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Core domains for measuring inpatients' experience of care

Purpose:

To stimulate debate about prioritising domains and indicators of patient experience

Key issues examined:

- Which aspects of patient experience relate most strongly to patient satisfaction?
- Can these be grouped into 'core domains' for priority action?
- What would those 'core domains' be?

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- Measurement - researching and evaluating patients' experience
- Improvement - leading initiatives that make improvements happen
- Policy - building evidence to inform health policy.

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Overview

This is the first occasional discussion paper from Picker Institute Europe.

These papers are designed to share the emerging findings from research and analysis, and to stimulate debate

Patient experience is now recognised as one of the central elements of quality in the NHS in England. This has triggered strong interest in understanding the best ways in which to measure patient experience among NHS trusts and their managers, clinicians and staff.

National indicators and survey questions are available for many care settings and patient conditions. But 'patient experience' can cover a very wide range of aspects of the organisation and delivery of patient care – from making the appointment to making the transition back to home or the community.

This leaves those who are responsible for establishing local measures facing many questions.

Where do we start? With what experiences, which patients, and which questions? How will we know we are measuring the 'right' things?

This discussion paper

The purpose of this discussion paper is to help the NHS to answer those queries. It specifically addresses the care and treatment of acute hospital inpatients, although we would argue it has wider relevance to other patient groups.

The findings provide a sharper focus for the national quality agenda, by contributing to the recommended first step of 'bringing clarity to quality' in Lord Darzi's seven-step recipe for making quality the organising principle of the NHS[1].

They will help NHS hospital trusts to focus their efforts where they are **most likely to be effective** in raising patients' overall satisfaction with care -- particularly if the trust is receiving a relatively low rating in any of the highlighted areas.

The paper describes a secondary analysis of data from the 72,584 recent inpatients who responded to the national inpatient survey 2008[2]. It addresses the following questions:

- which aspects of patients' experience of acute care have the **strongest relationship to patients' overall satisfaction**?
- can the survey questions be **grouped to provide 'core domains'** of patient experience that can be prioritised by all those responsible for measuring, safeguarding and improving this aspect of care quality?, and if so,

[1] High Quality Care for All, DH, 2008
[2] The full questionnaire together with the key findings and all related documentation are available at: http://www.nhssurveys.org/surveys/367

- **what** would those core domains be?

Based on its analysis and on the discussion in the Conclusions section, Picker Institute Europe puts forward four propositions for debate.

Key propositions

1. Core domains for acute care

That the following should be recognised as the 'core domains' – the priority areas – for assessing patient experience of acute hospital inpatient care:

- Consistency and coordination of care
- Treatment with respect and dignity
- Involvement in decisions
- Doctors
- Nurses
- Cleanliness
- Pain control

Questions that, working together, particularly contribute to the measurement of these domains, are listed below. Most are recognised in the national 'Indicators for Quality Improvement' – their indicator numbers are in the right-hand column[3].

Consistency and coordination of care	
Did members of staff say different things?	
How would you rate how well the doctors and nurses worked together?	
Treatment with respect and dignity	
Overall, did you feel you were treated with respect and dignity while you were in the hospital?	PE37
Involvement	
Were you involved as much as you wanted to be in decisions about your care and treatment?	PE16
How much information about your condition or treatment was given to you?	PE15
Did you find someone on the hospital staff to talk to about your worries and fears?	PE08
Did you feel you were involved in decisions about your discharge from hospital?	PE17
Doctors	
When you had important questions to ask a doctor, did you get answers that you could understand?	
Did you have confidence and trust in the doctors treating you?	PE41
Nurses	
When you had important questions to ask a nurse, did you get answers that you could understand?	PE42
Did you have confidence and trust in the nurses treating you?	PE43

[3] https://mqi.ic.nhs.uk/

Did nurses talk in front of you as if you weren't there?	PE39
Cleanliness	
In your opinion, how clean was the hospital room or ward that you were in?	PE49
How clean were the toilets and bathroom that you used while in hospital?	PE50
As far as you know, did doctors wash or clean their hands between touching patients?	PE53
As far as you know, did nurses wash or clean their hands between touching patients?	PE54
Pain control	
Do you think the hospital staff did everything they could to help control your pain?	PE09

For two of these potential domains – pain control, and respect and dignity -- we found strong effects on overall satisfaction relating to a single question. There may be a case for reviewing, for the 2010 inpatient survey, whether further questions on these subjects could be included in the questionnaire.

