ensuring that patients receive copies of letters sent between GPs and hospital consultants. It is also possible that policies to reduce mixed-sex wards have contributed to improved results for the question on respect and dignity.

Another example is the question on access to hospital care. Although our analysis does not show significant improvement since 2005 in terms of how patients felt about the length of time they waited for a planned admission, the other research cited shows improvements in patient-reported feedback on access and waiting prior to 2006, including for other NHS services. This has been attributed to investment in expanded capacity and the introduction of waiting-time targets.

¹ The questions relating to access changed during the period of this analysis, and they no longer ask patients directly about how long they waited before being admitted. So the data relating to access in this analysis is not a direct measure of the impact on patient experience of waiting-time targets prevailing at the time.











While it is not possible to definitively establish causality, a plausible explanation is that when specific issues amenable to targeted, readily implementable interventions are prioritised in national campaigns, they result in perceptible changes for patients and sustained improvement. The feedback we received from trusts also showed that targeted interventions to address specific problems (such as noise levels at night) can improve patient-reported experience of care. These findings suggest there may be merit in identifying national priorities related to specific aspects of care that are important to patients but for which trusts are not yet meeting expected standards and have shown little improvement thus far.

Wider service pressures

In contrast to the improvements in selected areas of patient-reported experience described above, there has been comparatively poor and declining performance on patient feedback about timely discharge from hospital – an area in which there is also wide variation in performance between trusts. This very likely reflects growing pressures on the community care system and support services for discharged patients. Pressures on A&E services and hospital beds are also likely to be reflected in deteriorating patient scores for length of wait to get to a bed and noise levels on wards.

The NHS has a lower bed/population ratio and a higher bed occupancy rate than OECD averages (OECD 2013), so it is possible that patients' negative feedback about noise levels on wards reflects high bed occupancy rates and high patient turnover. As one trust lead we spoke to reflected: 'Wards have closed, [there is] more pressure on the system. All the data talks about flow to us. Pressures coming in, and pressures on discharge... Don't expect patients not to notice.' Another contributory factor could be an increasingly complex case-mix, as patients with less serious illnesses are discharged faster and some elective patients are switched to day-case treatment. Policy-makers, regulators and commissioners should be aware that these aspects of patients' experience of inpatient care are unlikely to improve and are only likely to deteriorate further unless these system-wide pressures within and beyond the hospital ease.











Scope for improvement

Our analysis of the inpatient survey data for 2005–13 shows that some patterns were consistent across the whole period. Nationally and at trust level, patients' ratings of the inter-relational aspects of their care – such as how staff spoke to them, whether they were treated with respect and dignity, whether they had privacy – were generally more positive than for other aspects of care. This is an encouraging finding in the wake of the issues raised in the Francis report on Mid Staffordshire NHS Foundation Trust.

However, there is considerable scope for improvement and even positive ratings overall can mask considerable numbers of patients reporting poor standards of care. A recent study of the 2012 inpatient survey found that about one-quarter of respondents aged 65 and over responded negatively to questions about respect and dignity and help with eating (Vizard and Burchardt 2015). Moreover, we found that patients' ratings were especially poor and showed large variations between trusts for some aspects of care, such as the quality of hospital food, noise at night from other patients, information about post-discharge care, and timely discharge.

This suggests that improvements in patients' experience overall could be achieved through interventions to improve performance in aspects of care where there are currently large variations between trusts, and by targeting those aspects of care rated lower by patients across all or most trusts. This would help to raise overall mean performance. There is considerable overlap here, in that variations between trusts tend to be larger in areas generally scored lower by patients – such as the quality of food and noise at night from other patients. Sharing and disseminating experience across trusts may help to reduce some of the large differences in scores between trusts observed in our analysis.

The potential role of changing expectations

Attempts to explain the patterns of longer-term national trends are necessarily complicated by social changes during this time. Patient experience surveys are designed to provide direct reports of the quality of care from the user's perspective, but it is possible that the results are influenced by patients' changing expectations between 2005 and 2013. In analysing trends over time, we have standardised for known demographic characteristics that may influence responses, including











age, gender, ethnicity, and route of admission to hospital. But other, unmeasured characteristics may also confound results. For example, one possible explanation for the relatively small improvements observed for some questions could be that the service has improved but only enough to keep pace with rising patient expectations.