Three of the above questions are not included in the Indicators for Quality Improvement (members of staff saying different things; doctors and nurses working together; doctors answering important questions). The National Quality Board may wish to consider whether these should now be included.

2. Comparability

In order to ensure that patient experience data is comparable between acute hospital trusts as *High Quality Care for All* intended, we would suggest that NHS trust Boards, managers and clinical teams, and commissioners of acute inpatient care, should be recommended and encouraged to use the above domains and indicators as their priority measures of patient experience of inpatient care and treatment. This might have specific application to quality accounts, for example.

3. Other care settings

Similar analyses should be carried out on patient survey data for:

- Primary care patients (regulator's national survey 2008)
- Hospital outpatients (national survey 2009)
- Emergency Department patients (national survey 2008)

and other similar data sets.

Context

In *High Quality Care for All* (June 2008) the government recognised that patients' experience of NHS care is one of the central components of healthcare quality, along with safety and effectiveness.

According to *High Quality Care for All*, the first step should be to 'bring clarity to quality'.

But people working in the NHS often do not have clarity about the term 'patient experience'. More attention has been focused on Lord Darzi's second step: 'measure quality'.

The government has built patient experience measurement into a number of significant workstreams, such as the Commissioning for Quality and Innovation scheme that rewards NHS providers for improving quality. It has begun to produce approved patient experience quality indicators; and wants trusts, clinical teams, professionals and commissioners to develop their own -- tailored to local needs, specific conditions and specialties. It has legislated for NHS trusts to produce annual 'quality accounts' which could publicise to patients and the public their performance on patient experience.

But NHS trusts and their staff are still asking the question: what – exactly - do we mean when we use the term 'patient experience'?

Which patients, what experiences, at whose hands, at which points in a care pathway?

Do key stakeholders in the health sector share a common understanding of 'patient experience'?

Are all aspects of the experience of care equally important to patients, or do some matter more than others?

High Quality Care for All also stated that: "It is important that we have a national quality framework that enables us to publish comparable information on key measures."

Comparable patient experience data is available through the national survey programme, which, for each survey, requires each participating trust to use the same methodology. With the spread of both local and 'near real time' measurement, however, there is no common approach. If the NHS system is to produce comparable information on the quality of patients' experiences of its care, its various component parts need to be using the same indicators to measure the same things.

The National Quality Board is responsible for making available some common measures, known as the 'Indicators for Quality Improvement (IQI)'. The initial IQI meet a number of criteria: they are already developed, available and in use nationally, and they are acceptable to clinicians and other stakeholders.

But the IQI are a 'long list', providing measures for many different aspects of the patient experience, and including a range of questions on some elements of care. They are only

'recommended' - not mandatory, nor 'required'. There is no guidance or direction as to which measures should be prioritised because they may have greater weight or importance (to patients) than others. Trusts, clinical teams and commissioners are free to choose from among these indicators on an *a la carte* basis; or indeed, not to use them at all. They may wish solely to develop their own local measures.

So, what criteria should people use to select indicators from the nationally approved list?

How should the NHS locally target patient experience improvements where they matter most?

What will contribute most to patients' verdict on the quality of care?

What do patients most value?

The following analysis of responses from tens of thousands of recent inpatients aims to provide strong answers to these questions.

Note: why we use 'satisfaction' in this analysis

It is well known that Picker Institute Europe does not advocate the use of measures of patient 'satisfaction'. Indeed, methods of measuring patient 'experience' were first developed in order to improve on satisfaction measures.

Satisfaction questions tend to ask patients to give subjective responses, in the form of ratings on a scale (from 'poor' to 'excellent', for example). They have been found to be unreliable, and they do not provide specific factual information that can be used to improve quality.

Patient experience questions, by contrast, ask patients to give factual responses to questions about what did or did not happen during an episode of care. By examining specific issues they provide a better guide to where the service provider is performing well or poorly, and hence which areas of performance should be addressed.

However, the fact is that patients are normally asked to give an 'overall satisfaction' rating in the national surveys; and NHS trusts often use this as a 'headline' indicator of their performance.

The assumption we make in this analysis is that, having completed several dozen 'experience' questions in the questionnaire, patients' answers to the satisfaction question will have been influenced by thinking about all those aspects of care. We therefore correlate (statistically link) all the previous responses to the 'overall satisfaction' response to determine which experience indicators have the strongest relationship to the satisfaction expressed by patients.