Aside from anecdotal reports, there is limited evidence on the role of expectations in shaping patients' views about their care. Recent work suggests that it is not so much people's initial expectations that influence reported experiences, but whether these expectations are met (Bowling *et al* 2013). The same study also suggests that stereotypical assumptions that older people have lower expectations of care are incorrect. **Further research is needed to investigate patients' expectations of care and how they vary across patient groups.**

The 'London effect'

In terms of the performance of individual trusts, we expected to see some winners and some losers, given other research findings that some acute trusts perform well on a range of patient surveys (inpatients, outpatients and A&E attendees) (Raleigh *et al* 2012). In line with other research, we found that specialist trusts performed better than general acute trusts, and trusts outside London (and, to some extent, those in the north east) generally performed better than trusts in London (Saunders *et al* 2014; Sizmur 2011; Healthcare Commission 2005; Commission for Health Improvement 2004).

That specialist trusts perform well is unsurprising given their select case-mix and the tailored care they provide. The reasons why London trusts perform less well in patient surveys than trusts outside London, and why some London trusts perform better than others, are less well understood. That this is an enduring finding across most patient surveys, and over time, and may point to either factors specific to the environment in the capital – such as staffing, transient populations, and complex care pathways – leading to poorer quality of care, or to the response tendencies of the capital's residents (for example, they have higher expectations or are more critical), or even some mix of both. We did not adjust for geographical effects as a potential case-mix issue because further research is needed to establish the causes. The consistent poor ranking of London trusts on patient surveys and the variation between London trusts warrant further detailed exploration. Such a review should be based on an analysis of longitudinal data across all NHS patient











surveys, and go beyond what the survey data on its own can tell us, to explore the impact of wider factors. It should include qualitative research to examine differential response tendencies.

Using the inpatient survey data for quality improvement

Although the inpatient survey data is used for multiple purposes, one of its primary aims is to support quality improvement. Trusts also use the Friends and Family Test and qualitative and interactive methods to collect feedback from patients and the public. The surveys provide detailed feedback on aspects of care that are valued by patients and are important for their recovery; they enable trusts to identify where there is scope for improvement and to benchmark themselves against other trusts, as well as supporting quality monitoring over time.

The examples we have presented in this report illustrate how detailed review of patient survey data and of year-on-year changes can offer insights into performance and flag areas where improvement is needed. The data is especially useful when triangulated with knowledge of the local context and qualitative information. Consistent with other research (Membership Engagement Services and InHealth Associates 2015; Reeves and Seccombe 2008), our discussions with selected trusts affirmed that in general they value the patient survey data, consider it robust, and use it for action planning. But there is also significant variation between and within organisations in how they approach patient experience work and how well they use the data. Practical examples of how the data has been used to improve the quality of services in the trusts we spoke to are given in the box below.











Examples of trusts undertaking quality improvement interventions in response to inpatient survey findings

- Having identified 'information on discharge' as a key issue for patients, one trust developed a comprehensive discharge pack, which included information about danger signs to look out for and a comprehensive list of contact numbers.
- In response to its 2014 survey, one trust identified delayed discharge, noise levels at night, and communication with clinical staff as priority areas for improvement. The trust is now developing new policies and procedures, including stopping internal transfers after 8pm one of the main causes of disruption/noise for patients at night.
- One trust reported improved results following a trust-wide 'work stream' to reduce noise at
 night by introducing eye masks and ear plugs for patients, and installing soft-closing bins
 and doors on wards. 'We've done a lot of work over the past year, 18 months, on noise at
 night, and that has definitely increased our score this time round.'
- One trust saw improvements around 'building better relationships', particularly with
 regards to 'nurses talking in front of you as if you weren't there'. The patient experience
 lead felt that this was due to an explicit national focus on the issue over the past few
 years. The introduction of values-based programmes has really helped nurses 'see it from
 the patient's perspective'.
- The patient experience lead at one trust believes improved performance across a range of
 measures over the past five years reflects the trust's growing engagement with patient
 experience data following the introduction of a new approach to measuring and reporting
 patient experience. For example, improved scores relating to nursing (nurses talking
 in front of you; getting answers to questions from nurses) were attributed to nurses
 receiving personalised feedback based on information collected under the new approach.
- Based on its latest inpatient survey results, one trust prioritised information about
 medication on discharge. It has included a question on this in its local surveys (real-time
 feedback system) and the patient experience lead has worked with the pharmacy team
 to improve the information patients receive about their medications on discharge
 from hospital.
- One trust focused on issues around delayed discharge. '[This is] a priority for our quality
 pathways this year, we're looking at the whole experience and where we might improve.'
 The discharge process has a number of complicating factors, not least issues around
 discharge of the frail and elderly.
- One trust focuses on the worst-performing areas (the lowest 20 per cent) and uses its
 own local surveys to track performance on these issues, which gives it a more 'in-depth'
 view using more recent data.