The purpose here is not to lay claims for the very best research method, but to use a robust and logical method of analysis to provide conclusions which are 'good enough' to provide strong pragmatic guidance to the operations of the NHS.

Analysis

Introduction

Note on the inpatient survey 2008

A national survey of recent hospital inpatients in England has been carried out every year since 2003 for the healthcare regulator (now the Care Quality Commission, but in 2008 its predecessor, the Healthcare Commission).

The survey questionnaire is revised each year. Questions are based on research among patients and other stakeholders on what aspects of care are most important to patients. The draft questions are tested to make sure that they are understood, in the same way, by the majority of patients.

Each acute trust in England (165 in 2008) carries out the same survey with a sample of its patients so that comparable results, with benchmarks, can be reported at both trust and national level.

Respondents are asked to give demographic data so that the results can be weighted for age, sex and route of admission.

Picker Institute Europe carried out a secondary analysis of data from more than 72,000 recent inpatients who responded to the national inpatient survey 2008.

The questionnaire for this survey included a single item, Question 71, which asked: '*Overall, how would you rate the care you received?*' We refer to this henceforth as the 'overall satisfaction' question.

This question came towards the end of 80 items in the questionnaire. Having previously considered and responded to a range of other questions on specific aspects of care, patients are presumed to make their rating of overall satisfaction while being influenced by their previous responses, to unknown degrees.

Most other questions are not ratings-style questions. Rather, they ask patients to report factually on what actually happened during the episode of care. For example: *'While staying in hospital, did you ever use the same bathroom or shower area as patients of the opposite sex?'*

In this analysis we investigate how patients' responses on the 'overall satisfaction' question co-vary with responses to other questions. This is intended to shed light on what most influences patients when evaluating their care, which in turn is likely to reflect what they consider most important and/or most salient.

Data were available for 72,584 individuals in total who returned a useable questionnaire, and at aggregated level for 165 NHS acute hospital trusts in England.

Data used for this analysis were based on the *scored* questions in the survey. Scores were allocated on a 0-100 scale for each item, as used by the Healthcare Commission.[4]

[4] The scoring system used allocates a score of 100 to the most positive response option and a score of 0 to the most negative response. Other response options (if present) are apportioned between these end points. For example, answers to an item with responses of 'Yes, definitely'; 'Yes, to some extent'; and 'No' would be scored 100, 50 or 0 respectively.

Process[5]

Step 1: we use correlations to show which other items in the survey have the strongest relationship to overall satisfaction.

Step 2: we suggest ways to group the experience questions into clusters or 'core domains' such as, for example, 'involvement in decisions'.

(A previous factor-analytic and reliability study[6] identified sets of national survey questionnaire items that could be aggregated reliably to form composite scores on distinctive aspects of inpatient experience. These item sets are described in Appendix 1.)

Step 3: we use regression to refine this analysis by excluding other factors that may be having an effect on the relationship between the questions – such as, for example, the age of the respondents.

Two levels of analysis

The principal analysis in this paper uses the data scored on an **individual** basis. We consider that this individual-level analysis provides the most stable and accurate results. This analysis and its results are described in the 'Principal findings' section, below.

As a back-up, we undertook the same analytical steps, using the data scored on an aggregated, **NHS trust-level** basis, to see whether the results corroborate those of the individual-level analysis. However, we consider aspects of this method to be less reliable, and so we report the results in a separate 'subsidiary findings' section.

Limitations

The 'overall satisfaction' question is only a single measure of satisfaction. It will have limited reliability and does not necessarily represent properly patients' overall views. It should be treated as an indicative rather than definitive rating. Also, there may well be order effects in how respondents answered neighbouring questions on the form, and it is therefore possible that the importance of some of these 'overall' factors has been overestimated. The questionnaire applies to a wide range of inpatients, some of whom were admitted in an emergency and others of whom were on a waiting list. Some had operations while others did not. This means that some parts of the questionnaire are applicable only to a reduced number of patients, perhaps a minority.

[5] Readers who have further queries about the analytical methods should email info@pickereurope.ac.uk with 'senior statistician' in the subject line.

[6] This earlier study proceeded as follows. The factor structure of the questionnaire data was examined using a series of exploratory factor analyses. Initial diagnoses indicated items that were best removed from the analyses, and then principal components analyses were conducted to identify the most plausible number of solutions based on the amount of variance explained and the 'scree' test in conjunction with the content of the items. Of the different options, a four-factor solution appeared to offer the best overall balance of loading structure, parsimony and interpretable clusters. Principal axis factoring was then conducted to extract four oblique, latent factors. The first of these was a general factor and needed to be subdivided in order to construct useful scales. This was undertaken using an iterative process based on factor extraction, review of the thematic content of the items and internal consistency analysis of the emerging scales.

Principal findings

Step 1: correlations

Using the individual-level data (not aggregated to trust level), a basic correlation analysis was undertaken of which individual questionnaire items correlated most strongly with the 'overall satisfaction' question (*Overall, how would you rate the care you received?*).

Correlations are reported in Appendix 2 where items shared more than 10% of variance with this question, and key items (in order of strength of relationship) are shown in the following table.

Table 1: Twelve strongest correlations with overall satisfaction (individual level)

1.	How would you rate how well the doctors and nurses worked together?[7]
2.	Overall, did you feel you were treated with respect and dignity while you were in the hospital?
3.	Did you have confidence and trust in the nurses treating you?
4.	Did you have confidence and trust in the doctors treating you?
5.	Do you think the hospital staff did everything they could to help control your pain?
6.	When you had important questions to ask a nurse, did you get answers that you could understand?
7.	Did you find someone on the hospital staff to talk to about your worries and fears?
8.	In your opinion, how clean was the hospital room or ward that you were in?
9.	Were you involved as much as you wanted to be in decisions about your care and treatment?
10.	Did you get enough help from staff to eat your meals?
11.	If your family or someone else close to you wanted to talk to a doctor, did they have enough opportunity to do so?
12.	When you had important questions to ask a doctor, did you get answers that you could understand?

These results suggest that how **nurses** and **doctors** interact with patients was a key determinant of overall satisfaction with care; and in particular, how **coordinated** their efforts were and whether they treated patients with **dignity and respect**.

These results are useful to illuminate a possible pathway to identifying the core domains by illustrating those factors that work together. However, as individual items, these 12 are less statistically reliable than composite scores would be.

[7] The first two items are located close to Q71 in the questionnaire, and there is likely to be an element of 'order effect' whereby the response to one question is affected by neighbouring questions.

Step 2: correlation with composite scores

Composite scores were created by averaging the scores for each person across the items in the scale (assuming the person completed at least half of those items). Correlations between these scales and the 'overall satisfaction' question are reported in Appendix 3.

These findings tend to reflect those of the item-level correlations in Step 1, in that contact with clinical staff and consistency of care appear to be the major determinants of overall satisfaction. The most highly correlated composites were:

- Consistency and coordination
- Nurses
- Involvement
- Doctors
- Cleanliness

However, some of these composite scores are highly correlated (Appendix 4) and the separate correlations with 'overall satisfaction' do not necessarily indicate which factors independently predict satisfaction. Nor do they take account of any background factors that might interact with experience in determining satisfaction. These possibilities were investigated using regression analysis.

Step 3: regression analysis

All the scale scores were entered into a multivariate stepwise regression together with:

- the individual scored questions not included in the scales;
- coded variables for overall state of health over the previous four weeks (Q77) and age group (four levels); and
- dummy variables for route of admission to hospital (Q2), whether the patient underwent a procedure (Q48) and gender (Q75).

Table 2: Variables that independently predicted 'overall satisfaction' (in order of importance)

1.	Consistency and coordination
2.	Overall, did you feel you were treated with respect and dignity?
3.	Involvement
4.	Cleanliness
5.	Do you think the hospital staff did everything possible to help control your pain?
6.	Food

This model accounted for almost two-thirds of the variance in responses to the 'overall satisfaction' question. The model parameters are presented in Appendix 5. The findings largely reflect those of the correlation analysis above, except that the ratings of the healthcare professionals do not feature (probably because they correlate highly with the best predictors).

Subsidiary findings

Step 4: correlations using aggregated data

As a check to the principal findings above, we conducted a similar analysis, this time using aggregated data, which consisted of mean scores per trust on each question, standardised across trusts for age, gender and route of admission, according to the scheme applied by the Healthcare Commission.

The strongest correlations between individual questionnaire items and the 'overall satisfaction' question are provided in table 3, below.