Our discussions with five trusts also showed the challenges they face in using the data (*see* box below). These challenges echo previously reported research findings, suggesting that not much has changed over nearly a decade. Clearly, there is scope for using the data more effectively to inform quality improvement than is currently the case.

Barriers to using survey data more effectively to improve services

- Resource and system pressures: Despite the growing interest in patient experience
 data over recent years, pressure on resources (including operational and financial
 pressures) remains a major barrier to its wider use and its perceived importance.
- Conflict of executive portfolios: Competing organisational agendas are proving to be
 a major barrier to progress in some areas. For example, 'nurses are pushing to improve
 the patient experience, yet our A&E target times and patient flow issues are the main
 concern of the ops director, medical director, and the fact that medicine don't engage
 with this agenda... They will in their own way but not from a central perspective...
 Always seems that it's the nurses' responsibility the competing agendas really do
 have an impact.'
- Organisational leadership: Problems include poor staff engagement and scepticism among clinicians about the validity of the surveys. There is also an unclear understanding of and a lack of expertise in effective interventions.
- **Retrospective data:** One patient experience lead highlighted the time lag in receiving survey data to act on. Although national surveys provide a helpful snapshot, this interviewee felt that local surveys could give a more current picture of performance.
- **Response rate:** Some patient experience leads felt that the low survey response rate was a weakness.
- Culture: A 'blame culture' within one trust was identified as a barrier to learning from
 and acting on patient survey data. Following the outbreak of a communicable disease,
 staff had become unwilling to engage constructively with 'bad news' and instead
 blamed others for poor performance.

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Barriers to using survey data more effectively to improve services continued

- Limited trust-wide co-ordination/focus: Survey reports were sent to relevant
 departments for them to create an action plan within their own governance processes,
 making it difficult to establish what actions were being taken at trust level and to assess
 its impact. 'It's been a process where we finish the report, it goes to powers that be and
 then I don't really hear any more about it.' The role of the patient experience lead is
 limited to collating and reporting the data, with little involvement in monitoring outcomes
 or actions partly due to the workload associated with administering the surveys. 'At the
 moment I'm getting tied up with the process of it all.'
- Friends and Family Test (FFT): The FFT has had a considerable impact on some trusts by adding to the workload and pressures on the patient experience team in 'chasing responses'. 'It's my life, that's all I do... It's overtaking the world.' While it has helped to drive interest in patient experience at board level, there is a wider sense that the FFT is 'being done to staff, rather than them being engaged in it...'. 'Friends and family has been a massive challenge holding on to a programme that you believe was contributing to improvement, while at the same time being asked centrally to measure something different that was likely to confuse, distract and frustrate staff.'
- Patient experience data as a regulatory tool: National survey data was, in some cases, seen as more of a 'regulatory tool so that the CQC can see a rough guide of the snapshot of performance... and whether they need to hone in on a trust or not' than a quality improvement tool.
- Responsibility for patient experience: Interviewees acknowledged the challenge of making patient experience everyone's responsibility. It is typically seen as a 'nursey' thing. One trust was working on a new values and behaviours framework, although it recognised that this would take time to embed. Lack of clarity about who is responsible for patient experience data is another major barrier. In one trust, as the data comes to the nursing team, it is seen as the responsibility of nurses alone. This is linked to a 'blame culture' within the trust, where a lack of improvement in patient experience is seen as a failure of the director of nursing; engagement from the board is weak.
- Statistically meaningful change: The lack of differentiation between trusts can be demotivating, as they feel the 'ceiling' effect comes into play. 'Everybody just rated about the same does my head in... We need to find a far more sensitive measure to help trusts understand performance and where they sit, because having the vast majority of people just year on year hearing that they are about the same as last year is really demotivating.' 'Looking at some of the data from years gone by there doesn't seem to be much change around what our patients don't like.' Limited understanding of statistical methods was also cited as a barrier.











Although there are reports of the FFT providing actionable real-time feedback that leads to improvement (Kelsey 2014), rigid targets and performance monitoring of FFT response rates are seen as unhelpful and are deflecting from the broader agenda around improving patient experience (Membership Engagement Services and InHealth Associates 2015). This is consistent with other feedback we received from trusts and illustrates how competing policy priorities can become counterproductive.

There was also a tendency towards single year-on-year comparisons as a measure of change. One patient experience lead we spoke to was unaware of the long-term declining trend in their trust's performance, because they generally looked at performance against the previous year only. As our report shows, this approach is less informative than a review of longer-term trends.

Our full aggregated dataset showing trends from 2005–13 at trust level is available (in Excel format) as supplementary data to this report.² This is the first time that longitudinal trust-level data for nine years has been made available. Staff at NHS trusts are encouraged to review the data for their organisation to examine changes over time, and see where they are doing well and where there is scope for improvement. The longitudinal data can also illustrate that improvements may take some time to be realised; initiatives that do not produce substantial changes between consecutive annual surveys may yet realise benefits over a period of years.

The feedback we received and research evidence shows that patient survey data can be used effectively to inform targeted interventions that improve the quality of care and patient experience. In line with other research findings (Membership Engagement Services and InHealth Associates 2015; Reeves and Seccombe 2008), the trusts we spoke to identified three key enablers for making the most of patient survey data, as follows.

² For the purposes of this analysis the survey data was standardised for select patient characteristics to adjust for differences in patient-mix to enable comparisons between trusts and over time. Likewise, the data provided to trusts is standardised to enable them to benchmark themselves reliably against others. However, trusts may also want to use unadjusted data for internal quality improvement purposes if they want to compare how they are performing from one year to the next irrespective of how their patient-mix changes or differs from that of other trusts. The data is available at: www.kingsfund.org.uk/publications/patients-experience-using-hospital-services











- Leadership: Organisational leadership and a patient-centred culture are seen as critical enablers. Having become frustrated at seeing some issues persistently highlighted in their survey data for example, poor results on information about medication side effects on discharge one patient experience lead decided to champion trust-wide efforts to improve patient experience. 'Every year I was seeing the same sort of questions again that medication one... It finally hit a point where I was like, this has got to be dealt with. So I went to my manager and said, "we need to be concentrating on these things". Having a champion with dedicated time, responsibility, and interest in promoting the use of patient experience data is seen as fundamental to effective use of the data.
- Staff engagement: Staff engagement and staff training are considered important facilitators in enabling trusts to make the best use of patient survey data. Support from the chief executive and trust board, and buy-in from senior medical/clinical leaders, are also seen as critical to ensuring the trust's commitments to improving patient experience. Senior support, combined with an approach that supports improvement rather than punishes poor results, was seen as helpful for encouraging wider staff engagement with patient experience.
- Trust-wide co-ordination: A number of trusts highlighted the importance of trust-wide reporting and co-ordination of data. Under this approach, the role of the patient experience lead would be to highlight trends and issues, and then follow-up with individual departments to ensure that problems are addressed in action plans.

A significant development is the planned increase from 2015 in the inpatient survey sample size from 850 to 1,250 per trust. This should increase the practical utility of the data further by improving the statistical reliability of trusts' scores and interpretation of trends over time. Larger sample sizes may also enable disaggregated analyses of trust-level data, thereby addressing one of the most commonly reported barriers to using the results – namely, the difficulty in engaging clinicians in improvement because survey findings are not sufficiently specific to specialties, departments or wards (Membership Engagement Services and *In*Health Associates 2015; Reeves and Seccombe 2008).

The NHS inpatient survey is one of the largest and longest-running patient feedback surveys in the world, and some countries now model their surveys on it. Among











the trusts we spoke to, the robustness of the survey data was highly valued, as it helps to confirm whether changes they are seeing in other measures are genuine and meaningful. 'When you get a real improvement [in the inpatient survey results] you can hand on heart feel really positive, because you think it's real and it's meaningful.' Barriers notwithstanding, we urge trusts to maximise their use of inpatient survey data as a tool for quality improvement, especially as the larger sample sizes from 2015 will enhance the analytical potential of the data. Trusts should also explore opportunities to triangulate the survey data with information from other sources, including patient feedback from the FFT and other local data collections, as well as other kinds of data (such as evidence on safety and effectiveness).