Table 3: Twelve strongest correlations with overall satisfaction (trust level)

1. How would you rate how well the doctors and nurses worked together?
2. Overall, did you feel you were treated with respect and dignity while you were in the hospital?
3. Were you involved as much as you wanted to be in decisions about your care and treatment?
4. Did you have confidence and trust in the doctors treating you?
5. Did you find someone on the hospital staff to talk to about your worries and fears?
6. When you had important questions to ask a doctor, did you get answers that you could understand?
7. Sometimes in a hospital, a member of staff will say one thing and another will say something quite different. Did this happen to you?
8. If your family or someone else close to you wanted to talk to a doctor, did they have enough opportunity to do so?
9. When you had important questions to ask a nurse, did you get answers that you could understand?
10. How much information about your condition or treatment was given to you?
11. Did you have confidence and trust in the nurses treating you?
12. Do you think the hospital staff did everything they could to help control your pain?

The top few correlations follow the established pattern of identifying consistency and coordination, interactions with health professionals and involvement in decisions as being closely related to satisfaction.

However, **nearly all** questions correlated at a high level. Those that shared more than one third of variance with the 'overall satisfaction' question are shown in Appendix 6. These are levels of correlation so high as to have limited usefulness. The results may be unstable – in other words, a different sample of patients might produce a very different result.

Step 5: correlation of composite scores using aggregated data

Composite scores were calculated for each trust by averaging the trust mean scores for the questions in the scale, using the groupings previously referred to in Appendix 1.

The correlations between these composites and the mean trust score for the 'overall satisfaction' question are shown in Appendix 7.

The five most correlated variables were equivalent to those at the individual level (see Step 2 in the previous section), although their **ordering** was different:

- Consistency and coordination
- Doctors
- Involvement
- Cleanliness
- Nurses

Step 6: regression analysis using aggregated data

To identify which variables predicted 'overall satisfaction' at the trust level, taking the effects of other variables into account, we attempted a regression analysis using the composite scores and the remaining stand-alone items (Appendix 8).
However, the results here accounted for **95 per cent** of the variance in the 'overall satisfaction' score. This is problematic as it suggests high levels of multicollinearity ("a case of multiple regression in which the predictor variables are themselves highly correlated").

Moreover one variable (consistency and co-ordination) accounted for almost **90 per cent** of variance. Subsequent items added only tiny increments while showing excessive interdependence, making this problem difficult to resolve.

Overall, the aggregated data did not lend themselves to regression analysis and the results are likely to be unstable – a different sample might give rise to a different selection of variables.

This points to a significant problem in creating stable models from aggregated data at the trust level that is likely to remain intractable.

Conclusions

Overall findings

There were some consistent messages across both the principal and subsidiary findings.

The potential composite scores that correlated highly with overall satisfaction were identified. These were:

- Consistency and coordination (Q38 and Q70 in the inpatient survey 2008)
- Involvement (Q39, Q40, Q42, Q56)
- Doctors (Q29, Q30, Q31, Q41)
- Nurses (Q33, Q34, Q35)
- Cleanliness (Q22, Q23, Q32, Q37)

Ideally these would be combined with two individual items that have a strong relationship with satisfaction:

- Overall, did you feel you were treated with respect and dignity while you were in the hospital? (Q69)
- Do you think the hospital staff did everything they could to help control your pain? (Q46)

We propose that together, these should be recognised as the **'core domains'** – the priority areas – for assessing the quality of acute hospital inpatient care.

In order to ensure that patient experience data is **comparable** between acute hospital trusts, trust Boards, managers and clinical teams, and commissioners of acute inpatient care, should be recommended and encouraged consistently to use indicators that measure patient experience of these domains of care.

Arguing for these core domains of inpatient care to be prioritised is not the same as being prescriptive. We recognise that there are many other aspects of inpatient care that have some importance to patients. This, after all, is why the national inpatient surveys can consist of up to 80 separate items, most of them based on what patients, in preceding research, have said that they rate as important (see note on the inpatient survey, above).

Additionally, NHS organisations, clinical teams and professional bodies will certainly wish to continue developing indicators that are tailored to specific conditions, medical specialties, and organisational priorities.

What we are suggesting in this paper, though, is that our findings provide a useful and reliable guide for the NHS in England, as it develops its quality agenda, to ensure that:

- there is a common and consensual understanding of what is most important to patients with regard to their experience of inpatient care, and therefore what should have priority for action to **improve** quality for patients;

- there is measurement of these aspects of care across the system, in between the annual national surveys, whatever additional tailored measures are used; and
- by using common indicators, the Next Stage Review's requirement for **comparable** information, that is useful to many stakeholders (trust Boards, commissioners, patients and the public), can be met.