Using the inpatient survey data to judge performance

The survey data also serves a wider audience. At various points in its history, the survey data has been used nationally for performance assessment and locally by commissioners, as part of pay-for-performance and quality assurance schemes, and in regulators' ratings of providers. Currently CQC uses the data as part of a wider 'datapack' to inform its regulation and inspection of NHS trusts, and it is included in its 'intelligent monitoring' system. Use of the data for such 'judgemental' purposes should be guided by consideration of technical issues relating to the data, including those highlighted in our analysis. In particular, case-mix differences between trusts, which the analytical methods do not take adequate account of, have been shown to affect trusts' patient survey scores and comparative rankings (Raleigh *et al* 2015).

Additionally, as our analysis has shown, much of the year-on-year change in performance of individual organisations is not statistically significant and demonstrates random variation or regression to the mean. It is therefore risky to rely too heavily on one year's data as a marker of performance. Where statistically significant change does occur, it tends to be small, even in policy priority areas or in response to targeted interventions. Thus, while discretional use of the data, supplemented by local information, can be very useful for quality improvement purposes, one should apply caution in using the data as an unequivocal marker of performance. Policy-makers, regulators and commissioners should be cognisant of these data-related issues in order to make informed use of the data and set realistic expectations about performance improvements.











Commissioners in particular need to interpret the annual data with caution in terms of contract monitoring and other purposes for which the data is used. They should exercise informed discretion in setting performance thresholds, improvement targets and performance-linked payments, and consider changes over more than just one year. Otherwise there is a risk of misplaced reassurance or unwarranted concern, followed by a waste of resources if investigations are undertaken into what may turn out to be random variations in the data. Informed scrutiny of the data requires time and analytical expertise, which commissioners may not have ready access to, given the competing demands on their capacities. But ensuring that contractual schemes and follow-on actions are based on appropriate interpretation of the data – preferably in collaboration with trusts – will enhance the utility of the data and its potential impact in driving improvement. NHS England has recently published a toolkit to help commissioners reduce poor experience of inpatient care (NHS England 2015).

Conclusion

Our analysis and research findings show that where the NHS makes concerted efforts to drive change and improve quality, the positive outcomes are reflected in patients' feedback. NHS inpatient surveys provide detailed, longitudinal data that serve many audiences and purposes, and are seen by some countries as an exemplar. However, the data is currently underutilised, both locally for quality improvement purposes and nationally to inform policy development and for secondary research on the aggregated data, which could provide insights not observable at local level. We hope that this study will promote further use and understanding of this valuable national resource.











Appendix: Methods of survey data analysis

Annual inpatient survey data for the years 2005–13 was aggregated into one dataset for analysis.

Trust mergers

There were some changes to NHS trusts during the study period. The two principal types of merger were: (a) where a number of trusts combined to form a new trust; and (b) where a smaller trust was absorbed into a larger trust. The sequential sampling method used in the inpatient survey enabled us to estimate the size of trusts in terms of the number of discharges for the survey population. Where trusts of comparable size merged, the data from the separate trusts was attributed to the new, merged trust throughout the study period. Where a trust was less than one-third of the size of the trust it was merged into, the data for the smaller trust was discarded from the study. Our final dataset comprised 156 NHS acute trusts in England.

Methods of analysis

Each case-level response to one of the selected survey questions was allocated a score following the scheme used by the Department of Health (and now NHS England) for calculating overall patient experience scores (Bates 2011). This gives a weight of 100 to the answer option representing the most positive experience of care, a weight of 0 to the least positive answer option, and (where questions have more than two answer options) intermediate weights in proportion to the number of options.

The demographic characteristics and method of admission of respondents can influence their ratings of care (Raleigh *et al* 2015; **Sizmur 2011**). As these features of patient populations differ both between trusts and over time, a regression adjustment method was used to adjust for these differences in patient-mix to enable more reliable comparisons of scores across trusts and over time. Dummy (0/1) variables were created to account for respondent age group, gender, major ethnic group and route of admission (emergency or elective). Because the survey question asking about respondent ethnicity changed over the period of analysis (to match











the categories used in the Office for National Statistics (ONS) national population census), respondents in the different surveys were allocated to the following major groups: white, black, Asian (including Chinese), mixed and other (including Arab). Patients admitted on an emergency basis were identified using an algorithm based on a survey question about their admission to hospital together with, where necessary, the pattern of responses to subsequent questions.