Alternative descriptions of core domains

While there is not room here for a review and discussion of the wider literature, we note that the 'core domains' emerging from this analysis are similar to those which have emerged, both from other analyses of the same type of data, and from other kinds of research and analysis of what patients value[8].

We recognise that there are a number of ways to arrive at, and to describe, domains of patient-centred healthcare. For example, notwithstanding this paper, Picker Institute Europe continues to uphold its own, more inclusive formulation of the domains of care that are of highest value to patients, which are derived from accumulated research, experience and analysis in north America and Europe, and which apply across the generality of patients in various care settings. These are listed in Appendix 10.

In proposing the domains for inpatient experience in this paper, we do so not in order to compete with others to determine whose technical analysis is superior or whose findings are the 'best' – but in the spirit of promoting common sense policy and practice decisions based on a consensual pooling of research.

Other care settings

We have specified throughout this paper that the data are from inpatients and the findings relate to inpatient care in acute hospitals.

Past research by Picker Institute Europe would suggest that the majority of patients in other settings also value highly domains of care such as consistency and coordination, communication with professionals and involvement in decisions.

To test this further, we suggest that an analysis similar to this one could be carried out for any other care setting for which there exist similar questionnaire instruments, and data sets of equivalent quality and reliability. This could include, for example:

- Outpatients (national survey 2009)
- Emergency department patients (national survey 2008)
- Primary care patients (regulator's national survey 2008)[9]

and others.

[8] See, for example, the Importance Study 2006, Picker Institute Europe for the Healthcare Commission; 'Frontiers of Performance in the NHS II', Ipsos MORI 2008

[9] The Healthcare Commission national survey of local primary health services 2008 used a similar methodology to, and shared many common questions with, the national inpatient survey 2008. The General Practice Patient Survey 2009, although it obtained a larger sample, uses a different methodology and a shorter question set.

Appendix1: Composite scores used in analyses

Waiting for admission	
Q8	Overall, from the time you first talked to your GP about being referred to hospital, how long did you wait to be admitted to hospital?
Q9	How do you feel about the length of time you were on the waiting list before your admission to hospital?
Cleanliness	
Q22	In your opinion, how clean was the hospital room or ward that you were in?
Q23	How clean were the toilets and bathrooms that you used in hospital?
Q32	As far as you know, did doctors wash or clean their hands between touching patients?
Q37	As far as you know, did nurses wash or clean their hands between touching patients?
Food	
Q26	How would you rate the hospital food?
Q27	Were you offered a choice of food?
Q28	Did you get help from staff to eat your meals?
Responsiveness	
Q36	In your opinion, were there enough nurses on duty to care for you in hospital?
Q47	How many minutes after you used the call button did it usually take before you got the help you needed?
Doctors	
Q29	When you had important questions to ask a doctor, did you get answers that you could understand?
Q30	Did you have confidence and trust in the doctors treating you?
Q31	Did doctors talk in front of you as if you weren't there?
Q41	If your family or someone else close to you wanted to talk to a doctor, did they have enough opportunity to do so?
Involvement	
Q39	Were you involved as much as you wanted to be in decisions about your care and treatment?
Q40	How much information about you condition or treatment was given to you?
Q42	Did you find someone on the hospital staff to talk to about your worries and fears?
Q56	Did you feel you were involved in decisions about your discharge from hospital?
Nurses	
Q33	When you had important questions to ask a nurse, did you get answers that you could understand?
Q34	Did you have confidence and trust in the nurses treating you?
Q35	Did nurses talk in front of you as if you weren't there?
Consistency and coordination	
Q38	Did members of staff say different things?
Q70	How would you rate how well the doctors and nurses worked together?

Operations and procedures

Q49	Beforehand, did a member of staff explain the risks and benefits of the operation or procedure in a way you could understand?
Q50	Beforehand, did a member of staff explain what would be done during the operation or procedure?
Q51	Beforehand, did a member of staff answer your questions about the operation or procedure in a way you could understand?
Q52	Beforehand, were you told how you could expect to feel after you had the operation or procedure?
Q54	Before the operation or procedure, did the anaesthetist explain how he or she would put you to sleep or control your pain in a way you could understand?
Q55	After the operation or procedure, did a member of staff explain how the operation or procedure had gone in a way you could understand?

Medicines

Q61	Did a member of staff explain the purpose of the medicines you were to take at home in a way you could understand?
Q62	Did a member of staff tell you about medication side effects to watch for when you went home?
Q63	Were you told how to take your medication in a way you could understand?
Q64	Were you given clear written or printed information about your medicines?

Discharge information

Q60	Before you left hospital, were you given any written or printed information about what you should or should not do after leaving hospital?
Q65	Did a member of staff tell you about any danger signals you should watch for after you went home?
Q66	Did the doctors or nurses give your family or someone close to you all the information they needed to help care for you?
Q67	Did hospital staff tell you who to contact if you were worried about your condition or treatment after you left hospital?

Privacy

Q43	Were you given enough privacy when discussing your condition or treatment?
Q44	Were you given enough privacy when being examined or treated?

Appendix 2: Item correlations with Q71 (individual level)

		Correlation with Q71
Q70	How would you rate how well the doctors and nurses worked together?	.806
Q69	Overall, did you feel you were treated with respect and dignity while you were in the hospital?	.660
Q34	Did you have confidence and trust in the nurses treating you?	.587
Q30	Did you have confidence and trust in the doctors treating you?	.534
Q46	Do you think the hospital staff did everything they could to help control your pain?	.533
Q33	When you had important questions to ask a nurse, did you get answers that you could understand?	.530
Q42	Did you find someone on the hospital staff to talk to about your worries and fears?	.523
Q22	In your opinion, how clean was the hospital room or ward that you were in?	.494
Q39	Were you involved as much as you wanted to be in decisions about your care and treatment?	.491
Q28	Did you get enough help from staff to eat your meals?	.488
Q41	If your family or someone else close to you wanted to talk to a doctor, did they have enough opportunity to do so?	.481
Q29	When you had important questions to ask a doctor, did you get answers that you could understand?	.477
Q74	Did you want to complain about the care you received in hospital?	.452
Q47	How many minutes after you used the call button did it usually take before you got the help you needed?	.450
Q36	In your opinion, were there enough nurses on duty to care for you in hospital?	.442
Q40	How much information about your condition or treatment was given to you?	.441
Q23	How clean were the toilets and bathrooms that you used in hospital?	.439
Q66	Did the doctors or nurses give your family or someone close to you all the information they needed to help care for you?	.435
Q43	Were you given enough privacy when discussing your condition or treatment?	.430
Q38	Sometimes in a hospital, a member of staff will say one thing and another will say something quite different. Did this happen to you?	.425
Q56	Did you feel you were involved in decisions about your discharge from hospital?	.411
Q65	Did a member of staff tell you about any danger signals you should watch for after you went home?	.410
Q63	Were you told how to take your medication in a way you could understand?	.410
Q37	As far as you know, did nurses wash or clean their hands between touching patients?	.409
Q32	As far as you know, did doctors wash or clean their hands between touching patients?	.404
Q61	Did a member of staff explain the purpose of the medicines you were to take at home in a way you could understand?	.402
Q51	Beforehand, did a member of staff answer your questions about the operation or procedure in a way you could understand?	.394
Q62	Did a member of staff tell you about medication side effects to watch for when you went home?	.392
Q26	How would you rate the hospital food?	.378
Q55	After the operation or procedure, did a member of staff explain how the operation or procedure had gone in a way you could understand?	.373
Q44	Were you given enough privacy when being examined or treated?	.360
Q52	Beforehand, were you told how you could expect to feel after you had the operation or procedure?	.354
Q67	Did hospital staff tell you who to contact if you were worried about your condition or treatment after you left hospital?	.349
Q49	Beforehand, did a member of staff explain the risks and benefits of the operation or procedure in a way you could understand?	.349
Q4	Were you given enough privacy when being examined or treated in the Emergency Department?	.345
Q50	Beforehand, did a member of staff explain what would be done during the operation or procedure?	.333
Q35	Did nurses talk in front of you as if you weren't there?	.329

Appendix 3: Composite score correlations with Q71 (individual level)

Correlation with Q71	
Consistency	.691
Nurses	.594
Involvement	.593
Doctors	.570
Cleanliness	.543
Medicines	.483
Discharge information	.474
Responsivity	.474
Privacy	.456
Procedures	.454
Food	.409
Waiting time	.179

Appendix 4: Composite score inter-correlations (individual level)