Question scores were entered as the dependent variable in a General Linear Model with trust x year combination as a main effect. The dummy variables were entered as covariates. Estimated adjusted means and standard errors (Searle *et al* 1980) were then obtained for each trust in each year, and the data pooled over three-year periods (period 1, 2005–7; period 2, 2008–10; and period 3, 2011–13) to reduce the erratic fluctuations observed in annual scores for some of the questions.

We then used the results of the analysis to examine trust-level trends in the following ways:

- 1. Trust-level variance for each question within each year was estimated using a method described by Spiegelhalter *et al* (2012).
- 2. We plotted trust scores, and the mean national scores, over the nine years and examined the patterns of score change. As a refinement of this method for trends in trust scores, we superimposed an overall mean score for that trust together with two standard deviation control limits to see whether score changes over time exceeded 'natural' variation, the approach used in Shewhart-type process control charts (Noyez 2009).
- **3.** Formal comparisons were made between period 1 and period 3 scores that sought to answer two questions:
 - (a) How confident can we be that the changes over time are 'real'? That is, to what extent do score differences exceed measurement error? Each pair of results was evaluated using a t-test of the score difference between period 1 and period 3. Differences were regarded as statistically significant at the p<0.01 level, the threshold used to signify a difference exceeding random variation due to sampling. We then examined the extent of change by analysing: (i) at the trust level, the number of questions for which each trust showed statistically











significant improvement/deterioration; and (ii) at the question level, the number of trusts showing statistically significant improvement/deterioration on the question.

(b) How large are these changes? That is, what is their practical significance? The simplest indicator of effect size was the actual difference in adjusted scores between periods 1 and 3, which can be interpreted directly in terms of the original 0–100 score range. However, this does not give the full picture, as the same score difference may be of greater significance for questions where there is less trust-level variation. We therefore used an approach to calibrating the effect size to identify noteworthy change. This was to compare the magnitude of each change with the distribution of trust-level scores. For each question, the trust-level scores for period 1 were ranked, and the score difference between the 25th and 75th percentiles was found (the 'inter-quartile range'). This provides a robust calibration of the data spread that is resistant to the influence of extreme values (Erickson and Nosanchuk 1992) while reflecting the amount of variation between trusts for that question. We regarded a score difference equivalent to at least the inter-quartile range as important.











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About the authors 53











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About the authors 54











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About the authors 55











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Declaration of conflicting interests

Chris Graham, Steve Sizmur and Alice Coulter are employees of Picker Institute Europe, which provides survey co-ordination services for NHS patient surveys under contract to the CQC.

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Research ethics

This research involved secondary analysis of data from the NHS adult inpatient survey, which is part of the wider NHS national patient survey programme. Surveys within the programme are subject to ethical review by an NHS Research Ethics Committee. Details of the ethical approval received for each of the nine surveys used in our research are available at: www.nhssurveys.org/surveys/425. Additionally, the 2011, 2012, and 2013 surveys were conducted using the provisions of section 251 of the NHS Act (2006) and the Health Service (Control of Patient Information) Regulations 2002 to process patient identifiable information without prior consent; details of reviews by the National Information Governance Board and the Health Research Authority's Confidentiality Advisory Group are available at the link above. As the current study involved only secondary analysis of pseudonymised responses, no additional ethical approval or other external review was required.

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All NHS acute trusts in England now ask patients what they think about their experience of care. The aim of the surveys is to provide reliable data to allow trusts to monitor and improve the quality of care they provide. Now, for the first time, The King's Fund and Picker Institute Europe have analysed longitudinal inpatient survey data for acute trusts over a nine-year period.

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Patients' experience of using hospital services looks at national and trust-level patterns over the nine-year period. It offers new insights into what the existing data tell us about the national picture and reveals trends for individual trusts over time.

The analysis reveals that:

- while change is moving in the right direction, improvements have generally been modest
- the biggest improvements have typically been driven by national initiatives and policies tackling high-profile problems – ward cleanliness being the clearest example
- patients are less satisfied now with some aspects of care (such as length of wait from hospital admission to a bed on a ward) than they were in 2005
- the 'overall rating' given by patients showed a small improvement, but national averages mask some very different patterns for individual trusts
- specialist trusts generally performed well, but London trusts had some of the lowest scores
- there are significant differences within and between trusts in how they approach patient experience work and how they use the data
- there is considerable scope, nationally and locally, to make more effective use
 of the data.

This study provides invaluable information for individual trusts, policy-makers and researchers to promote further use and understanding of the NHS inpatient survey.

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