Inter-scale Correlations

	Waiting	Medicines	Discharge	Procedures	Cleanliness	Food	Responsivity	Doctors	Involvement	Privacy	Nurses
Medicines	.148										
Discharge	.145	.677									
Procedures	.149	.521	.491								
Cleanliness	.153	.376	.356	.330							
Food	.125	.282	.262	.238	.365						
Responsivity	.133	.340	.305	.284	.425	.290					
Doctors	.155	.452	.432	.482	.445	.294	.397				
Involvement	.186	.547	.535	.569	.429	.317	.401	.645			
Privacy	.135	.369	.332	.351	.435	.286	.346	.467	.456		
Nurses	.142	.413	.361	.370	.486	.333	.454	.546	.519	.440	
Consistency	.165	.432	.408	.397	.492	.331	.451	.599	.559	.443	.596

Appendix 5: Regression coefficients – prediction of Q71 (individual level)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-6.731	4.322		-1.558	.120
Consistency	.323	.051	.311	6.290	.000
Q69	.259	.049	.256	5.303	.000
Involvement	.131	.039	.154	3.318	.001
Cleanliness	.163	.055	.130	2.948	.003
Q46	.094	.037	.112	2.538	.012
Food	.086	.038	.090	2.259	.025

Adjusted R^2 = 0.634

Appendix 6: Item mean correlations with Q71 (trust level)

Correlation with Q71 mean score				
Q70	.965		Q43	.722
Q69	.926		Q67	.718
Q39	.878		Q44	.713
Q30	.865		Q37	.711
Q42	.855		Q47	.709
Q29	.821		Q62	.701
Q38	.818		Q66	.701
Q41	.818		Q35	.695
Q33	.816		Q5	.687
Q40	.814		Q28	.686
Q34	.798		Q63	.665
Q46	.796		Q55	.664
Q22	.793		Q32	.651
Q56	.783		Q73	.631
Q12	.769		Q20	.622
Q74	.761		Q51	.620
Q65	.759		Q4	.611
Q36	.744		Q26	.606
Q23	.743		Q61	.601
Q31	.724		Q24	.588

Appendix 7: Composite score correlations with Q71 (trust level)

Correlation with Q71 mean score	
Consistency	.945
Doctors	.912
Involvement	.905
Cleanliness	.844
Nurses	.816
Responsiveness	.795
Privacy	.770
Discharge	.722
Food	.718
Medicines	.701
Procedures	.657
Waiting	.383

Appendix 8: Regression coefficients –prediction of Q71 (trust level)

	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-28.519	3.011		-9.471	.000
Consistency	.537	.072	.419	7.432	.000
Q69_mean	.313	.070	.218	4.445	.000
Cleanliness	.183	.045	.139	4.020	.000
Doctors	.149	.070	.112	2.119	.036
Q12_mean	.061	.021	.092	2.986	.003
Q46_mean	.124	.044	.091	2.835	.005
Q6_mean	-.033	.009	-.068	-3.504	.001
Q3_mean	-.055	.023	-.057	-2.397	.018
Q72_mean	.037	.017	.044	2.252	.026

Adjusted R^2 = 0.949

Appendix 9: Composite score inter-correlations (trust level)

Inter-scale Correlations

	Waiting	Cleanliness	Food	Responsivity	Doctors	Involvement	Procedures	Medicines	Discharge	Privacy	Nurses
Cleanliness	.323										
Food	.392	.677									
Responsivity	.331	.719	.616								
Doctors	.387	.784	.636	.776							
Involvement	.381	.784	.707	.773	.908						
Procedures	.313	.572	.446	.562	.677	.694					
Medicines	.352	.599	.509	.655	.763	.799	.630				
Discharge	.334	.622	.506	.654	.738	.795	.617	.838			
Privacy	.283	.722	.535	.597	.777	.757	.627	.607	.561		
Nurses	.408	.717	.712	.658	.749	.808	.582	.536	.567	.648	
Consistency	.383	.826	.692	.783	.905	.880	.657	.693	.709	.764	.838

Appendix 10: Picker Institute Europe's 8 domains of patient-centred healthcare

- Fast **access** to reliable health advice
- Effective **treatment** delivered by **trusted professionals**
- **Involvement** in decisions and respect for preferences
- Clear, comprehensible **information** and support for **self-care**
- Attention to physical and environmental needs
- Emotional support, empathy and respect
- Involvement of, and support for, **family and carers**
- **Continuity** of care and smooth transitions

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